




# POST-DISASTER RECONSTRUCTION GUIDELINES AND PROTOCOLS

## FOR THE CONSERVATION OF COASTAL RESOURCES AND PROTECTION OF COASTAL COMMUNITIES, MAUI COUNTY

James Buika, County of Maui Planning Department  
Tara Owens, University of Hawaii Sea Grant  
& Consultant Team

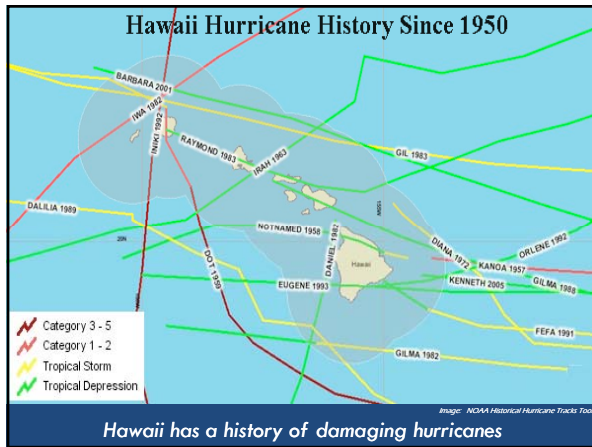
Ocean Resource Management Plan Coordinated Working Group  
May 1, 2014

**"Building Back Safer, Stronger, Smarter!"**

## OUTLINE

1. Quick Project Overview
2. Feedback Session on Draft Products
3. ORMP Management Priorities 1 & 2



## PROJECT TEAM

**NOAA Coastal Storms Program**

D. Eversole  
A. Stein

**Maui County Planning Department**

Deputy Director: M. McLean  
Principal Investigator: J. Buika

**UH Sea Grant**

T. Owens

**Consultant Team/Technical Expertise (Company)**

F. Caplan / PM (Cardno TEC, Inc.)  
T. Abbott/Coastal Expert (Coastal Planners, LLC)  
M. Summers/Coastal Expert (Planning Consultants Hawaii, LLC)  
S. Frew/Community Outreach, Risk Communications Expert (The Frew Group)  
D. Hwang/Coastal Hazards Expert (University of Hawaii Sea Grant)

	State/Federal	County	Project Advisory Group	Communities
<b>Stateholders</b>	State Civil Defense Office of Planning DLNR/OCCL State DOT Federal DOT EPA/DOH NOAA FEMA USACE HI Insurance Commissioner Natural Disaster Training Center	Governor's Office, Maui Rep. Mayor's Office Planning Dept. Public Works Dept. Environmental Mgmt. Dept. Parks and Rec. Dept. Maui Civil Defense Agency Dept. of Water Supply	Media Hotel & Lodging Assoc. Community Association Developer/Real Estate Condo Association Cultural Expert Maui Civil Defense Maui Public Works Maui Parks and Rec. Maui Council Members Mayor's Office	Molokai Lanai Maui-East Maui-West Maui-South

## RECONSTRUCTION REVIEW PROCESS

Within the recovery coordinating structure, how can County regulators:

- Expedite the rebuilding process?
- Triage reconstruction actions for immediate needs as well as incorporate long-term strategic planning?
- Protect sensitive environmental and cultural resources?
- Respond in a planned manner without arbitrary and capricious decisions?
- Encourage relocation, retrofitting and/or adaptation?

### GUIDELINES → PROTOCOLS → STREAMLINED ACTIONS

Shoreline Type	damage impact			Protocol	Streamlined Action
	Damage Impact Type 1	Damage Impact Type 2	Damage Impact Type 3		
Shoreline Type 1	guidelines	guidelines	guidelines	<b>Fast Track</b> <b>GO: Rebuild</b> *Follow BMPs Inspection Track aka: Plan Review Waiver	<b>Public Service Announcement (PSA):</b> Instructions of the type of actions allowed per community
Shoreline Type 2	guidelines	guidelines	guidelines		
Shoreline Type 3	guidelines	guidelines	guidelines		

**WAIT: Inspection Needed**  
 \*Assess damage  
 \*Additional BMPs may be required

**STOP: Impacts may be significant**  
 \*Environmental or cultural impacts must be mitigated

**PSA:**  
 Instructions to photograph, document and report damage & set up inspection date

**PSA:**  
 Guidance for following existing permit structure with public review to address environmental issues

## 10 SHORELINE TYPES

↓ Environmental Sensitivity

1. Stable cliff
2. Fully hardened coastline
3. Low-lying rocky volcanic shore
4. Stream mouths & gulches
5. Eroding bluff
6. Ephemeral sandy beach (sand seasonally fronts armoring)
7. Intermittent sandy beach (sand transport interrupted by structures)
8. Cobble shore
9. Wetland, low-lying areas, fishponds
10. Sandy beach

## 10 DAMAGE TYPES

↑ Intensity of Damage from Storm

1. Interior repairs
2. Non-structural exterior repairs
3. Roof repair/replacement
4. Accessory structure damage (car ports, pools, lanai, sidewalk)
5. Loss of utilities (electric, sewer/septic, water, road access)
6. Structural repair < 50% of replacement cost
7. Structural failure > 50% of replacement cost
8. Existing seawall/armoring repairs (no expansion)
9. New shoreline armoring requested (loss of beach)
10. Landscape grade alterations, retaining walls (bluff failure)

