

# Resiliency Challenges and Responses of Florida Local Governments



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# Why Resiliency? (The Challenges)

- ▶ “Difficulties” faced from changing conditions

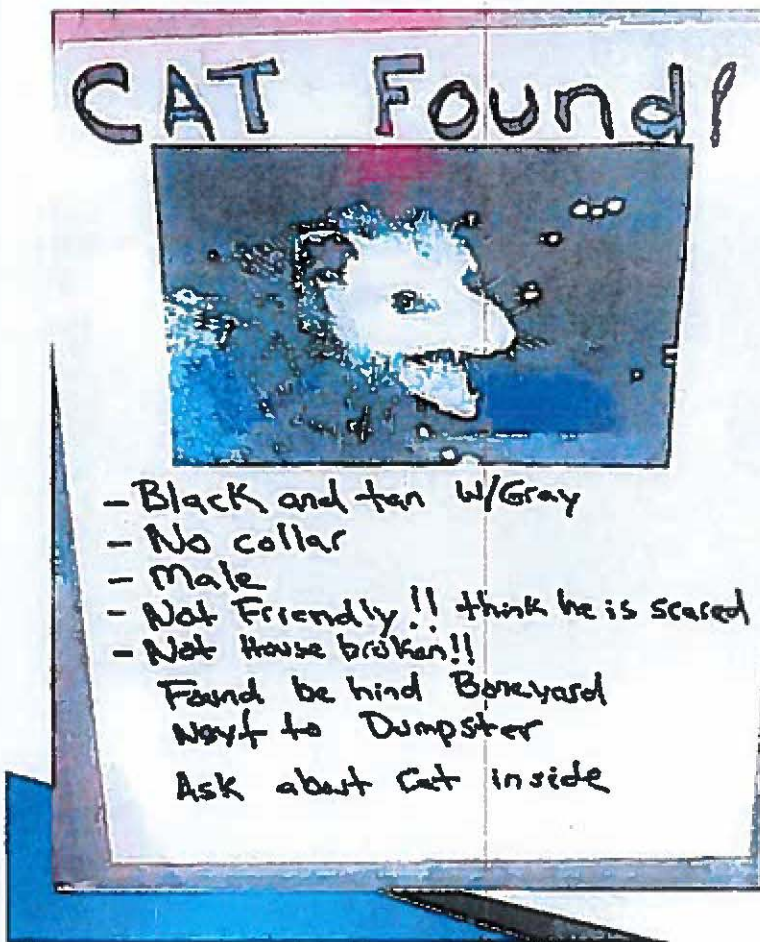


Resilient: *(adjective)* able to withstand or recover quickly from difficult conditions

- Public health
- ▶ Its not just a coastal issue



# Communicating About Resiliency



- ▶ Who needs to start planning?
- ▶ How do we take the science and plan ahead?
- ▶ What facts do we communicate?
- ▶ What policies do we need to put in place to do that?
- ▶ What are we required to start doing?
- ▶ Who's doing it (so its not so "scary")?

# What are the Types of Responses?

## 1. Getting Started

- Information needs
- Framing the challenge

## 2. Planning Ahead

- Regionally
- Locally

## 3. Actions

- Initiatives
- Projects



Key Largo  
Photo Credit Jayne Stiner



# What are local governments doing?

- ▶ **Comprehensive Planning**
  - Adaptation Action Areas (“AAAs”) – adopted in 2011; gives local governments option to designate AAAs
  - SB 1094: Peril of Flood – enacted 2015; new mandate on local governments to consider sea level rise and other factors that increase flood risk
    - Required in the Coastal Management Element

