

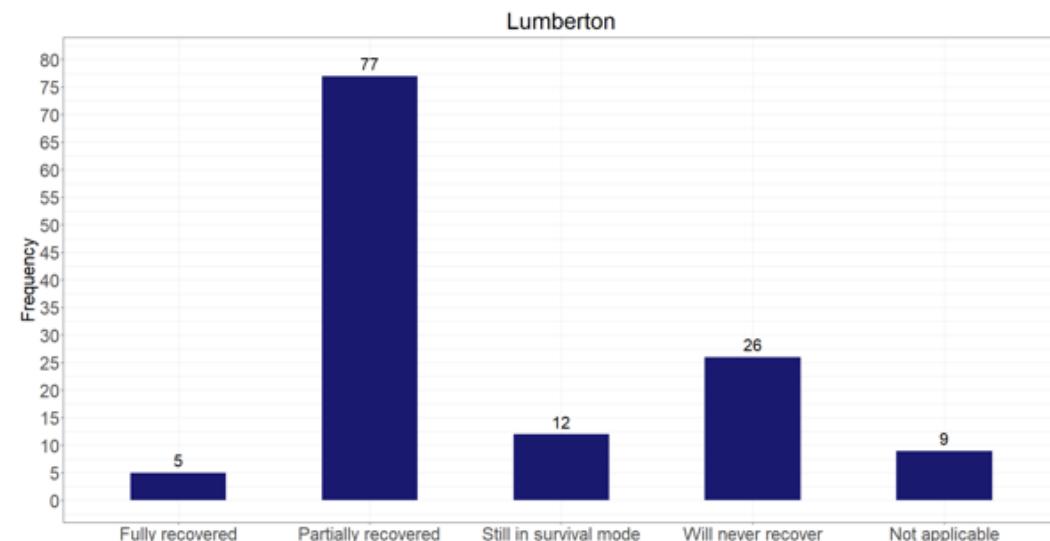
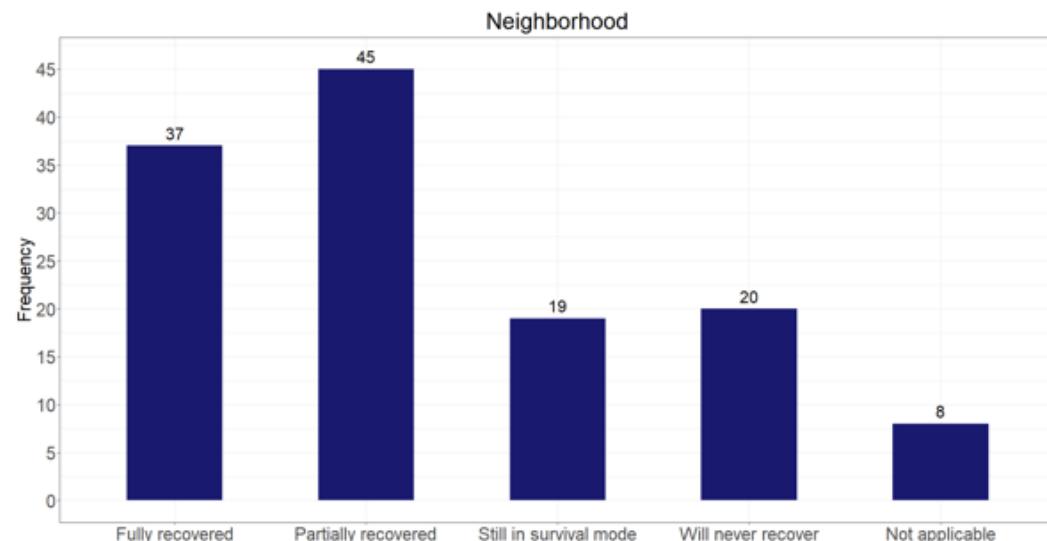
