

Module 4 Continued...

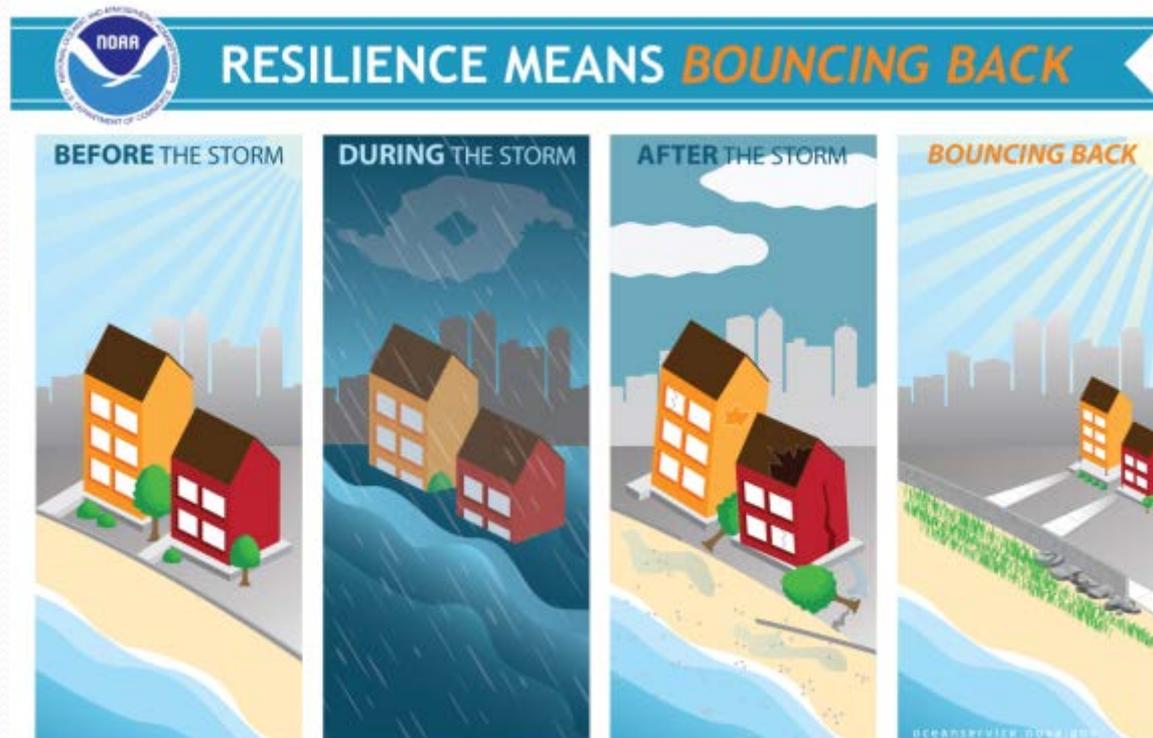
Resiliency Planning at the Community Level

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Coastal Resiliency Planning is...“anticipatory, conscious, and intentional in its outlook*”

*Timothy Beatley, “Planning for Coastal Resilience: Best Practices for Calamitous Times,” 2009



Resiliency Planning in a Nutshell:

- Inventory infrastructure and assets
- Characterize existing and future hazards
- Identify and prioritize vulnerabilities
- Outline mitigation and adaptation options in a Hazard Mitigation and Adaptation Plan
- Develop an Implementation Plan and Monitor Progress

