

An aerial photograph of a flooded street in a tropical area. Several cars are driving through the murky water, creating splashes. The street is lined with palm trees and other tropical vegetation. In the background, a city skyline is visible across a body of water. A large green semi-transparent box is overlaid on the top half of the image, containing the title text.

# 2019 BROWARD LEADERS RESILIENCE ROUNDTABLE

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## Report

October 2019

Broward County Environmental Planning and  
Community Resilience Division





## 2018 Broward Leaders Roundtable on Climate and Resilience Summary Report

Broward County Commissioners Beam Furr and Nan H. Rich, co-chairs of the County's Climate Change Task Force, convened the 2019 Broward Leaders Resilience Roundtable on Friday, October 4, 2019, at Tree Tops Park in Davie. Each municipality and tribal community in Broward County was invited to send an elected official, city manager, and resilience contact. Eighty people attended the Roundtable, including:

- 49 municipal and tribal representatives from 26 cities and the Seminole Tribe of Florida, including 19 elected officials, 11 city managers or assistant city managers, and 19 staff members.
  - In comparison, 32 municipal representatives from 21 cities, including 14 elected officials, attended the 2018 Roundtable.
- 3 Broward County Commissioners.
- 15 Broward County staff members.
- 6 business community representatives.
- 2 media representatives.
- 5 others, including State of Florida Chief Resilience Officer Dr. Julia Nesheiwat.

### Top Themes

- A county-wide resilience plan, identified as a top priority by 2018 Roundtable participants, has been advanced by Broward County. Funding for a Risk Assessment and Resilience Plan is included in the County's Fiscal Year 2020 budget.
- Sea level rise and flooding challenges are only getting more serious, as widespread king tide flooding at the end of September demonstrated.
- The business community recognizes that resilience is a top priority for Broward County and is willing to pay higher taxes to support a coordinated, meaningful plan.
- The sophisticated future conditions modeling work in which the County has invested is producing results. Regulations already adopted by the Broward County Commission, or expected to be adopted by the County Commission within the next year, may require more on-site drainage, higher minimum seawall elevations, and higher finished floor elevations.
- The County and region need a communications strategy around resilience.
- Municipalities are already engaged in a wide variety of resilience and sustainability activities.

- There is a desire for greater communication, knowledge-sharing, and accountability among municipalities, including calls for:
  - Annual reporting by municipal and tribal governments on resilience investments and policies, bond issues, etc.
  - A scorecard for municipalities on how well they are meeting regional resilience benchmarks.
  - A one-stop shop for turnkey policies that can be easily implemented by municipalities.
- The C-51 Reservoir represents an opportunity for Broward municipalities to secure future water supply in a cost-effective and environmentally-responsible manner, but relatively few cities have signed up for allocations.

*All photos taken by Paul Krashefski, Broward County, except as otherwise noted.*

*Cover photo: Las Olas Isles, Fort Lauderdale, Florida, taken October 1, 2019. Photographer: Mike Zygnerski, Broward County*

*Bottom photo on page 5: Photographer: Jason Liechty, Broward County.*

## Detailed Report

### Opening Remarks and Presentations

#### **Broward County Commissioner Beam**

**Furr**, in his opening remarks, expressed his appreciation for the strong level of participation from municipalities and tribes, and noted the absolute necessity to work together to build community resilience. He also cited recent United Nations report on the effect of climate change on the oceans and polar/glacial regions of the planet and urged the group not to neglect efforts to reduce the greenhouse gas emissions responsible for climate change. "While some amount of sea level rise and other impacts are inevitable, right now, at this moment in history, we have a greater chance to minimize climate impacts than we will ever have. So this is not an issue we can keep kicking down the road," Furr said.



