



Photo Credit: Maine.gov

Planning for Resilience:

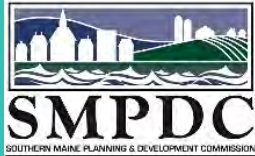
A Practical Framework for Maine’s Coastal Communities to Evaluate Local Vulnerability and Prepare for Flood Hazards

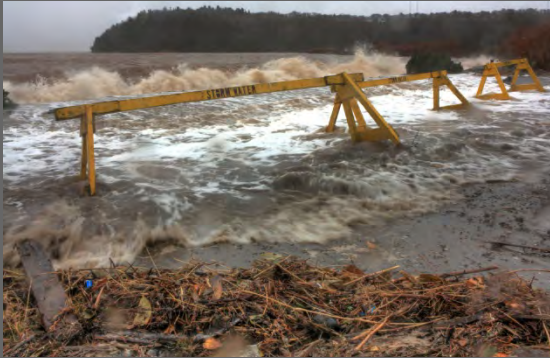
Maine Sustainability & Water Conference

Thursday, March 29, 2018

Augusta, ME

Abbie Sherwin
*Southern Maine Planning
& Development Commission*





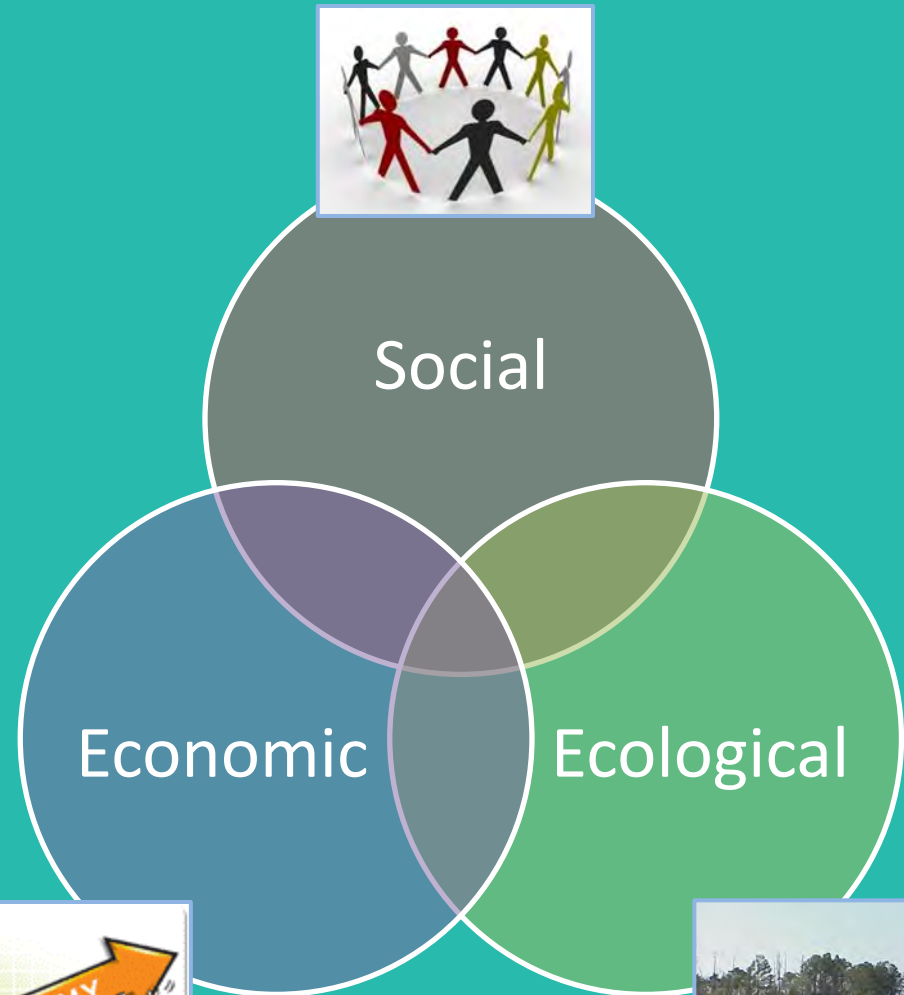
Presentation Overview

- Flood Resilience Checklist
 - Development
 - Content
 - Implementation process
- Pilot
- Building resilience in ME communities

Resilience

The **capacity** of a community, including both social and ecological systems, to **absorb** a natural disturbance and **sustain** its function, structure, and performance.