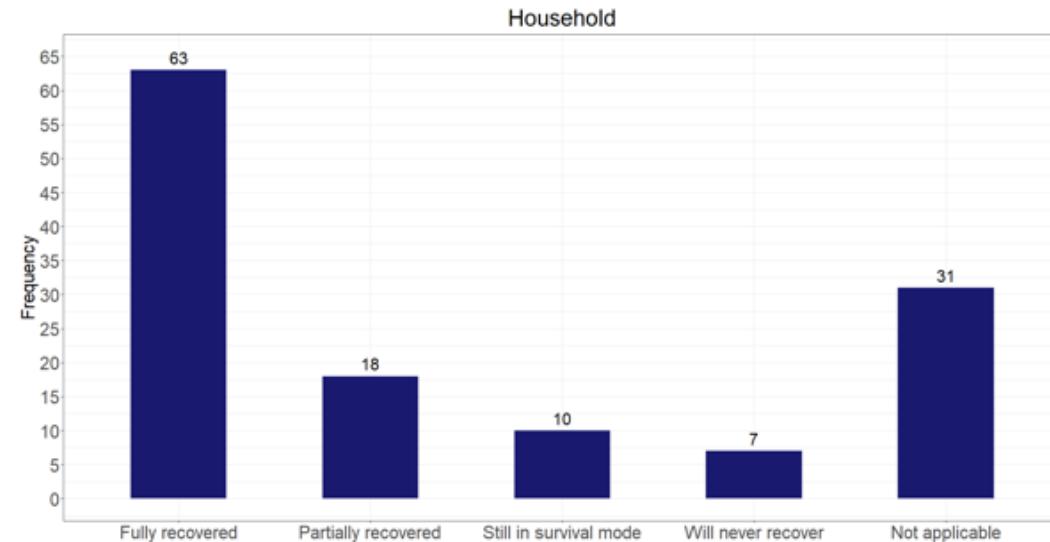
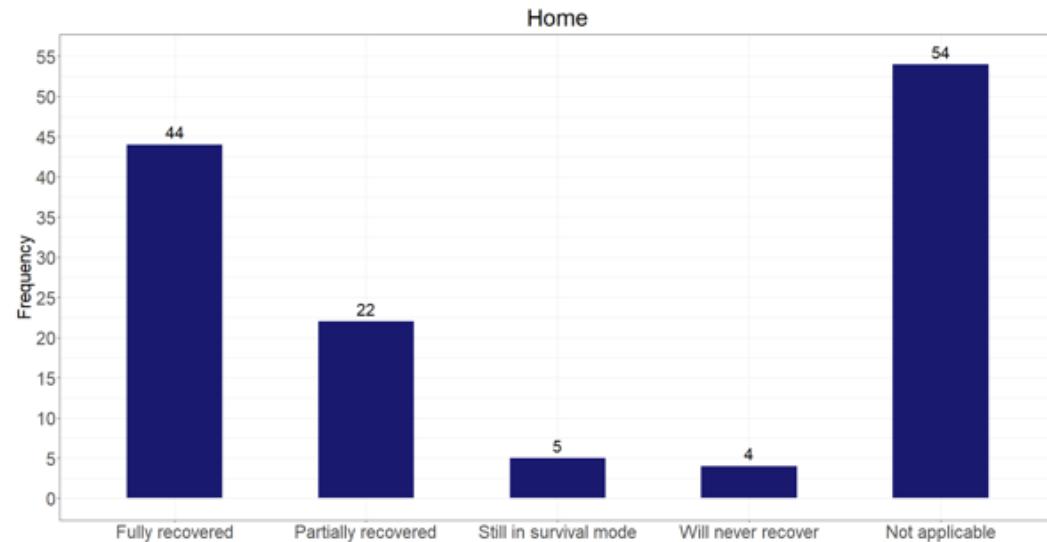
Lumberton Update on Wave 6