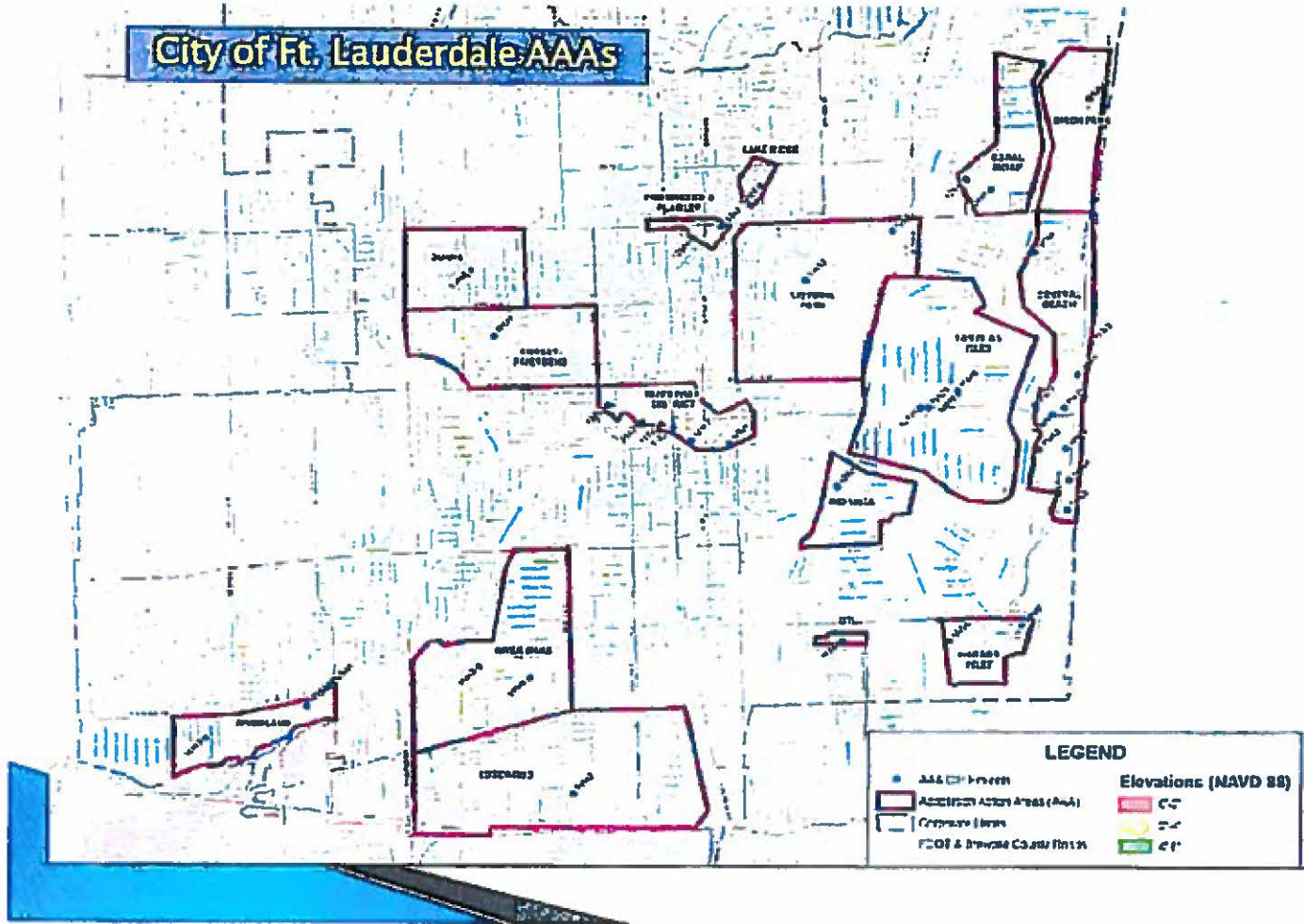


Photo: [www.volusia.org](http://www.volusia.org)



# Adaptation Action Areas,

## City of Ft. Lauderdale AAAs



# What are local governments doing?

## Adaptation Action Areas

- ▶ 195 local governments have Coastal Management Element
  - 161 municipalities and 34 counties
- ▶ As of November 2015:
  - Approximately 26 (14%) explicitly mention or address sea level rise in their Comprehensive Plans
  - Eight (8) mention AAAs in their Comprehensive Plans (6 of these are located in Southeast FL)
    - Four (4) have a physical designation:
      - Satellite Beach designates Coastal High Hazard Areas as AAAs
      - Village of Pinecrest designates AAAs
      - Broward County sand bypass project at Port Everglades
      - Ft. Lauderdale 16 areas 38 stormwater projects