COLLABORATE & COMMUNICATE

Three Towns – Three Different Scales of Effort

You Can Customize the Scope and Scale of the Process To Suit Your Needs

- City of Seaford
- City of Lewes
- Town of Slaughter Beach

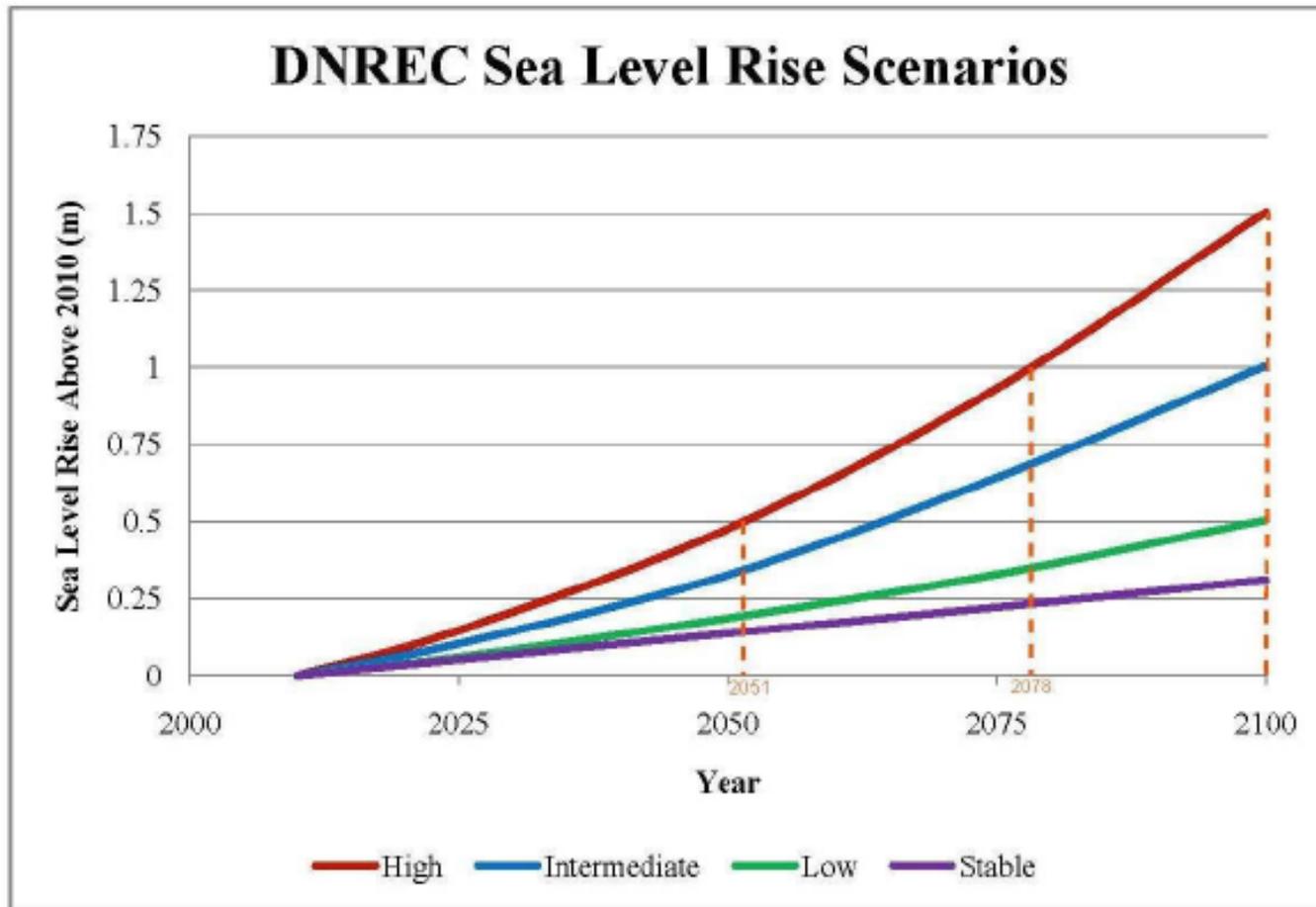
Seaford, DE

Project: Vulnerability Assessment of Wastewater Treatment Facility (WWTF)



- WWTF built in 1961 and located on the Nanticoke River
- Upgrade and expansion required by January, 2023
- Vulnerability Assessment will inform the design of upgrades