– Resilience Alliance



Why Plan for Resilience?

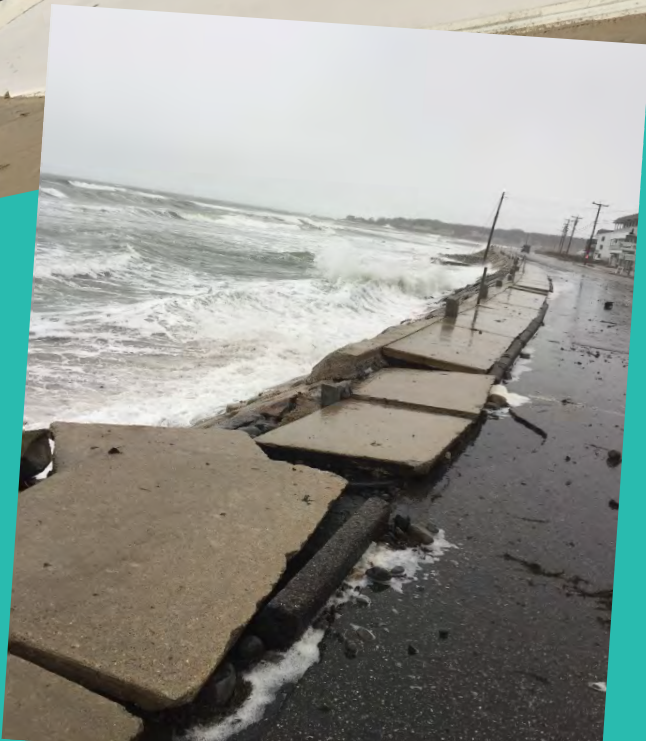


- Flooding is one of the most significant natural hazards
- Increasing storm frequency and intensity
- Rising seas
- Need for information, tools, and guidance to understand local risk and vulnerabilities



“If you look across all our natural disaster policies, they’re predicated on the wrong assumption that our flood risk in the future looks identical to our flood risk in the past.”

– Rob Moore, Sr. Policy Analyst, Natural Resources Defense Council



Maine Flood Resilience Checklist



A self-assessment tool for Maine's coastal communities to evaluate vulnerability to flood hazards and increase resilience.



Version 1, July 2017

What Is It?

Practical self-assessment tool and integrated framework for...

- Examining local flood risk and preparedness
- Assessing vulnerability of the social, built, and natural environments
- Identifying strategies for increasing resilience