# Flood Peril Legislation (§ 163.3178, F.S.)

Development and redevelopment principles, strategies, and engineering solutions that reduce flood risks and losses

- ▶ Elevation certificates submitted to DEM
- ▶ “Flexible” flood insurance coverage
- ▶ Other provisions such as flood insurance policy requirements

1. Development and redevelopment **principles and strategies**, that reduce the flood risk in coastal areas from high-tide events, storm surge, flash floods, stormwater runoff, and the related impacts of sea-level rise.
2. **Best practices** for the removal of coastal real property from FEMA flood zones
3. **Site development techniques** that may reduce losses and claims made under flood insurance policies
4. Be consistent with, or more stringent than, the flood-resistant construction requirements **in the Florida Building Code** and flood plain regulations
5. Construction activities consistent with **Chapter 161.**
6. Encourage local governments to participate in the National Flood Insurance Program **Community Rating System**



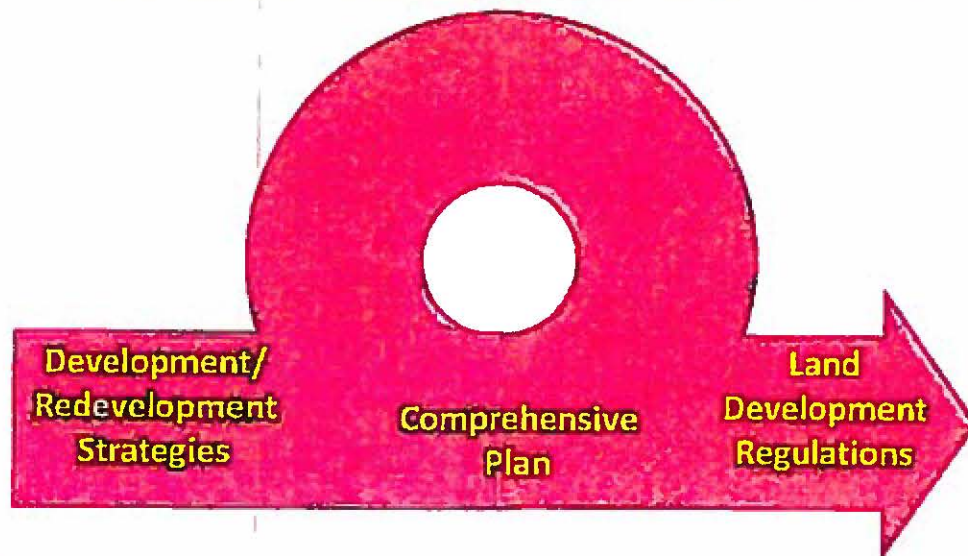
# Recent and Current Peril of Flood Amendments

Peril of Flood Amendments	
North Miami	😊
Miami Beach	IP
Lake Park	IP
Ponce Inlet	IP
Sunny Isles Beach	IP
St. Petersburg	😊
Treasure Island ⚠️	
Litigation	2020
Boynton Beach	😊
Jupiter Inlet Colony	IP
City of Tampa	IP

New Starts: West Palm Beach (adoption soon- in compliance), Levy and Santa Rosa List does not indicate others deemed in compliance due to timing of amendments & passage of bill. Yankeetown has also recently completed it 1094 process.

# Sample Planning/Policy Strategy

How do these requirements relate to or affect planning activities and infrastructure investments in the short- and mid-term?



