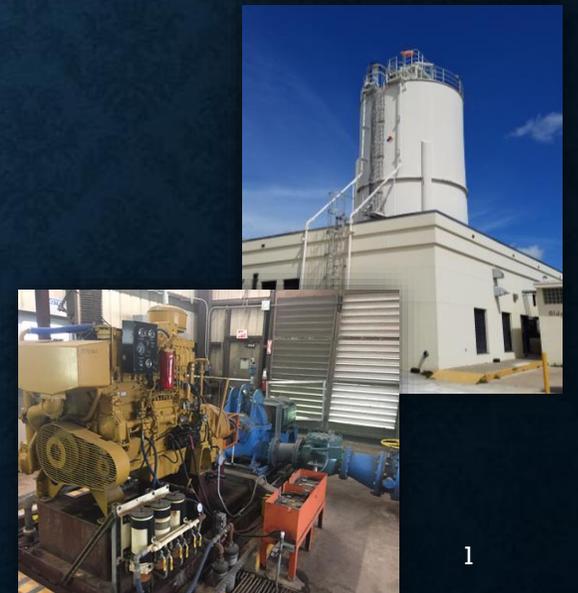




# BROWARD COUNTY WATER & WASTEWATER SERVICES OPERATIONS DIVISION

## Utility Risk and Resilience Assessments (RRAs): America's Water Infrastructure Act of 2018 (AWIA)

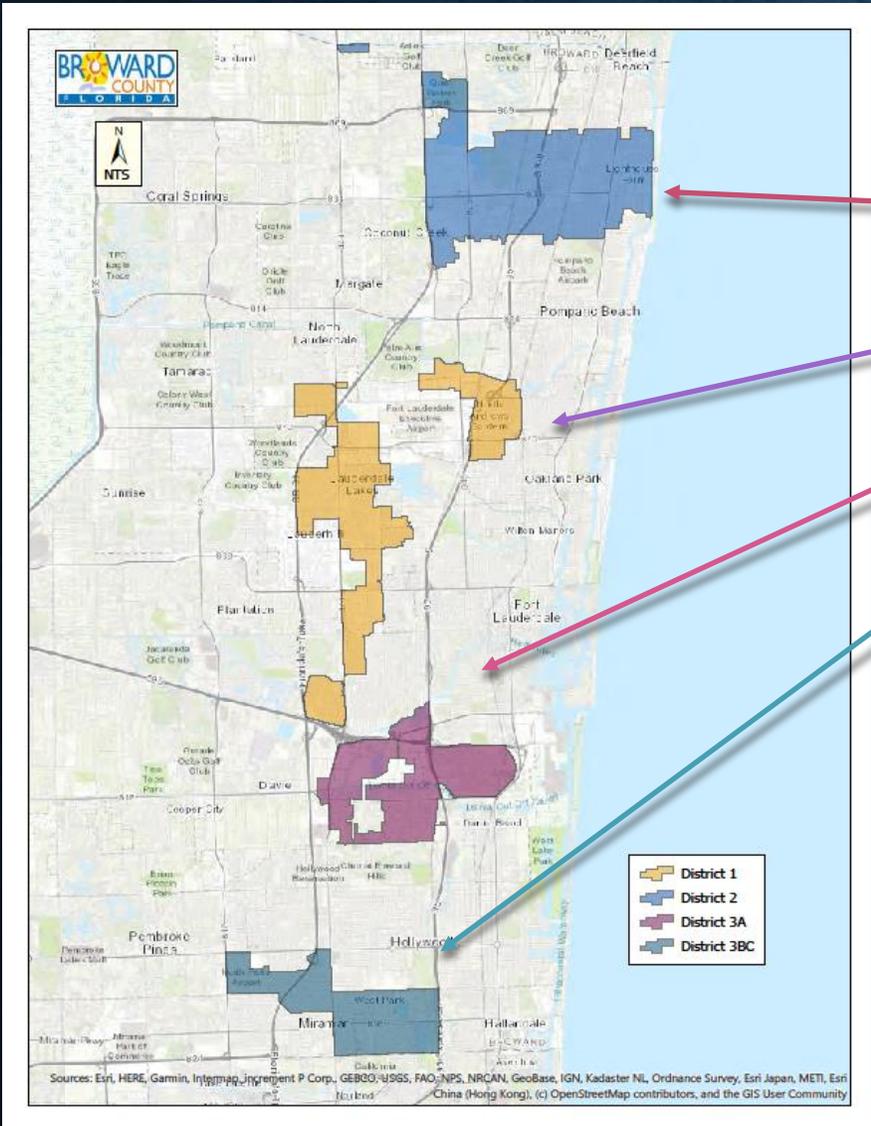
Carlos Garcia, PE, PMP



# TOPICS

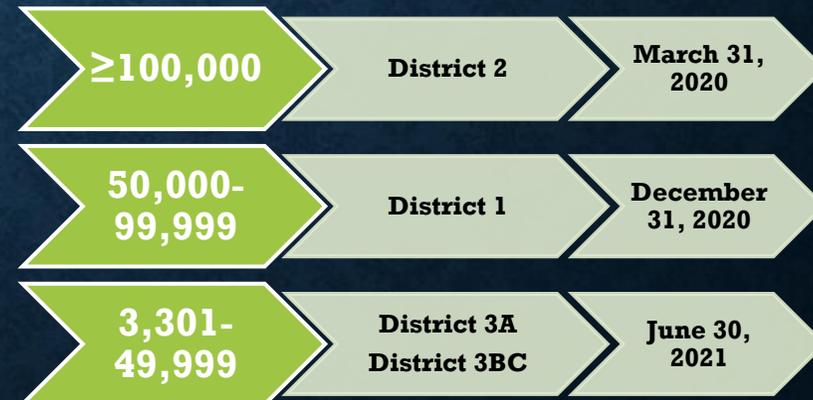
1. Broward County - Community Water Systems (CWSs)
2. Certification Process
3. Reviewing Risk and Resilience
4. Risk Mitigation

# 1. BROWARD COUNTY - COMMUNITY WATER SYSTEMS (CWSs)



District	PWS ID	TOTAL POP	CITY
<b>2</b>	4060163	112,097	Pompano Beach
<b>1</b>	4060167	75,305	Lauderdale Lakes
<b>3A</b>	4060165	17,187	Fort Lauderdale
<b>3B/C</b>	4060162	32,721	Miramar

## EPA Certification Deadlines



# 2. CERTIFICATION PROCESS



**America's Water Infrastructure Act (AWIA)**

**Gap Assessment**

Vulnerability Assessment -VA (2003) vs. AWIA requirements:

- Update risks from malevolent acts & natural hazards
- Update resilience of system components
- Update Risk to financial equipment & systems

**RRA**

Model:

- Workshops
- Data collection
- Critical Asset inventory
- Asset & Threat pairs
- Consequences
- Baseline resilience