Similarly, **Commissioner Nan H. Rich** thanked and welcomed all the Roundtable participants and reminded everyone of the need to be inclusive. "All communities, all interests need to be in the rooms, at the tables, where decisions are made on these very critical issues for our county," she said. She highlighted recent press reports indicating that some financially-

strapped residents of southeast Florida who have suffered impacts as a result of recent hurricanes are having to decide whether they can afford to rebuild or if it is easier simply to leave. "I urge all of us in the room today to consider how our plans and infrastructure investments will affect the residents of Broward County, especially low-income people, and to make sure our resilience efforts don't merely focus on roads and water systems and buildings, but also issues like affordable housing that contribute to making a more inclusive, more livable county for us all."





The Seminole Tribe of Florida joined the Roundtable for the first time, and its participation was warmly welcomed by Roundtable participants. **Andrew J. Bowers, Executive Director of Operations for the Seminole Tribe**, expressed the Tribe's appreciation for being invited to join in these important discussions. He also emphasized that climate resiliency planning is extremely important to the Tribe, not only to protect its people, but also preserve its cultural and historical resources in the region, where a significant number of its tribal members live.



*Broward County Chief Resilience Officer Dr. Jennifer Jurado and Florida Chief Resilience Officer Dr. Julia Nesheiwat speak with Roundtable attendees.*

**Dr. Julia Nesheiwat, the newly-appointed Chief Resilience Officer for the State of Florida**, applauded the efforts to build resilience already underway in Broward County and the region. "I hope to serve as advocate for you," she said, and to help accelerate projects. Dr. Nesheiwat expressed her desire for two-way communication as the region develops its plans and as she leads efforts at the state level to develop a state resilience framework by building consensus among state agencies, regional efforts like the Compact, and local governments. If we don't have a plan in place, along with funding, we're probably

going to go in circles, she stated. The core resilience issue facing the state, she noted, is water — quality and quantity.

**Keith Koenig, CEO of City Furniture and Chair of the Broward Workshop,**

described his own journey in understanding that climate risk and community resilience are the biggest issues facing Broward County. The biggest challenge, he noted, is getting leaders to focus on resilience in the face of all

the other issues competing for attention. Koenig related how a discussion with Daniel Stander of RMS, a leading risk analytics company, changed his thinking. South Florida, Stander told



Koenig, is the riskiest part of the world, given that the risk the region faces is a function of the frequency of severe weather events like extreme rainfall and hurricanes combined with potential severity. Unless the region gets ahead of this issue, property insurance rates will increase, flood insurance subsidies will decrease as the federal government pushes to make the National Flood Insurance Program better reflect actual risk, and mortgage lending in coastal communities seen as vulnerable by banks will decline. After this conversation, Koenig said, "I now understand this is the biggest issue we face." By getting ahead of the issue, however, the region can not only mitigate risk, but also develop an industry around resilience.

However, he assured Roundtable participants that the Broward Workshop, consisting of the leaders of the top 100 businesses in Broward County, are not only united in recognizing resilience as a top issue, but willing to pay taxes to fund a good plan. "The alternative is not acceptable," he said, and action needs to start now. We don't want to look back in five to seven years wondering why we didn't start sooner. We all need to be singing the same song, Koenig said, echoing the comments by Commissioners Rich and Furr about the criticality of cooperation.

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**Alan Cohen, Assistant County Administrator, Broward County,** underscored yet again to Roundtable participants the absolute necessity of working together. Amidst a growing global dialogue about the existential threat of climate change, the antidote to getting overwhelmed—and the most important role for local governments and businesses—is addressing the factors and impacts that we can directly impact. "How do we become a more resilient community?" he asked.

Cohen also reminded the group that Broward County features not one, but two coasts—both the Atlantic Ocean and the Everglades. Issues of water affect the entire county, not just coastal areas. With a six-inch rise in sea level, the regional drainage system will fail to function. Water quality is also a concern—increasingly intense rain events and less soil storage due to a rising water table means less water percolating into the aquifer and more water laden with nutrients and pollutants running into canals and the ocean.

Action—or inaction—in building resilience will impact all local governments by affecting bond ratings from credit agencies. The more resilient we are, the less governments will be spending on interest—leaving more funds for other needs.