Session (C): The Art & Science of Field Studies:
Past, Present, and Future

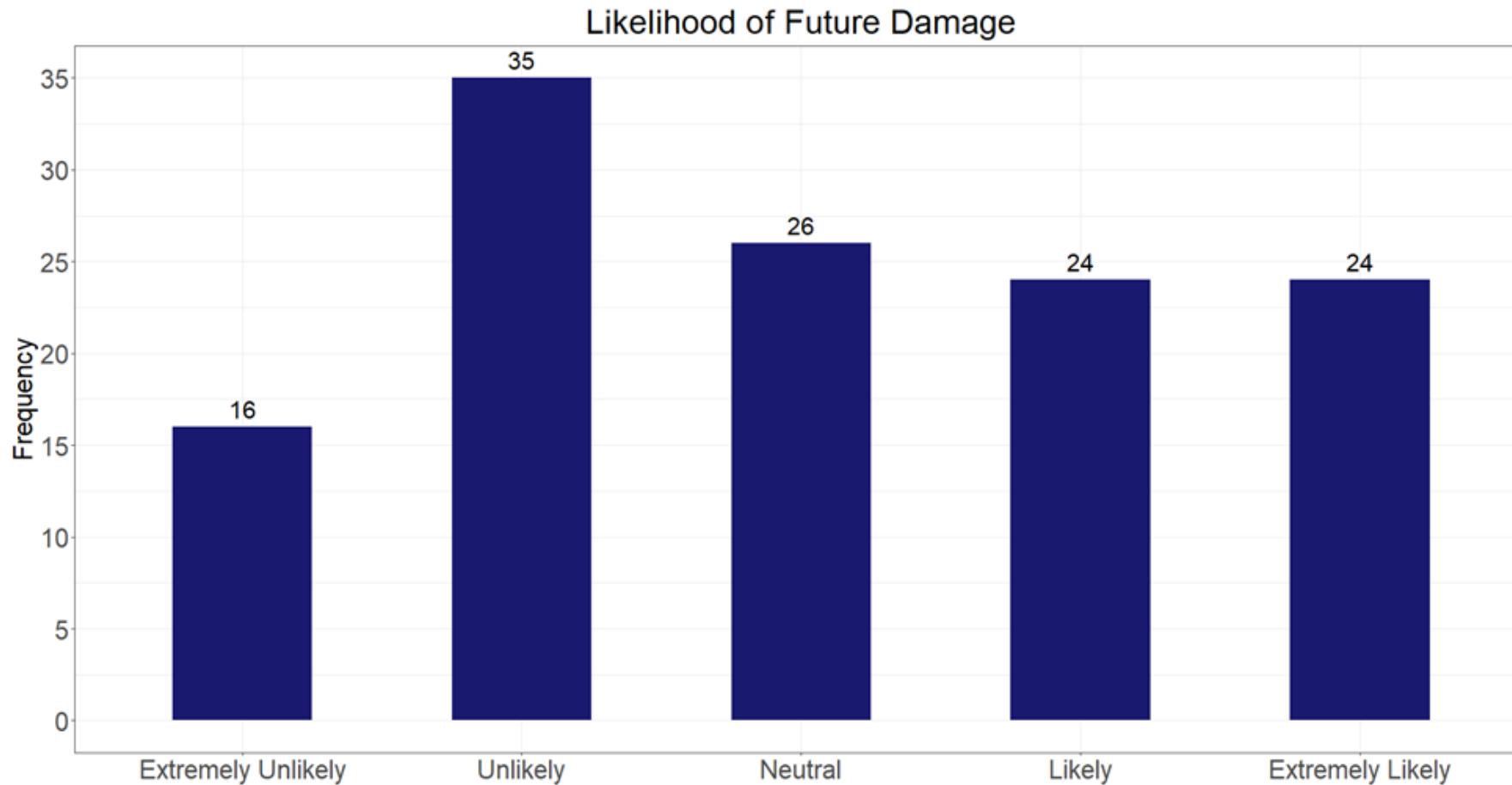
Wave 6 Housing Survey

- Structured questionnaire administered in person
- Stratified cluster sampling strategy of Census blocks and housing units
- Since last scheduled field trip, aims were:
 - document continued recovery processes
 - capture final snapshot of mitigation and capacity-building
 - fill in prioritized data fields missed in previous waves
- Planned for October 21-28, 2023 but ended October 25

Perceived Recovery of...



