

DISASTER MANGEMENT AND LAND USE

John R. Nolon, Distinguished Professor, Pace
Law School, Counsel, Land Use Law Center

Sidney in Retreat

Repeated flooding caused extensive damage to the downtown business district and nearby residential neighborhood.

Following the second storm event, the market for purchasing property in the affected area disappeared.

After much land use planning, the community decided to retreat: to relocate the business district and adjacent homes in the high-risk area to higher elevations.

This is an award-winning NY Rising Community

Proposed Plan for Sidney's Retreat



Powerful Signals in Sidney

- ▶ Destruction of a Neighborhood
- ▶ Declining Real Estate Prices
- ▶ Non-existent sales
- ▶ Drastically lowered appraisals
- ▶ Lack of casualty insurance
- ▶ Unavailability of mortgages
- ▶ Loss of jobs
- ▶ Decline in community character

This is a preview of things to come.



The “R” Word

- ▶ We can't possibly use it.
- ▶ What can we do?
 1. Comprehensive Understanding of Hazards
 2. Conserve Land in Flood Hazard Areas
 3. Reduce Risks in Vulnerable Zones
 4. Encourage Development in Safer Zones

Let's Start at the Beginning Local Legal Power

- **Adopt comprehensive plans**
- **Zone**
- **Approve development applications**

Local Initiatives:

Municipalities across the country have taken concrete action in response to storm hazards.

These actions include:

- ▶ Establishing Policy
- ▶ Creation of a Task Force, Conducting Studies, and Information Gathering
- ▶ Comprehensive Planning
- ▶ Post-Disaster Planning
- ▶ Adoption of a Post-Disaster Moratorium

More Local Initiatives

- ▶ Implementation of No-Build Zones
- ▶ Increasing Coastal Setbacks and Buffers
- ▶ Adoption of Coastal Erosion Overlay Zone
- ▶ Limiting Shoreline Protective Structures

More Local Initiatives

- ▶ Requiring Building Elevations
- ▶ Requiring Sea Level Rise Impact Analysis for Shoreline Development
- ▶ Implementation of Wetlands Regulations

FEMA/EPA Local Assessment Tool

Goal 1: Ensure Comprehensive Understanding of Known Hazards and Their Effects

- ▶ Potential impacts are investigated, mapped, and recognized. A resilient community recognizes that vulnerabilities are not limited to physical structures, and that social and economic vulnerability are equally important to address.

Miami Dade Climate Change Advisory Task Force

- ▶ “Developed Miami-Dade County as we know it will significantly change with a 3-4 foot sea level rise. Spring high tides would be at about +7 to 8 feet; freshwater resources would be gone; the Everglades would be inundated on the west side of Miami-Dade County; the barrier islands would be largely inundated; storm surges would be devastating; landfill sites would be exposed to erosion contaminating marine and coastal environments.”

Goal 2: Conserve Land in Critical Coastal Areas, River Corridors, And Other Flood-Prone Environments

- ▶ A resilient community protects lands in critical, flood-prone areas so that nature can perform its flood-reducing functions.
- ▶ Resilient communities encourage growth away from these sensitive environments to preserve the land and reduce risk to people and structures that might locate in dangerous flood-prone areas.

Tillamook County, Oregon: Beach and Dune Overlay District

- ▶ Prohibits development in active dune areas subject to flooding and other natural hazards;
- ▶ Requires erosion and groundwater drawdown be minimized in coastal areas; and
- ▶ Provides that only properties developed before a certain date may obtain permits for beachfront protective structures.



GOAL 3: Reduce Risk to People, Buildings, And Facilities in Vulnerable Areas

- ▶ Identify development in risk prone areas.
- ▶ Reduce that risk through a combination of proactive and protective land use laws, building codes, and planning policies.

Town of Duck, NC: Moratorium on Rebuilding and Reconstruction

- The Code Chapter on Rebuilding and Reconstruction sets out procedures for assessing damage, declaring a building moratorium, and defining types of moratoriums that may be declared in the aftermath of a damaging storm.
- The ordinance is intended to ensure that rebuilding occurs “in an orderly manner,” and with the opportunity to identify “appropriate areas for post-storm change and innovation.”



City of Bainbridge Island, Washington: Environment Element of Comp Plan

- ▶ Adopted in 2004
- ▶ Recognizes that Bainbridge Island is potentially subject to sea level related impacts, including flooding and erosion
- ▶ Overall goal is to avoid adverse impacts where possible; to minimize, reduce, or eliminate impacts over time; and to compensate for unavoidable impacts



Goal 4: Plan for and Encourage Development in Safer Areas

- ▶ **Provide incentives to encourage growth where it is safe.**

Miami Dade Comprehensive Development Master Plan

“Rise in sea level projected by the federal government shall be taken into consideration in all future decisions regarding the design, location, and development of infrastructure and public facilities in the County.”

Incorporated into Local Code



GOAL 5: Implement Comprehensive Stormwater Management Techniques

- ▶ Effectively managed stormwater flow slows and spreads out, allowing time for the water to infiltrate the ground instead of running off into water bodies or storm drains.

GOAL 6: Improve the Community Capacity Needed to Enhance Resilience

- ▶ A resilient community has the capacity, resources, and tools necessary to prepare for, withstand, and respond to system shocks and unexpected events.

GOAL 7: Build Support for Improving Community Resilience and Remove Barriers to Implementation

- ▶ Inform and engage a range of community groups to improve your chances of earning their “buy-in.”
- ▶ A resilient community builds support through frequent, innovative, and robust engagement with citizens, stakeholders, and elected officials who are representative of the whole community.

Bargaining Instead of Regulating Embed Market Signals in Land Use System

- ▶ Comprehensive Plan
- ▶ Special Area Plans and Maps
- ▶ Establish Pre-Application Process
- ▶ Review and Approval Protocols
 - ▶ Conditions Negotiated



Collier County, Florida: Sea Level Rise Impact Analysis



- ▶ Requires sea level rise impact analysis for shoreline development
- ▶ Analysis must show that the development will remain fully functional for its intended use after a six inch rise in sea level

FEMA/EPA LOCAL ASSESSMENT TOOL

1. Comprehensive Understanding of Hazards
2. Conserve Land in Flood Hazard Areas
3. Reduce Risks in Vulnerable Zones
4. Encourage Development in Safer Zones
5. Comprehensive Stormwater Techniques
6. Improve Community Capacity to Enhance Resilience
7. Build Support for Community Resilience and to Remove Barriers