Broward County needs help from municipal and tribal governments as collaborators in planning, implementers in advancing projects, and communicators in reaching the residents the county shares with municipalities. As the units closest to residents, cities and tribes are best positioned to communicate with residents about the individual impacts they may face and how we need to come together as one community to address resilience.

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**Dr. Jennifer L. Jurado, Chief Resilience Officer and Director of the Broward County Environmental Planning and Community Resilience Division,** then delivered a

presentation on the challenges facing the region, the efforts underway, and the gaps that still need to be filled. Her presentation touched on the following themes:

***"Future flood risk is a pressing resiliency challenge for our region."***

- Flooding risk from rising sea levels, more intense rain events, more intense hurricanes and tropical storms, rising water tables, inadequate drainage systems, and the combination of one or more of those factors, continues to rise. In addition, population growth and associated real estate development are increasing the number of people and properties in vulnerable areas.
- Saltwater intrusion due to sea level rise and the potential impact on water supply also threaten the sustainability of Broward County.

***"Sizeable progress is reflected in new resilience standards and expanded partnerships."***

- In 2017, the County adopted an updated average wet-season groundwater table map, which requires drainage infrastructure for development/redevelopment projects to be designed for the reduced soil storage levels expected by 2070.
- Broward County is currently moving to adopt new minimum seawall heights to protect against high tide flooding and sea level rise: 4 feet NAVD by 2035 and 5 feet NAVD by 2050. Once the County approves these standards via its land use plan, municipalities will have two years to bring their own regulations into compliance. The standards will apply when properties are developed or redeveloped, or when seawalls fail or are overtopped.
- The County is also updating its 100-Year Community Flood Map to account for two feet of sea level rise and future rainfall projections. Finished floor elevations will need to be higher than the flood elevations predicted by this map.
- Resilient infrastructure planning and investments are occurring, but greater coordination is needed.

***"Economic and community resilience requires additional action via a comprehensive and quantifiable resilience plan."***

***"Coordinated efforts will maximize benefits and improve the [return on investment] with a shared framework for planning and investment."***

- During the 2018 Roundtable, business leaders recommended a return-on-investment (ROI) analysis for resilience investments, similar to an ROI analysis for beaches/coastal resources funded by the state several years ago. Roundtable participants strongly supported this idea. As a result, a Business Case for Resilience study is underway, with financial participation from Broward County, Miami-Dade County, Palm Beach County, the Broward Workshop, the Community Foundation of Broward, Greater Miami Chamber of Commerce, and a \$75,000 grant from the Florida Department of Environmental Protection. The Urban Land Institute was selected as the project manager and will be hiring a sub-consultant

to undertake significant economic modeling, which will be included in a comprehensive report due in April 2020.

- In addition, a multi-year county-wide risk assessment and resilient infrastructure improvement plan was included in the County's Fiscal Year 2020 budget. This plan, identified by 2018 Resilience Roundtable participants as a top priority, and advanced by Broward County, will provide planning-level cost estimates and a prioritized list of capital projects and potential redevelopment strategies needed to reduce flood risk in the county.

***"Overall effectiveness of local and county-wide planning is reliant upon resilience of the regional system, and area of remaining need."***

- Broward County, its partners in the four-county Southeast Florida Regional Climate Change Compact, and the regional business community have been pushing for several years for a Resilience Study of the Central and South Florida Flood Control Project (C&SF), the backbone of south Florida's flood management infrastructure. Despite extensive political pressure, and the commitment of many members of southeast Florida's congressional delegation, the study remains unprogrammed and unfunded. Strong advocacy by regional leaders must continue until the study becomes reality.

***"Engagement is key, with a collective focus on communications."***

- To ensure coordination—including use of common standards, compatibility among interrelated infrastructure systems, avoidance of projects negatively impacting adjoining parcels or communities—systems for ongoing engagement among local governments, businesses, and other stakeholders are needed. In addition, residents and businesses need to be informed about risks to their properties and the community at large and provided tools and resources for reducing those risks.