Continued Vulnerabilities



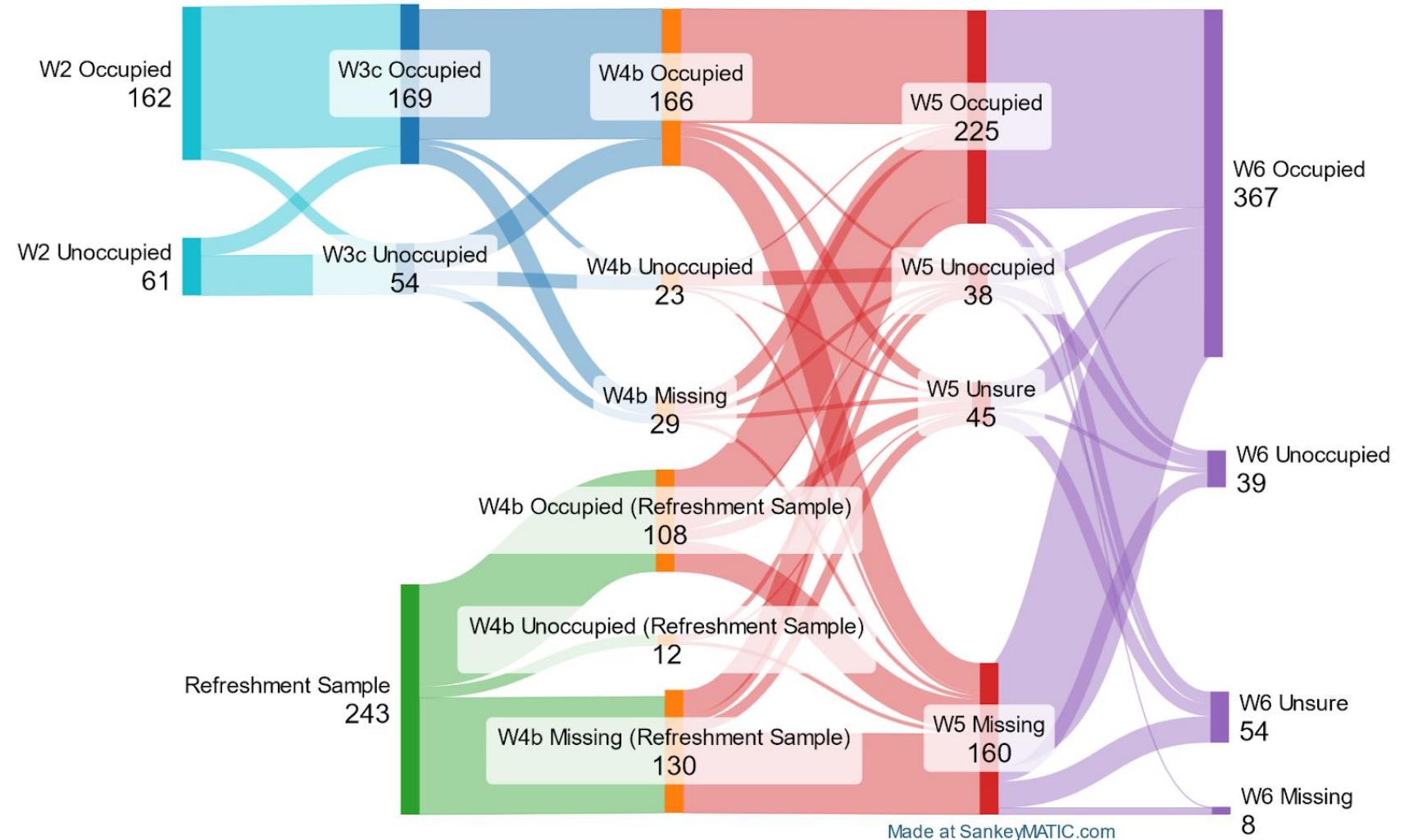
Business Interruption/Recovery

- Wave 6 data collection in 2 parts:
 - Qualitative interviews (minimally structured)
 - Numerical data on operational status and building occupancy
- Again, some disconnect between original goals and results
 - Related to field study's interruption

Interviews

- Interviews recorded and transcribed through Otter.ai
 - Content analysis through inductive coding
- Anecdotes confirmed a struggling community, substantial inequities, and still incomplete recovery
 - “everybody will kind of pull together and try and help out in a time of need”
 - “on this street they’re all for themselves”
- Caveats:
 - n=8 and uncertain representativeness