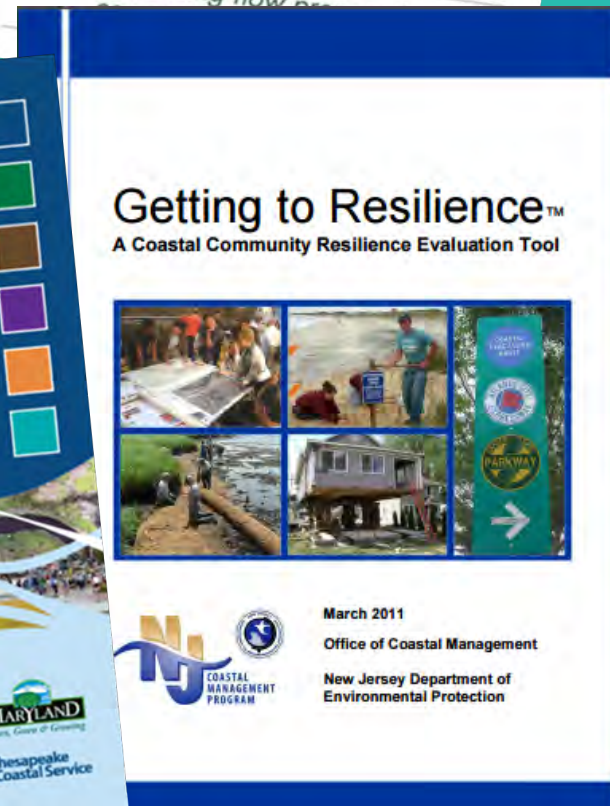
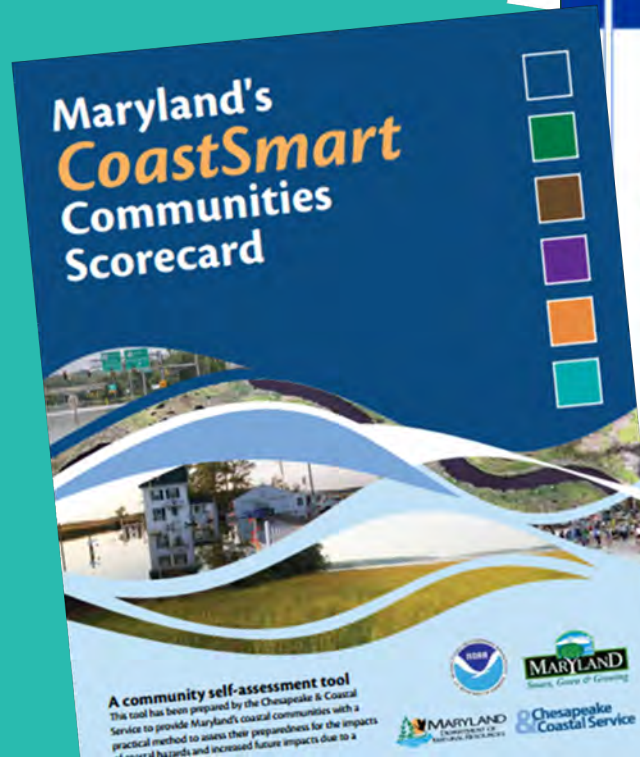
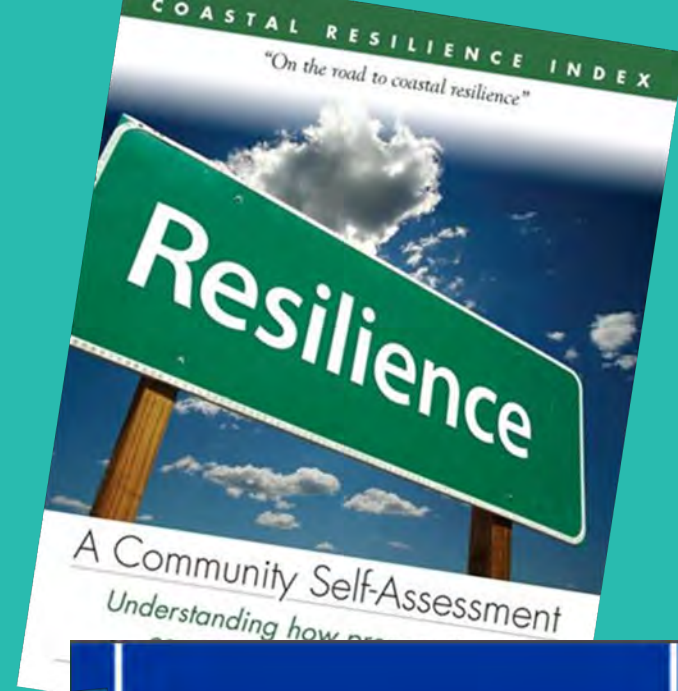
Who Should Use It?

Communities wanting to...

- Understand flood vulnerability and sea level rise
- Build flood resilience
- Enhance coastal hazard recovery

Development Process

- Literature review
- Assessment of existing similar tools
- Discussions with practitioners
- Input from state agencies
- Pilot



Flood Resilience: A Complex Puzzle



Economic
Development

Public Works

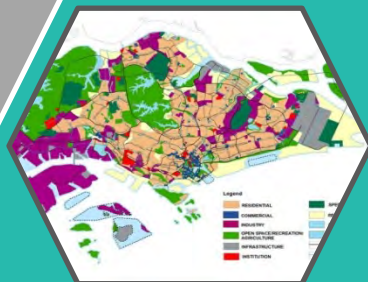
Emergency
Management



Floodplain
Management



Land Use
Planning



Tourism &
Recreation

Checklist Categories

1. Risk and Vulnerability



2. Critical Infrastructure & Facilities



3. Community Planning



4. Social & Economic Vulnerability



5. Natural Environment



Top-down

**Driven by
State**

**Flood Resilience
Checklist**

Bottom-up

**Driven by
community**



Checklist Content

- Instructions
- Getting Started
 - Suggested resources
- Questions
- Resources & Recommendations
- CRS linkages