## **Discussion – Municipal Sharing**

During the open discussion, many of the municipalities in attendance highlighted initiatives undertaken in the past year in their communities. Frequently, more than one city was engaged in the same activity, as noted below. This list should not be seen as exhaustive, as it consists only of measures mentioned during the Roundtable.

- Seawall replacement or assessment – Fort Lauderdale, Pompano Beach
- Hiring of sustainability coordinators/managers and/or establishment of sustainability or resilience offices – Pompano Beach, Davie, Oakland Park
- Creation of Climate Action Plans, Sustainability Action Plans, Resilience Plans: Hollywood, Wilton Manors and Oakland Park (joint plan), Dania Beach



- Facility hardening – Oakland Park
- Stormwater projects, including parks as storage – Davie
- Issuance of bonds for resilience funding (at least in part) – Oakland Park, Hollywood, Pompano Beach
- Moving stormwater fees from water bills to property tax bills, or considering it – Miramar, Davie, Fort Lauderdale
- Use of stronger building standards or green building codes – Oakland Park, Wilton Manors



*Broward County Commissioners Beam Furr and Nan H. Rich and Florida Chief Resilience Officer Dr. Julia Nesheiwat listen to the Roundtable discussion.*

- Installation of tidal valves/backflow preventers – Fort Lauderdale, Pompano Beach
- Incorporation of sea level rise in plans – Fort Lauderdale
- SolSmart designation – Miramar (Silver), Fort Lauderdale (Gold)
- GHG goals and inventories – Pompano Beach, Hallandale Beach
- EV charging and or hybrid/EV fleet initiatives – Miramar, Fort Lauderdale
- Single-use plastic ban and plastic straw bans – Wilton Manors, Davie, Oakland Park
- Facility/infrastructure hardening – Oakland Park, Dania Beach
- LED lighting/streetlighting initiatives – Fort Lauderdale, Dania Beach

## **Discussion – Top Themes**

### **INFORMATION SHARING**

- These **annual Roundtables are important** for promoting conversation and developing a shared county-wide agenda.
- **Effective communication about resilience** remains a top priority among Roundtable participants. Ideas included engagement of a crisis public relations firm to create compelling messages to counter negative narratives.
- Participants were encouraged to **raise awareness of resilience issues** within their respective agencies and professional organizations and to promote the efforts of their communities.

- The editorial page editor of the Sun-Sentinel invited **contributions for The Invading Sea editorial collaborative** and urged participants to **use statewide organizations** – the Florida Association of Counties, Florida League of Cities, and Florida Chamber of Commerce – to raise resilience issues at the state level.
- There was also interest in creating **sustainability/resilience awards for cities and businesses** in the county, as a way of recognizing innovation and accomplishment.
- Participants acknowledged the need to broaden communications and active participation in resilience efforts and advocacy through **improved coordination with the League of Cities**.



South Florida Sun-Sentinel Editorial Page Editor Rosemary O'Hara urges local officials to contribute op-eds to the Invading Sea editorial collaborative and to use statewide organizations to raise resilience issues in Tallahassee.

## REGIONAL PROJECTS

- The **C-51 Reservoir** provides a significant opportunity for resilience in water resource planning and supply. Cities are urged to look closely at this project as a future alternative water supply for their communities. Additional capacity allocations are still available, but there is the potential for Miami-Dade County to reserve a large portion of the remaining capacity, limiting participation by Broward municipalities, many who engaged in early planning, technical and policy efforts. Once sufficient capacity allocation agreements have been signed, Phase 1 of the project will move forward.
- The **C&SF Project Resilience Study remains a top priority for the region**. The C&SF Project is essential to providing drainage and flood protection. Additional community support and pressure is needed to get the study onto the Corps' work plan and funded.
- **Planning for Future Flood Conditions**. Once released, the County's updated 100-Year Community Flood Map will be advanced for adoption. This effort will need support from municipalities, residents, and the business community, as it will require higher finished flood elevations for buildings but will also help insulate against flood risk and rising costs for flood insurance.
- **The 100-Year Community Flood Map and FEMA flood map are very different**. The 100-Year Community Flood Map is used to establish finished floor elevations, distinct from the FEMA flood map, which does not use future conditions modeling and is used to set flood insurance rates. This distinction is significant in avoiding confusion between the updated FEMA flood map and the 100-Year Community Flood Map, since both are likely to advance around the same time.