DAMAGE TYPE	A. INTERIOR REPAIR	B. NON-STRUCT. EXTERIOR REPAIR	C. ROOF REPAIR/REPLACEMENT	D. ACCESSORY OR UTILITY	E. LOSS OF UTILITIES	F. BLUFF REPAIR/REPLACEMENT	G. BEACH REPAIR/REPLACEMENT	H. SEAWALL REPAIR	I. LOSS OF BEACH (DUNE RESTORATION OR NEW DUNES)	J. LANDSLIDE
ENVIRONMENTAL SENSITIVITY										
1. STABLE CLIFF										
2. HARDENED COASTLINE										
3. LOW ROCKY VOLCANIC										
4. STREAM AND GULCH										
5. ERODING BLUFF										
6. EPHEMERAL SANDY BEACH										
7. INTERMITTENT SANDY BEACH										
8. COBBLE BEACH										
9. WETLAND/LOW LIES										
10. SANDY BEACH										

**FAST TRACK**      **INSPECTION TRACK**      **ENVIRONMENTAL TRACK**

### Ex.: Current Process to Protect Threatened Structures from Chronic Erosion: South Kihei Road, Kihei, HI

Identify Problem: Chronic Coastal Erosion that has Accelerated to Emergency Status (3 months)

Scope Solutions: Preferred Alternative, Soft Sand Solution @\$25K (in house) (+3 months)

Procure Funding via County CIP Cycle (+12 months, \$25K Solution)

Special Management Area Permit & Shoreline Setback Approval with agency comments (+6 months, \$20K)

Solution: "Backpass" assess sand in same beach cell to fill erosion hot spots

Environmental Assessment + Supplemental Studies: (Geotech, Biology, Archaeology, Marine Resources, Identify Sand Source) (+12 months, \$15K+ Supplemental (\$25K))

Department of Army Permit

HI Conservation District Use Permit

HI Dept of Health Permit 401 Clean Water Act (Part of EA, \$5K)

State Certified Shoreline

Parallel processing with the County SMA Permits

+4 months, mobilize & complete project

**Total Cost: 40 months + \$65K to complete a \$25K project**

## GOVERNOR EMERGENCY PROCLAMATION



## GOVERNOR EMERGENCY PROCLAMATION

- 1. Chapter 6E, historic preservation.
- 5. Chapter 46, county organization and administration.
  - i.e. Building Permits & Zoning*
- 11. Chapter 180C, soil erosion and sediment control.
- 13. Chapter 183C, conservation district.
  - i.e. Conservation District Use Permits*
- 15. Chapter 195D, conserve aquatic life, wildlife, plants.
- 17. Chapter 205, land use commission.
- 18. Chapter 205A, coastal zone management.
  - i.e. SMA and Shoreline Permits*

## WHAT SHOULD WE DO?

Rocky Point, Oahu: December 2013



Image: Dylan Everzick, University of Hawaii Sea Grant College Program

## BIFURCATION CHALLENGES

- With multi-jurisdictions, how do we manage our response effectively?



## MITIGATION STRATEGIES

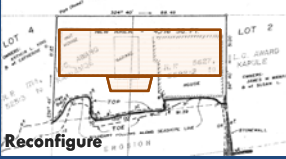



**Retrofit**

**Rebuild to code**

**Armor**

**Elevate**

### ADAPTATION STRATEGIES

 <b>Reconfigure</b>	 <b>Relocate (retreat)</b>
 <b>Restore</b>	 <b>Demolish &amp; Retire</b>

### POST-STORM, RESTORE OR HARDEN?

 <b>Restore The Beach</b>	 <b>Armor the Shoreline</b>
--	---

Similar permit process either way...

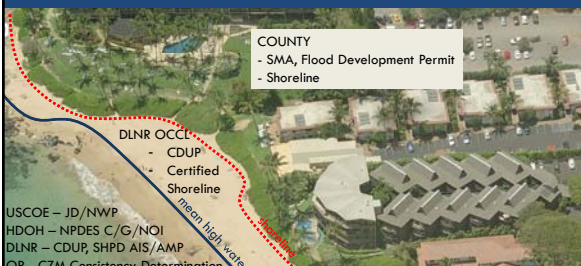
### YOUR ASSISTANCE REQUESTED

Gameboard:

- Assign **Fast**, **Inspection**, and **Environmental** tracks (via colored sticky dots) to each box in the matrix
- Are there mitigation or adaptation strategies that would offer comfort to Planning Department for a faster authorization track?
  - If yes, indicate this on a post-it note.
  - Examples: elevate structure, wet/dry proof, hurricane clips, reconfigure, relocate, restore beach or dunes

### BIFURCATION CHALLENGES

- With multi-jurisdictions, how do we manage our response effectively?
- Action items for ORMP group?



## Mahalo Nui Loa

<p><b>James Buika</b> Coastal Zone Management Planner County of Maui Planning Department james.buika@mauicounty.gov</p>	<p><b>Tara Owens</b> Coastal Processes &amp; Hazards Specialist University of Hawaii Sea Grant taram@hawaii.edu</p>
---	---

"Building Back Safer, Stronger, Smarter!"