## Short Term

- Compliance Strategy (timeline and scope)
- Frame the issues/priorities
- Short term capital projects

## Mid Term

- Comp Plan Goals, Objectives and Policies
- Review land uses
- AAAs


## Long Term

- LDRs: Development / design standards
- Infrastructure LOS
- Long-term capital planning/funding



# Regional Collaboration



- ▶ Southeast Florida Regional Climate Compact
  - 4 County Compact for Collaboration
- ▶ Tampa Bay Regional Planning Council—
  - One Bay
- ▶ East Central Florida Regional Planning Council
  - Assist with local planning efforts
- ▶ Southwest Florida Regional Planning Council
  - Assist with local planning efforts
- ▶ Northeast Florida Regional Council—
  - P2R2 Public Private Regional Resiliency



# Local Government Examples

- ▶ Pinellas/St. Petersburg
  - New initiative– Funded by RESTORE dollars
- ▶ Satellite Beach
  - NOAA SeaGrant – Vulnerability Analysis
  - AAAs (used CHHA)
- ▶ Nassau County/Fernandina Beach
  - (January 23 Workshop)
- ▶ DEO Adaptation Pilot:
  - City of Clearwater
  - Escambia County
  - City of St. Augustine



# Monroe County

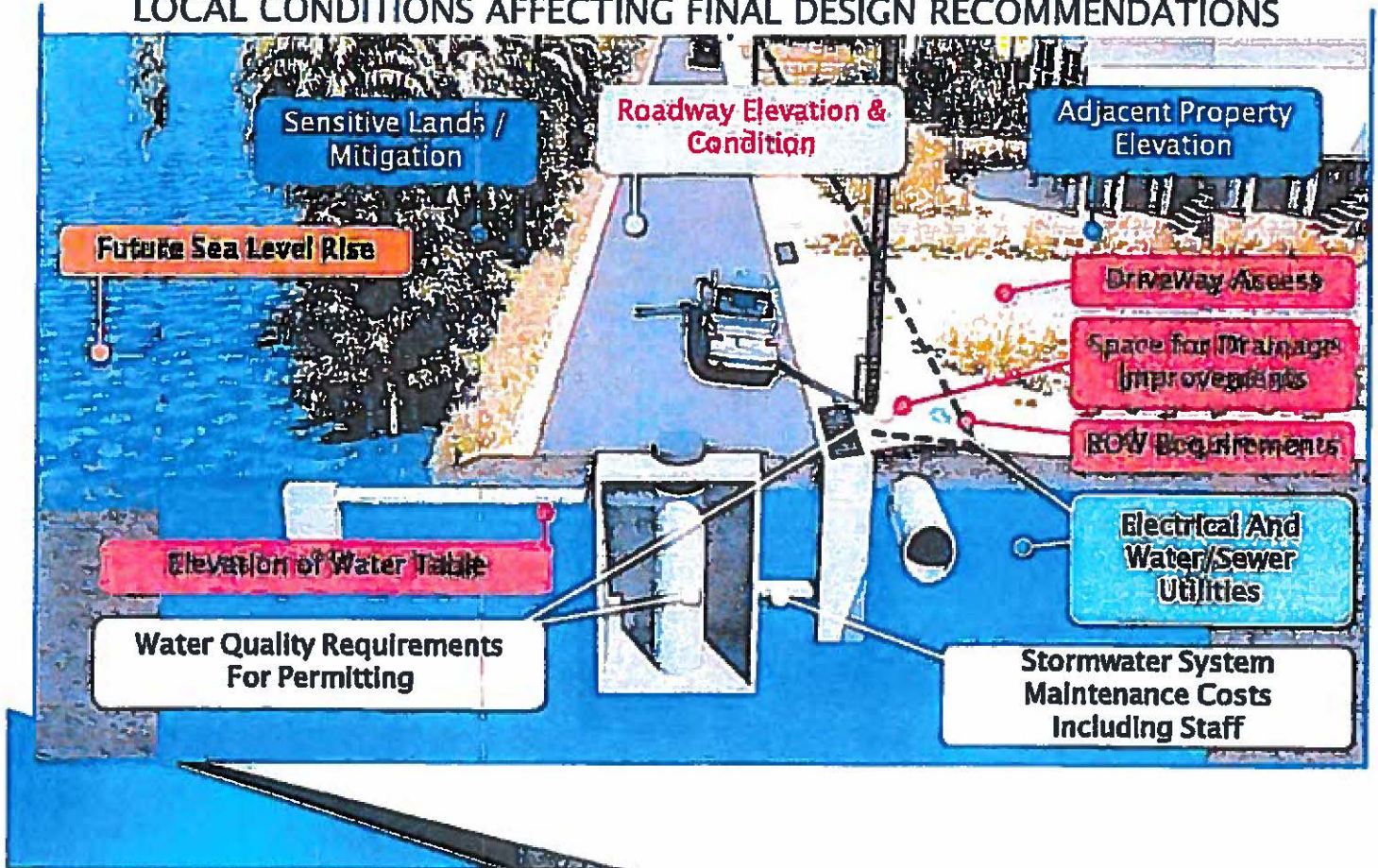


- ▶ GreenKeys Planning Effort
  - Vulnerability Assessment for roads, habitat, water, wastewater, electric and buildings/facilities
- ▶ New LiDAR elevation data
- ▶ Twin Lakes and Big Pine Pilot Roads Project
  - Methodology for road elevation based
  - Legal Analysis on liability
- ▶ NOAA/SeaGrant- 4 State HAZUS Modeling for vulnerability
- ▶ Bayshore Assisted Living Facility Adaptation Measures
- ▶ Forthcoming: Countywide Roads Analysis

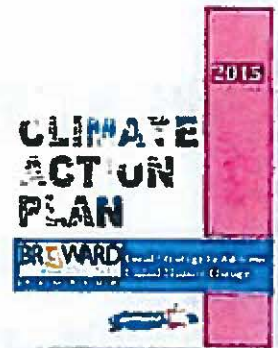


# Implementation Considerations

## LOCAL CONDITIONS AFFECTING FINAL DESIGN RECOMMENDATIONS



# Planning for Resilience – Examples from Broward



- ▶ Modernized standards for planning and infrastructure