## LAND USE AND INFRASTRUCTURE

- Conversation included discussion as to whether communities were contemplating the impact of **permanent inundation of certain areas**. In Hollywood, there is acknowledgment that some parts of certain streets (e.g., Surf Road) are not maintainable long term, given flooding events that are already occurring. In Fort Lauderdale, there are issues with inundation of particular parcels, but as these sites are redeveloped, new houses are more resilient, as they are built to current codes and FEMA requirements. Redevelopment may foster improvements in local resilience.
- Many cities have entered or will enter into **agreements with the Florida Department of Transportation for road projects**, including Fort Lauderdale, Hollywood and Dania Beach. What assumptions regarding sea level rise and flooding are in these agreements? Cities were asked to share these agreements with Broward County and among themselves to ensure that appropriate standards are being used consistently.
- Participants were encouraged to look at the Broward MPO's **Commitment 2045 Metropolitan Transportation Plan**, and how funds are allocated, with a focus on resilience needs. The plan is scheduled to be advanced in December.



*Florida Chief Resilience Officer Dr. Julia Nesheiwat addresses the Roundtable.*

## PROMOTING RESILIENCE STRATEGIES

- **Everyone in Broward County needs flood insurance**, whether or not their property currently sits in a designated flood zone. This message needs to be more broadly communicated.
- An **annual report of resilience efforts** was proposed, in which cities, tribes, and Broward County would detail their top initiatives and investments from the past year, along with project cost estimates, any bonds issued for resilience investments, etc. This could be an expansion of the idea proposed and carried out from the 2018 Roundtable for an inventory of the top 3 water management projects from each municipality.
- Similarly, cities suggested creating a **scorecard for established resilience goals**, to promote accountability. Attendees suggested use of scorecard as basis for alignment of investments.
- There was also widespread support for a **repository of best practices, turnkey policies, and case studies** from Broward County, the region, and across the nation

from which cities and tribes could draw for easy customization and application to their communities.

- Assistant County Administrator Alan Cohen pledged that **the Business Case for Resilience study** draft will be shared with municipal and business leaders prior to finalization.

## **Summary of Immediate Next Steps**

### **Broward County will:**

1. Provide a written summary of the Roundtable discussion for distribution to all attendees, municipal officials, and administrators.
2. Explore regional development of a resilience score card, perhaps as an initiative of the Compact.
3. Organize an annual Report on Resilience, to compile, track, and communicate countywide efforts and investments.
4. Explore development of a repository of resources and local case studies on resilience, highlighting tools, strategies, and built projects.
5. Seek resources and partnerships to augment communications strategies.
6. Continue to host the Broward Leadership Resilience Roundtable annually.

### **Municipal and Tribal partners will:**

1. Share additional details on specific finance mechanisms discussed during the Roundtable, including green bonds and stormwater fees.
2. Anticipate electronic sharing of reports and Roundtable presentation for future use and reference
3. Review the potential benefits of C-51 Reservoir participation, with County staff to provide additional information as needed.
4. Stay tuned for additional updates on the County-wide Resilience Plan and process for participation.
5. Advance regional communications using the #ResilientBroward hashtag and branding.

*For additional information about the Broward Leaders Resilience Roundtable, contact the Environmental Planning and Community Resilience Division at 954-519-1270 or [resilience@broward.org](mailto:resilience@broward.org).*