Occupancy and Operational Status



Graphic courtesy of Maria Watson

Infrastructure Edition



NIST CENTER FOR RISK-BASED COMMUNITY RESILIENCE PLANNING



Post-Event Intervention and Planning

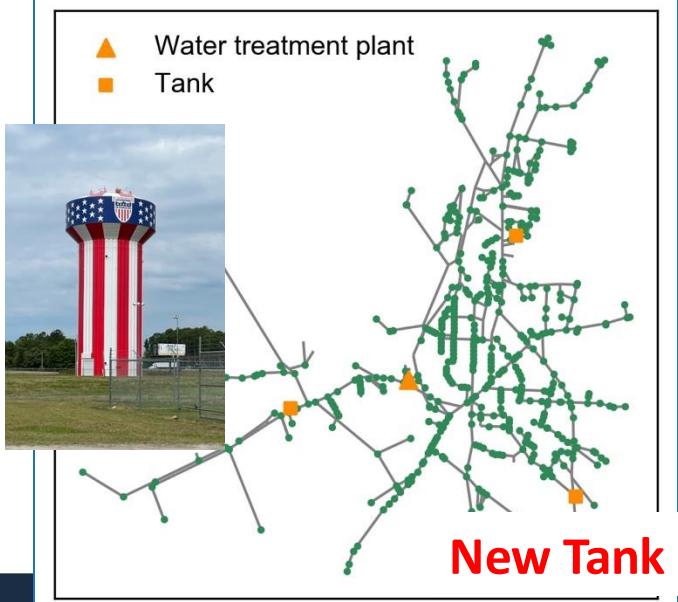
Waves 1-4



Post-Event Intervention and Execution

Wave 5

Solar



- ▲ Water treatment plant
- Tank



I-95



Elevation



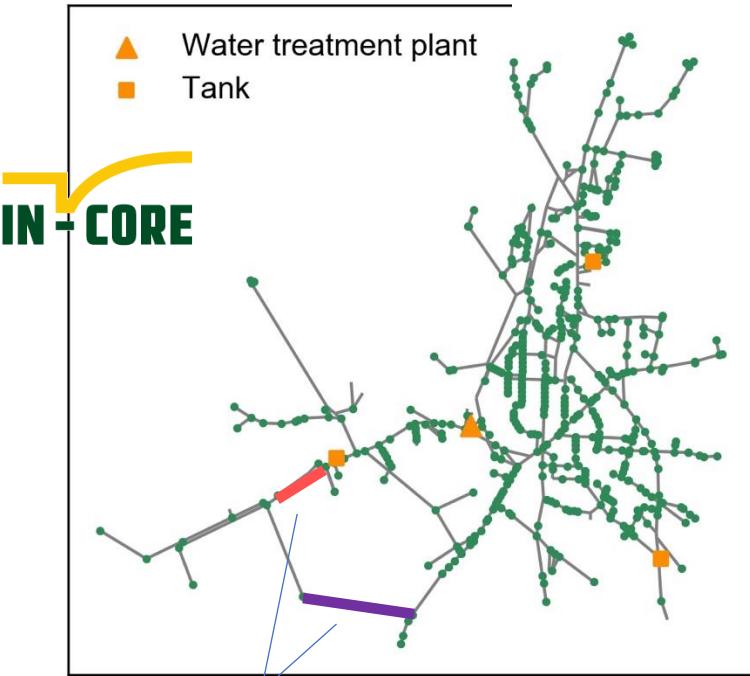
Rapid Seal



Post-Event Execution and What-Ifs