- ▶ Future conditions map series – Code of Ordinances (in process)
- ▶ 3-year timeline
  - Drainage infrastructure (2017)
  - Coastal flood barriers (2018)
  - Flood elevations (2019)
- ▶ Unique Tools
  - Coastal Study
  - Groundwater Model and Maps
  - Updated FEMA model tool
- ▶ Augmented by:
  - Parallel, complimentary, and targeted studies
  - Projects and partnerships
  - Evaluation of finance options
  - Development of decision support tools



# USACE–Broward Resiliency Study

- Resilient Sea Wall Top Elevations
- Calibrated hydrodynamic model
  - 2 feet sea level rise
  - High tides
  - 25-yr storm surge
- Flood scenario testing
  - 2.5 foot increase in seawall height
- Economic study
  - Damage loss reduction
  - Regional economics



US Army Corps  
of Engineers®





# Resiliency Florida Priorities

- ▶ Funding Sources:
  - Example: Coastal Partnership Initiative Grants for Adaptation Planning and Projects
  - "Turn dirt" adaptation projects
  - Strategic land management/acquisition
- ▶ Ensure existing regulations do not inadvertently constrain adaptation projects
  - Example: antiquated stormwater regulations
- ▶ Technical support
  - Example: UF GeoPlan Center Sketch Tool



# Creative Communications



Check out the New Beers on tap--- MAYDAY IS BACK!

Updated 02/11/2017

On Tap: 11 | Cans: 3

## Featured

NAME	ABV	SERVED IN	PRICE
Accompize Cider	6.0	12oz Draft	\$5
Botanizer's Honey Me	5.5	16oz Draft	\$5
Saltwater King Tide Ale	3.7	16oz Draft	\$5
Saltwater Texas Vacation	8.1	12oz Draft	\$7
Saltwater Pineapple Screamin' Resls IPA	7.9	12oz Draft	\$6
Saltwater Pumpkin Puffer Stout	6.5	12oz Draft	\$6
Saltwater Watermelon Ice Me	3.7	12oz Draft	\$6



[www.resiliencyflorida.org](http://www.resiliencyflorida.org)