Natural Environment		Yes		No		N/A	
		a	b	a	b		
1	Are the following natural resource areas within your community (a) identified and mapped and (b) has your community conserved or developed a prioritized plan to protect, conserve, or restore them?						
	• Dunes and beaches						
	• Wetlands						
	• Coastal and wetland buffers and adjacent uplands						
	• Natural areas of significance						
	• Coastal Barrier Resources System (CBRS)						
2	Are potential conservation efforts, easements, and land acquisitions assessed for existing and potential future flood impacts and long-term ability to provide beneficial functions?						
3	Does your community prioritize repetitive loss properties for acquisition and conversion to open space?						
4	Does your community have local ordinances to protect the following from development or disturbance that are more protective than State regulations?						
	• Dunes and beaches						
	• Wetlands						
	• Coastal and wetland buffers						
	• Bluffs						
	• Erosion or flood hazard areas ³						
	• Natural areas of significance						

Community Planning		Yes		No		N/A		Notes
1	Does your community have a shared vision of 'community resilience'?							
2	Does your community have plans that address the following?							
	<ul style="list-style-type: none"> • Coastal hazards <ul style="list-style-type: none"> ○ Coastal and nuisance flooding ○ Storm surge ○ Sea level rise ○ Coastal erosion and/or shoreline change • Adaptation and mitigation strategies and actions addressing coastal hazards • Community resilience and specific strategies and actions to increase resilience • Open space preservation and management • Beach management • Floodplain management 							
3	Does your community have the following personnel on staff or on retainer?							
	<ul style="list-style-type: none"> • Professional planner • Code enforcement officer • Certified Floodplain Manager (CFM®) • Building inspector • Engineer • Public works director 							
4	Does your community's floodplain ordinance exceed minimum State standards?							
5	Does your community's floodplain ordinance apply to flood hazard areas that extend beyond, horizontally and/or vertically, those identified as the Special Flood Hazard Area (SFHA) or 100-year floodplain depicted on your community's Flood Insurance Rate Map (FIRM) (e.g., does it apply to existing <i>and</i> potential future flood hazard areas)?							
6	Do your community's Shoreland and municipal zoning ordinances and/or land use regulations limit development in areas subject to (a) existing and (b) potential future flood hazards?	<u>a</u>	<u>b</u>	<u>a</u>	<u>b</u>			

Actionable Information

- Moving beyond the theory of resiliency toward operationalization and implementation of the practice of resilience

Indicator: Race and ethnicity

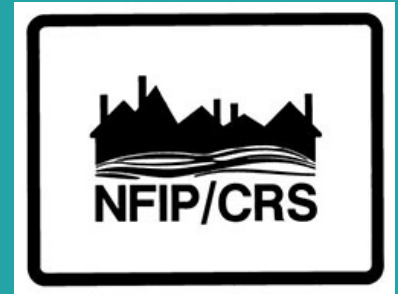
Actionable: Do you provide flood outreach materials in all languages spoken in your community?

Framing questions as 'actionable'

Social and Economic Vulnerability		Yes		No		N/A	
1	Has your community identified and assessed the following traditionally vulnerable populations located in areas vulnerable to (a) existing and (b) potential future flood hazards and considered them in flood hazard risk, preparedness, and response activities?	<i>a</i>	<i>b</i>	<i>a</i>	<i>b</i>		
	• Elderly population						
	• Households below the poverty level						
	• Residents without vehicle access						
	• Disabled individuals						
	• Non-native English speakers						
	• Service industry professionals						
	• Homeless population						

6	Does your community conduct education and outreach to ensure community members and businesses are aware of hazard risks, warning procedures, and evacuations plans?
	Are education and outreach materials prepared in the major languages spoken by residents and visitors?

Community Rating System (CRS)



- Voluntary NFIP program
- Encourages and rewards community actions that exceed minimum floodplain requirements
- Provides discounted flood insurance
- Reduces flood risk
- Incentivizes resilience




OMB No. 1660-0022
Expires: March 31, 2020

National Flood Insurance Program
Community Rating System

Coordinator's Manual

FIA-15/2017



23 	Does your community have a (a) flood warning plan and (b) system?	<u>a</u>	<u>b</u>	<u>a</u>	<u>b</u>	
24 	Does your community have an emergency communication system to use prior to, during, and after a storm event or natural disaster (e.g., reverse 911 call system for landlines, IPAWS for cell phones)?					
25 	Does your community have an emergency evacuation plan that identifies populations needing evacuation assistance and mechanisms for providing that assistance?					