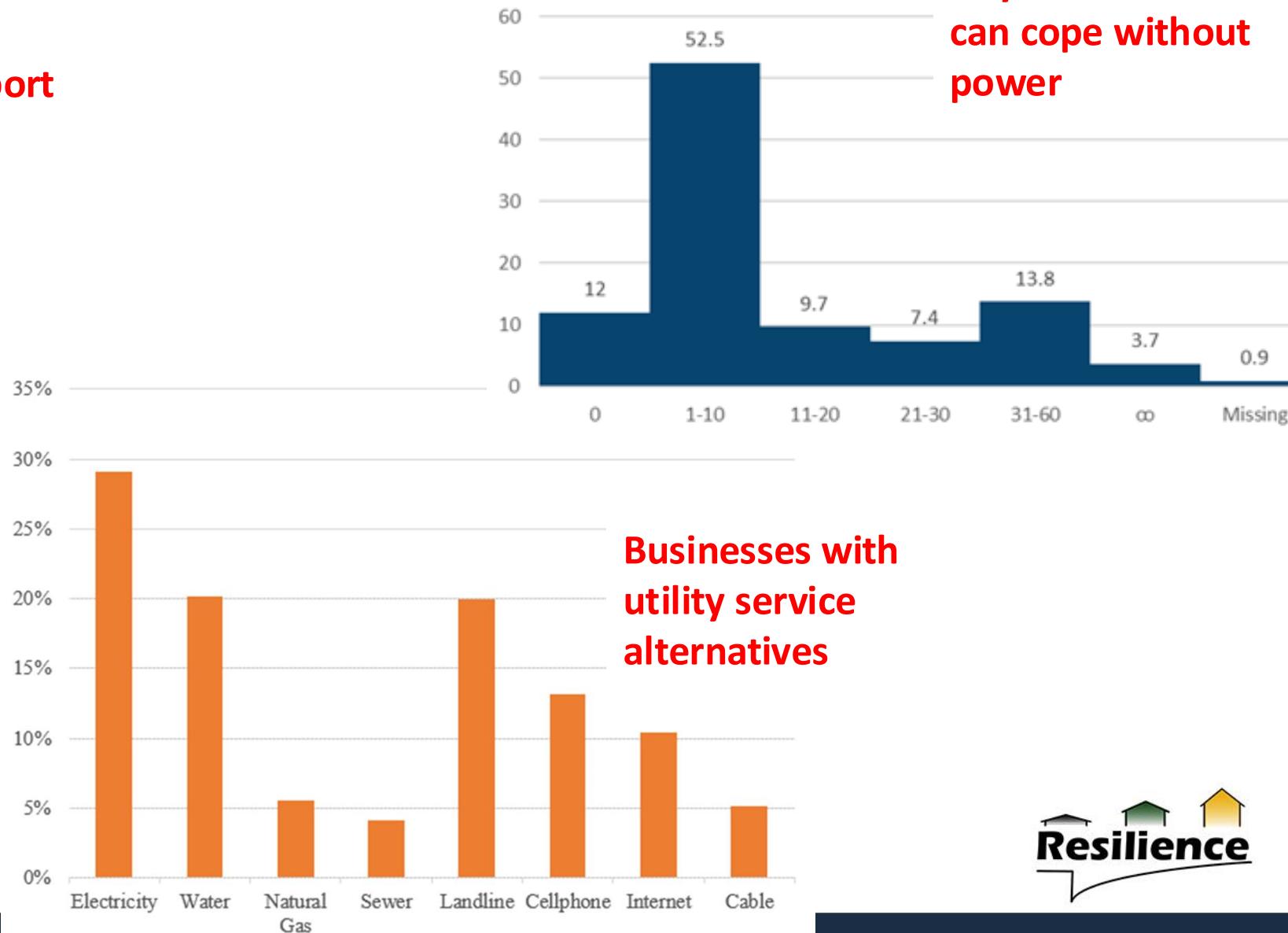
Wave 6

Decision support
models



Add assets to maximize redundancy

IN-CORE



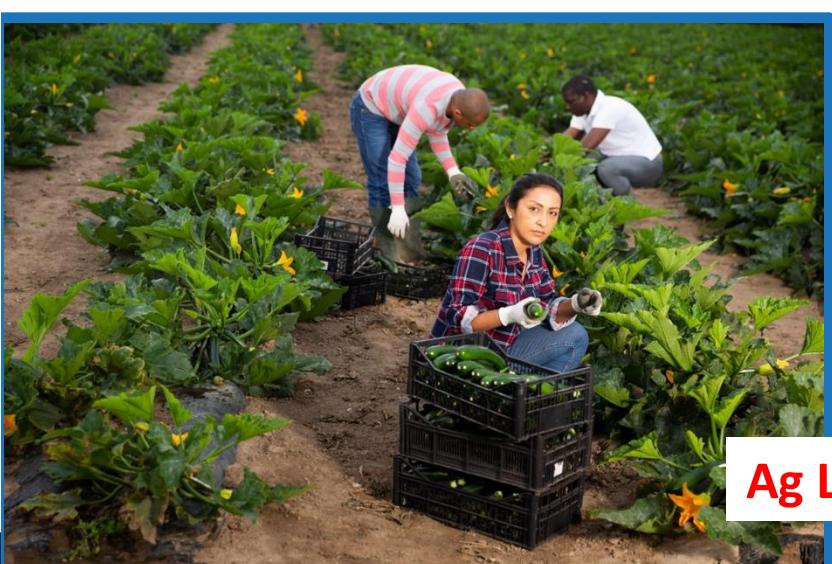
Resilience

Post-Event Execution and New Foci

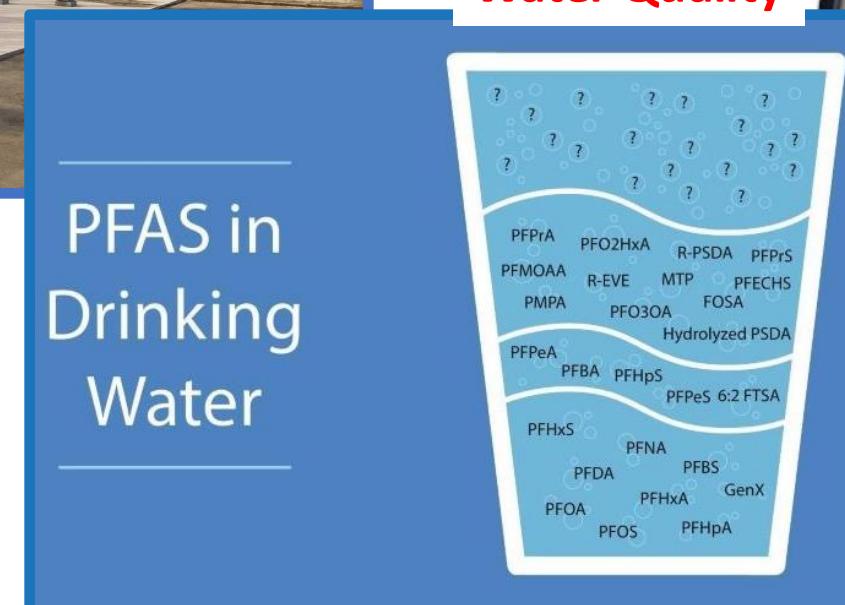
Wave 6



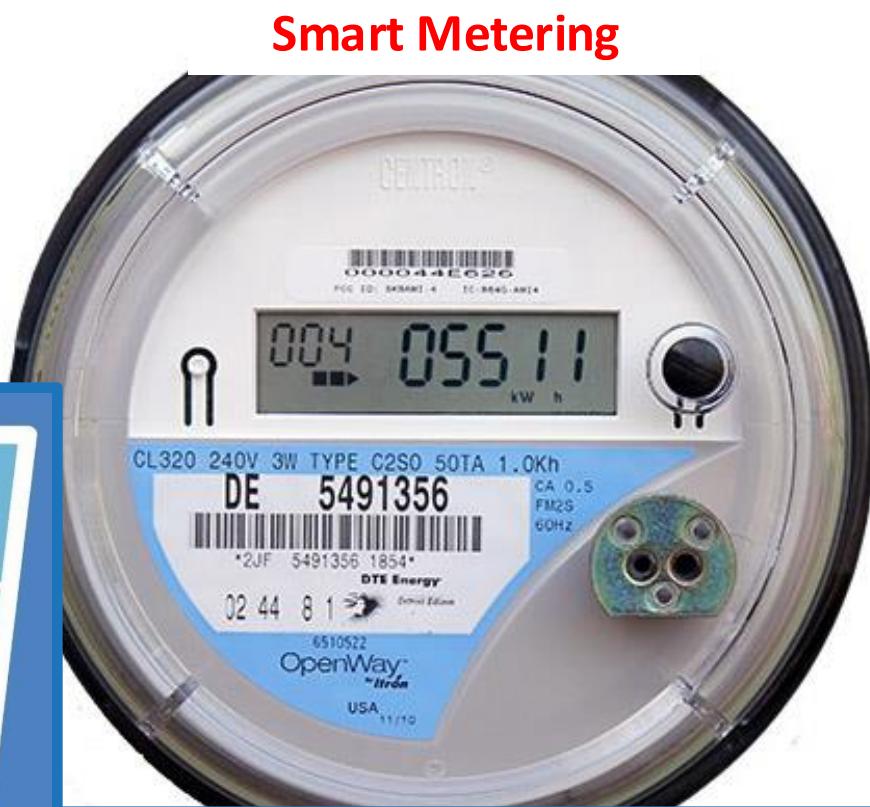
Deterrence Systems



Ag Leadership



Water Quality

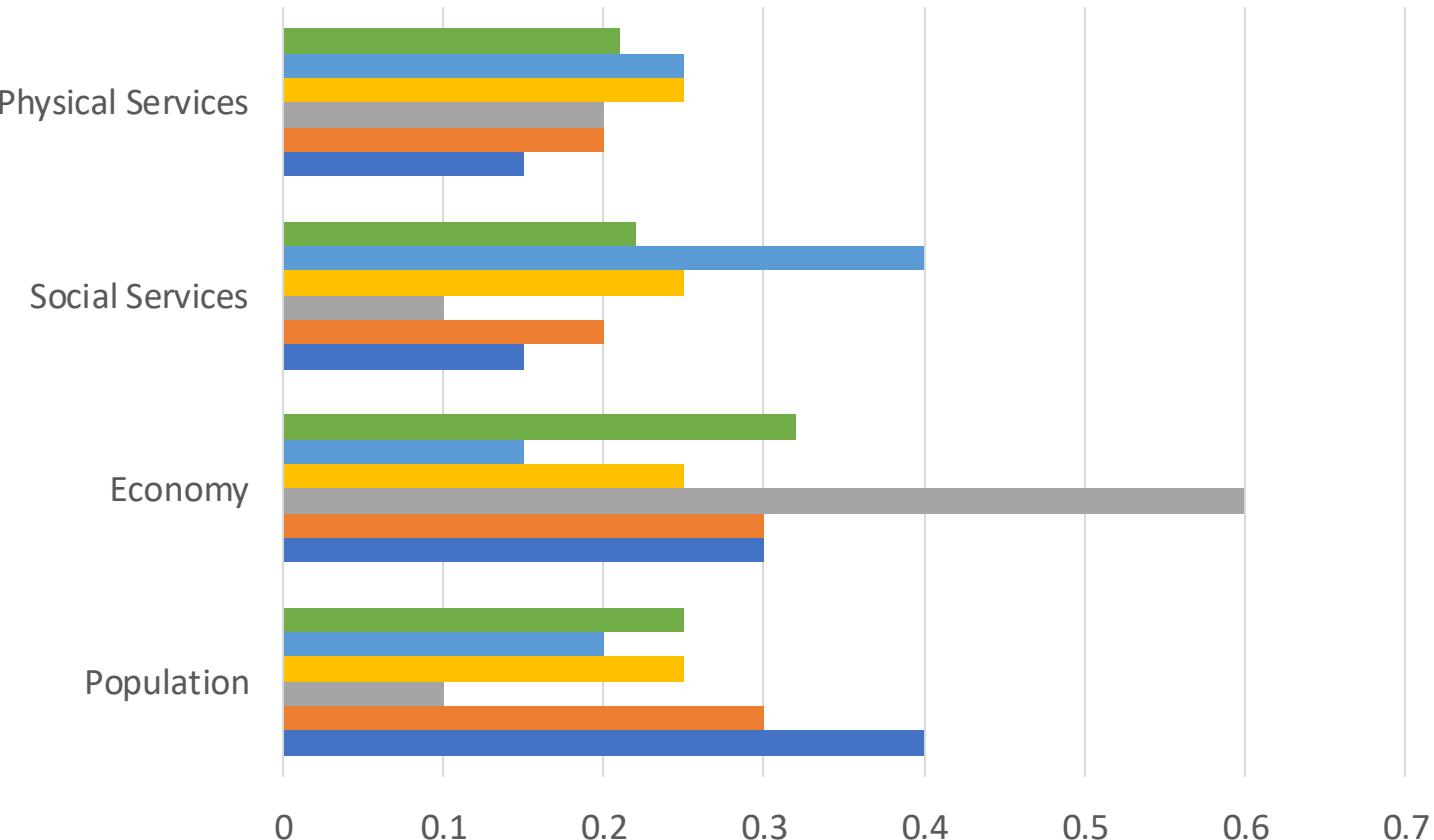


Electrification of Transportation

