Assessing Coastal Resiliency in Pinellas County, FL

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Introduction

In June, 2012 Tropical Storm Debby brought strong winds, rain, and a moderate storm surge to Pinellas County causing erosion of Gulf Beaches and flooding of low-lying coastal neighborhoods (*Figure 1*). Beach erosion, the most costly effect of this storm, is estimated in excess of $20 million.

Figure 1. Tropical Storm Debby, Pinellas County, Florida

Tropical Storm Debby is a reminder that coastal communities are increasingly vulnerable to hurricanes, storm surge, and coastal flooding.

Figure 2. Map of Pinellas County, Florida

Pinellas County, one of 35 coastal counties in Florida, borders Tampa Bay and the Gulf of Mexico, has 921,000 residents and is the most densely populated county in the state. Coastal sustainability and resiliency are critical and challenging issues for the 25 different local governments. Success is heavily dependent on the knowledge and preparation of both the local municipalities and the residents.

Methods

Goals and Objectives

- Assess the preparedness of coastal communities that are highly vulnerable to disasters
- Increase participant knowledge about community resiliency
- Provide relevant and timely research-based information and resources to promote community resiliency
- Build capacity to successfully address community resiliency

To achieve these goals, extension agents facilitated workshops for local community leaders utilizing the Coastal Resilience Index (CRI) low-cost self-assessment tool. Extension agents targeted the Barrier Islands Government Council, BIG-C, that includes eleven municipalities on the west coast of Florida, from St. Pete Beach to Clearwater (*see Figures 2,3*). These municipalities have high coastal vulnerabilities and exposure to disasters and adopt a collaborative approach to common issues.

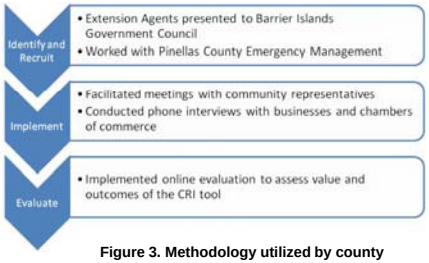

Figure 3. Methodology utilized by county extension agents to implement the CRI tool

The CRI tool identifies vulnerabilities and strategies for critical facilities and infrastructure, transportation, mitigation, community and business plans, and social systems. Results indicate a community's ability to reach and maintain an acceptable level of functioning and structure after a disaster.

Results

Extension agents have facilitated CRI self-assessments for 4 governments-Pinellas County, Clearwater, Treasure Island and Safety Harbor (*Figure 4*). Key staff were invited that work in departments including emergency management, city planning, public works, building, fire, and city administration. . Governments voluntarily participated in CRI workshops - demonstrating a commitment to their communities.

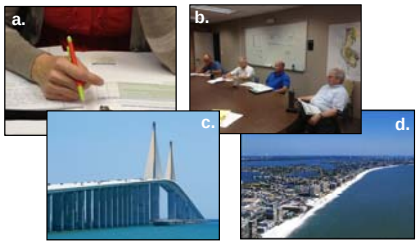

Figure 4 (a) Completing checklist, (b) Facilitation workshop-Treasure Island, FL, (c) Sunshine Skyway- a key transportation roadway, (d) Madeira Beach aerial- vulnerable Pinellas barrier island

Sessions, lasting 1-3 hours, guided participants through a series of "yes/no" questions to identify level of preparedness in key sectors (*Figure 4*). Governments were then ranked High, Medium, or Low for their ability to recover after a disaster for each category (*see example- Table 1).* Final reports were drafted for each government.

	# Yes Answers	Resilience Index
Critical Infrastructure	4	High
Critical Facilities	6	Medium
Transportation Issues	6	High
Community Plans & Agreements	13	High
Mitigation Measures	9	High
Business Plans	4	High
Social Systems	3	Medium

Table 1. Example Final Results of CRI Session

Conclusions

Planning for and addressing coastal resiliency is an important local government/community function. Overall Pinellas County governments have worked hard to prepare themselves for disasters, as is reflected by CRI scores.

The CRI is one tool of many in a governments' toolkit. A community resiliency plan should be executed in concert with other partners as there are many facets to ensuring long-term, permanent recovery.

Lessons Learned & Next Steps

- 100% of participants felt that the CRI scores accurately reflected their community's level of preparedness
- 100% of participants reported increased knowledge of subjects explored in tool
- 60% of participants plan to implement new preparedness strategies as a result of the CRI meeting
- 60% of participants identified agencies and/or departments to work with to increase preparedness as a result of this process
- Extension agents will provide workshops, educational resources, and technical expertise to partner governments
- Extension agents will follow up with communities after 1 year- determine patterns of use, changes in behavior, effectiveness of tool

Sempier, T.T., D.L. Swann, R. Emmer, S.H. Sempier, and M. Schneider. 2010. Coastal Community Resilience Index: A Community Self-Assessment. MASGP-08-014.*

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