Tasks 1 & 2 – Inventory WWTF Structures, then Understand and Characterize Risk



Visualizations are effective at communicating risk to the public and decision-makers



Analysis prepared by GMB, LLC

Task 3 – Prioritization of Vulnerabilities

Seaford WWTF Vulnerability Study **Figure 3**
Inventory of Key Assets

WWTF Asset	Survey Reference	Elevation	Sea Level Rise Inundation (measured in feet)			100-YR Flood Inundation (measured in feet)				Priority Rating
			0.5 m (35 Year)	1.0 m (60 Year)	1.5 m (85 Year)	Flood (2015)	Flood + 1.0' (20 Year)	Flood + 1.5' (30 Year)	Flood + 2.0' (40 Year)	
1 Nanticoke Ave - Plant Access Road	Grade	4 to 9+		0.45	2.09	2.00	3.00	3.50	4.00	3
2 Grit Chamber Bypass Vault	TOW	6.98					0.02	0.52	1.02	2
3 Headworks- Grit Chamber	TOW	8.37								
4 Headworks Bar Screen	TOW	8.37								
5 Primary Pumping Station-Ground Floor	FF	6.62					0.38	0.88	1.38	1
6 Primary Clarifier - East	TOW	12.47								
7 Primary Clarifier - West	TOW	12.47								
8 Flow EQ Tank - No. 3	TOW	17.11								
9 Sludge Building - Ground Floor	FF	9.99								

Task 4 – Initial Identification of Mitigation Options

Lewes, DE

Project: Vulnerability Assessment of Evacuation Routes and Critical Infrastructure



Savannah Road at Canal Bridge –
Looking North - January 23, 2016



Savannah Road - Looking North
January 24, 2016

Used Criteria to
Prioritize
Evacuation Routes
and Infrastructure

Vulnerability
Assessment helped
inform planning
decisions (Comp
Plan update) &
implementation
steps

Evacuation Route & Critical Infrastructure Vulnerability Study
City of Lewes
Lewes, Delaware
NOAA Grant NA14 NOS 419 0123

Areas of Study/Criteria Matrix

	Areas of Study	Average Rank
1	Savannah Road - Electrical Sub-Station near Wellfield	2.2
2	New Road at Canary Creek Bridge	2.8
3	Savannah Road - North side of Canal Bridge to Massachusetts Avenue	3.6
4	Cape Henlopen Drive at Freeman Highway and Cape Shores Development	4.8
5	Cedar Avenue - West End	5.8
6	Harborview Road - South End	8.6
7	Pilottown Road near Canary Creek Bridge	9
8	Canary Creek Pump Station	9.2
9	American Legion Road	9.2
10	Hoomkill Road - South End	9.6
11	Southside of Reserve at Pilottown & Pilottown Village - Phase 2 Developments	10

Slaughter Beach, DE

Task 1 –Inventory of Infrastructure, Assets *and* Values

- What places, natural features, services, economic opportunities, and/or cultural aspects make the community a special place to live in, and why?
- What infrastructure and assets are critical to the continuity of Town operations and quality of life?
- What are the Town's values and how might hazards jeopardize these values?
- Public Open House on June 3rd



Task 2 – Identify & characterize existing & future hazards

- Produce visualizations to communicate risk



Task 3 – Brainstorm and Document Adaptation and Mitigation Options

- Seek public input
- Consider the full range of options including “low hanging fruit”
- Identify “co-benefits”

Task 4 - Implementation

- Identify primary contacts and staff
- Select target dates
- Select indicators to evaluate progress and project success
- Explain how the action aligns with community values and other priorities



Common Elements

- Look to the Past AND the Future
- Know the level of risk you want to plan to
- Document *all* vulnerabilities and mitigation & adaptation options
- Prioritize, prioritize, prioritize
- Engage decision makers and the public
- Implementation can take many forms: upgrades of infrastructure, code revisions, comprehensive plan updates, voluntary measures, public outreach efforts



Thank you!