- Vulnerability & threat Analysis

**RRA Certification**

- 2A: March 2020
- 1A: July 2020
- 3A: July 2020
- 3B/C: July 2020

**ERP Certification**

**New Cycle**

Model Update:

- Workshops
- Data collection
- Critical Asset inventory
- Asset & Threat pairs
- Consequences
- Baseline resilience
- Vulnerability & threat Analysis

• **New requirements?**

**Next EPA Certification**

- 2A: 3/31/2025
- 1A: 12/31/2025
- 3A: 6/30/2026
- 3B/C: 6/30/2026

# 3. REVIEWING RISK AND RESILIENCE

Reference Documents:

- Previous VAs
- AWWA J100-10(R13), or simply “J100”
- Baseline Information of Malevolent Acts (EPA, July 2019)
- AWWA Manuals M19, M60

Tools:

- EPA's web-based Vulnerability Self-Assessment Tool 2.0 (VSAT)
- EPA's Water Health and Economic Analysis Tool (WHEAT)



THREATS (CAT)

ASSEST-THREAT PAIRS



**Risk (\$) = Consequences (\$) x Vulnerability x Threat Likelihood**

**Resilience (Gal) = Duration (Days) x Severity (Gal/day) x Vulnerability x Threat Likelihood**

# 4. RISK MITIGATION



# THANK YOU...

Q&A : End of all Presentations

## Contact information:

Carlos Garcia, PE, PMP

(954) 831-0920

[cbgarcia@broward.org](mailto:cbgarcia@broward.org)