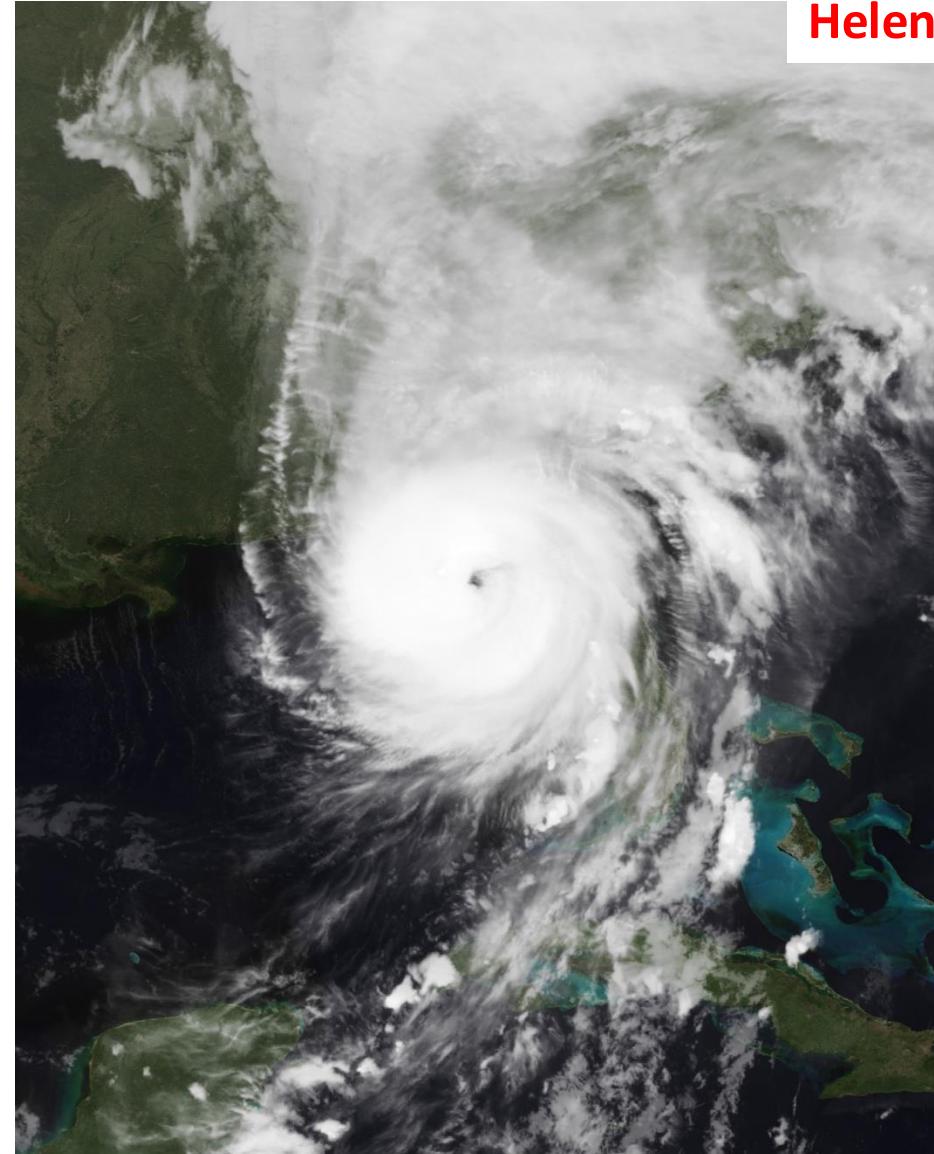


State of Stability Indicators

Wave 6 Infrastructure Preferences



Wave 7



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Wave 7, ..., 10, ..., 25, ...



Future of Field Studies in Resilience?

- Continued need to standardize field safety protocols
 - for research team
 - for community / respondents / participants
- Broad set of disciplines could aid in follow-up or in hindsight
- Still questions about
 - structures (houses, business sites) vs. people (households, business owners/workers)
 - how long should longitudinal studies last

Notes

- INSPIRE
- Stability metrics
- Computational connections
 - Lumberton water
 - PTS
 - INSPIRE

- Field studies: pairing infrastructure interviews with household and business questions on backups and outage times
- Decision making under uncertainty focus: PrOACT
- Need for modeling