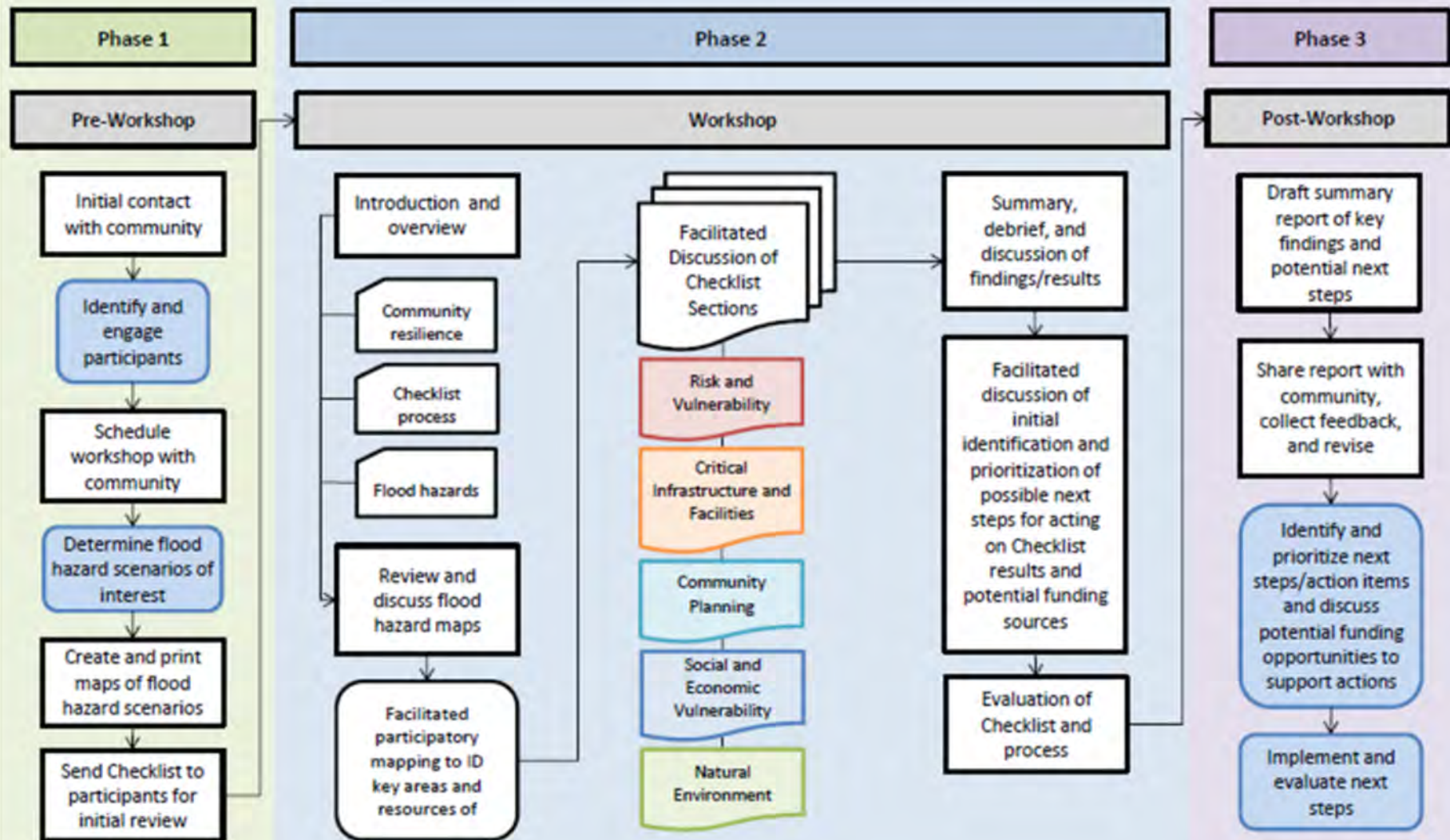
Checklist Section and Question	CRS Credit				Max. Points			
	Activity	Element	Description					
Community Planning	21	610 Flood Warning and Response	610	This activity provides credit for a community that, at a minimum, has adopted a flood warning and response program that includes a flood threat recognition system; methods to warn the public of an impending flood; a plan for response operations; and coordination with critical facility operators.	395			
	23							
	24					612.b	Credit is provided for emergency warning alerts and messages that are disseminated to the public when a flood is imminent.	75
	25					612.c	This element credits a flood warning and response plan that identifies specific tasks to reduce or prevent threats to health, safety, and property from flooding.	115

Checklist Process

- Workshops
 - Participatory mapping
 - Facilitated discussion
- Summary & recommendations report
- Implementation of identified actions



Maine Flood Resilience Checklist Process



Dependent on community's interests and funding availability

Key

Responsibility of facilitator

Responsibility of community

Checklist section

Checklist Implementation

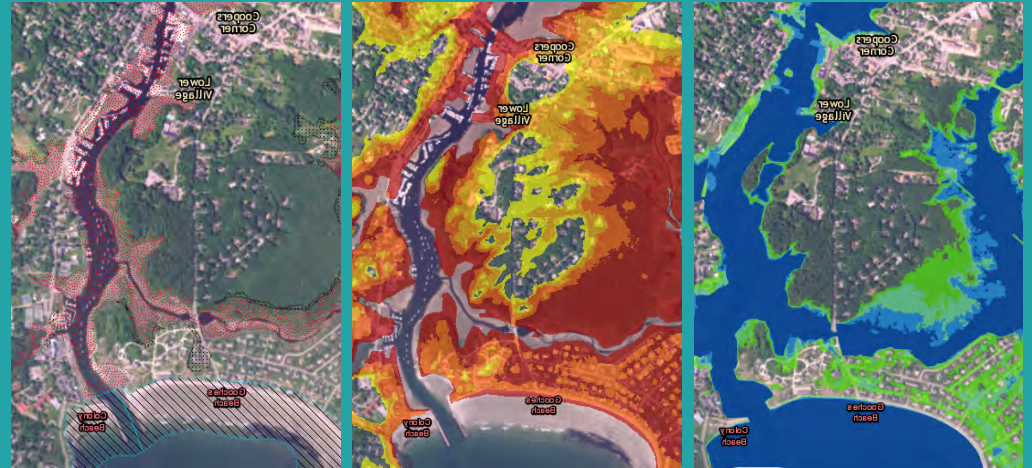
Scope & organize

Determine flood hazard scenarios

Assess impacts & vulnerability

Discuss results

Identify & prioritize actions



Pilot Process

- SMPDC and the City of Saco
- 2 Workshops
 - March 2017
- Formal evaluation
- Summary report
 - findings and recommendations



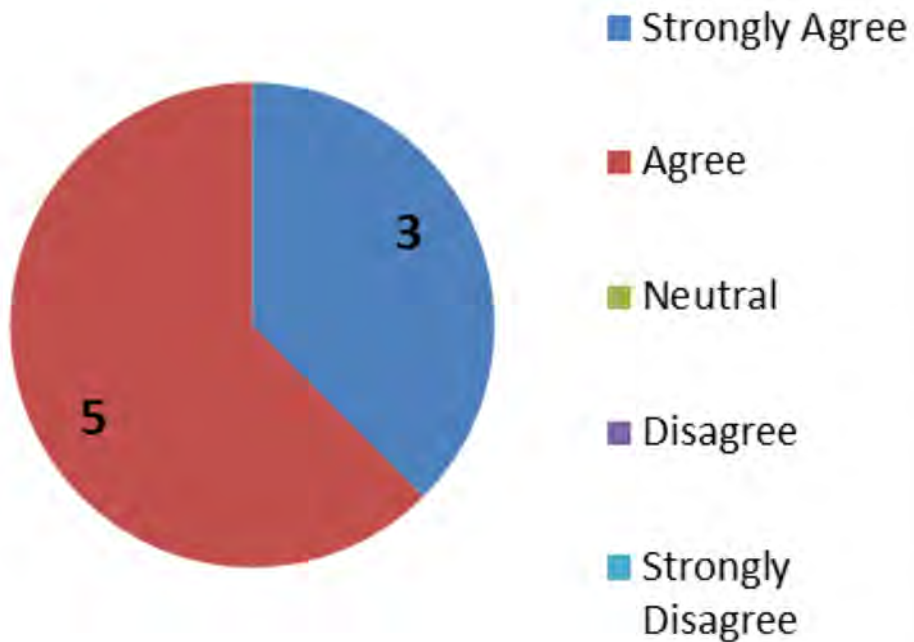
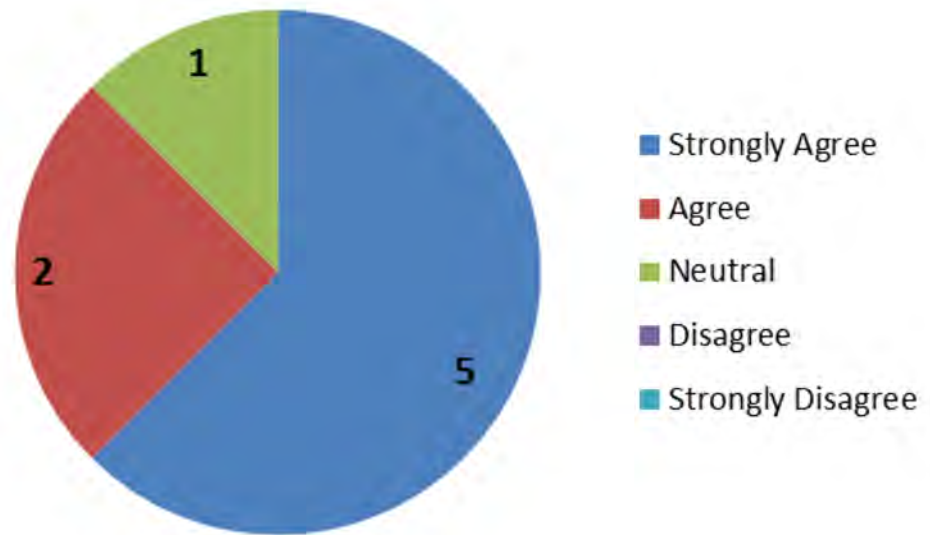
Pilot Results: Updates to Comprehensive Plan

- Consider limited growth beach zone
- Consider TIF to support infrastructure resiliency
- Integrate resilience criteria into CIP
- Develop targeted outreach program
- Document response and recovery information for reimbursement
- Investigate opportunities for public-private partnership for low-interest loans for elevating homes
- Consider hazard disclosure policy
- Install high water mark signs

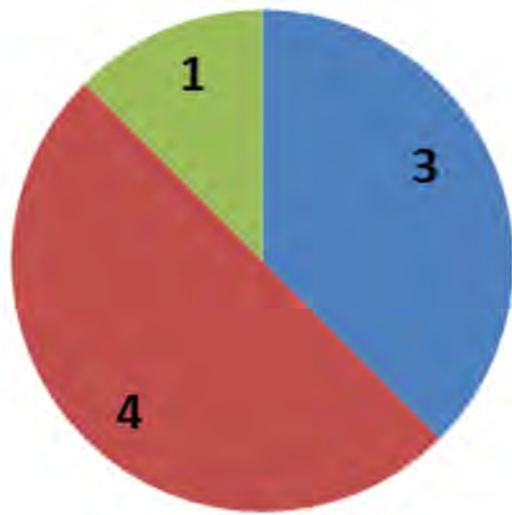


City of Saco
Comprehensive Plan Update 2018

I have a better understanding of what 'community resilience' means for my community as a result of this process.



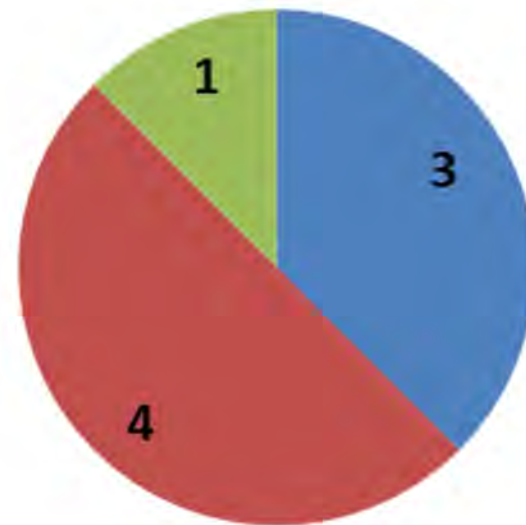
I have increased my knowledge of potential actions and strategies my community can undertake to enhance resilience to coastal flood hazards as a result of this process.



- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

This process improved communication and information sharing between municipal departments and/or individuals regarding flood-related information.

I think my community will take steps to increase its Community Rating System (CRS) score as a result of this process.



- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

Building Resilience in ME Communities

- SMPDC is partnering with communities to implement the Checklist
 - Technical expertise
 - Funding
 - Timely



Questions and Discussion

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