

# FLOODPLAIN DIPLOMACY

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*Water Diplomacy Symposium*

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### ***RESEARCH AREAS:***

COLLABORATIVE ADAPTIVE MANAGEMENT

COUPLED HUMAN-NATURAL SYSTEMS

DECISION MAKING UNDER UNCERTAINTY

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### ***RESEARCH AREAS:***

PROBABILISTIC CHARACTERIZATION OF NONSTATIONARY  
FLOODS

MULTI-CRITERIA DECISION MAKING

WATER MANAGEMENT MODELING

- THE TRADITIONAL DELINEATION PROCESS
- ADVANCEMENTS IN FLOOD MAPPING
- PERSISTENT CHALLENGES TO FLOOD MAPPING AND FORECASTING
- LIMITS TO FLOOD MAPPING SPECIFICALLY ASSOCIATED WITH FEMA
- THIS IS A COMPLEX PROBLEM



# MOST FLOOD IMPACTS FOUND OUTSIDE OF THE DELINEATED FLOODPLAIN?



“There is no correlation between damage payouts and the floodplains” (p2; CNT, 2013)

“[In the State of Illinois] over 90% of urban flooding damage claims from 2007 to 2014 were outside the mapped floodplain” (p ii; IDNR, 2015).

# WHY IS FLOODPLAIN DELINEATION WRONG?

- IT'S NOT WRONG
- DATA OR MODEL LIMITATIONS
- NON-STATIONARITY
- COMPLEXITY
- POLICY OR BEHAVIORAL ISSUE



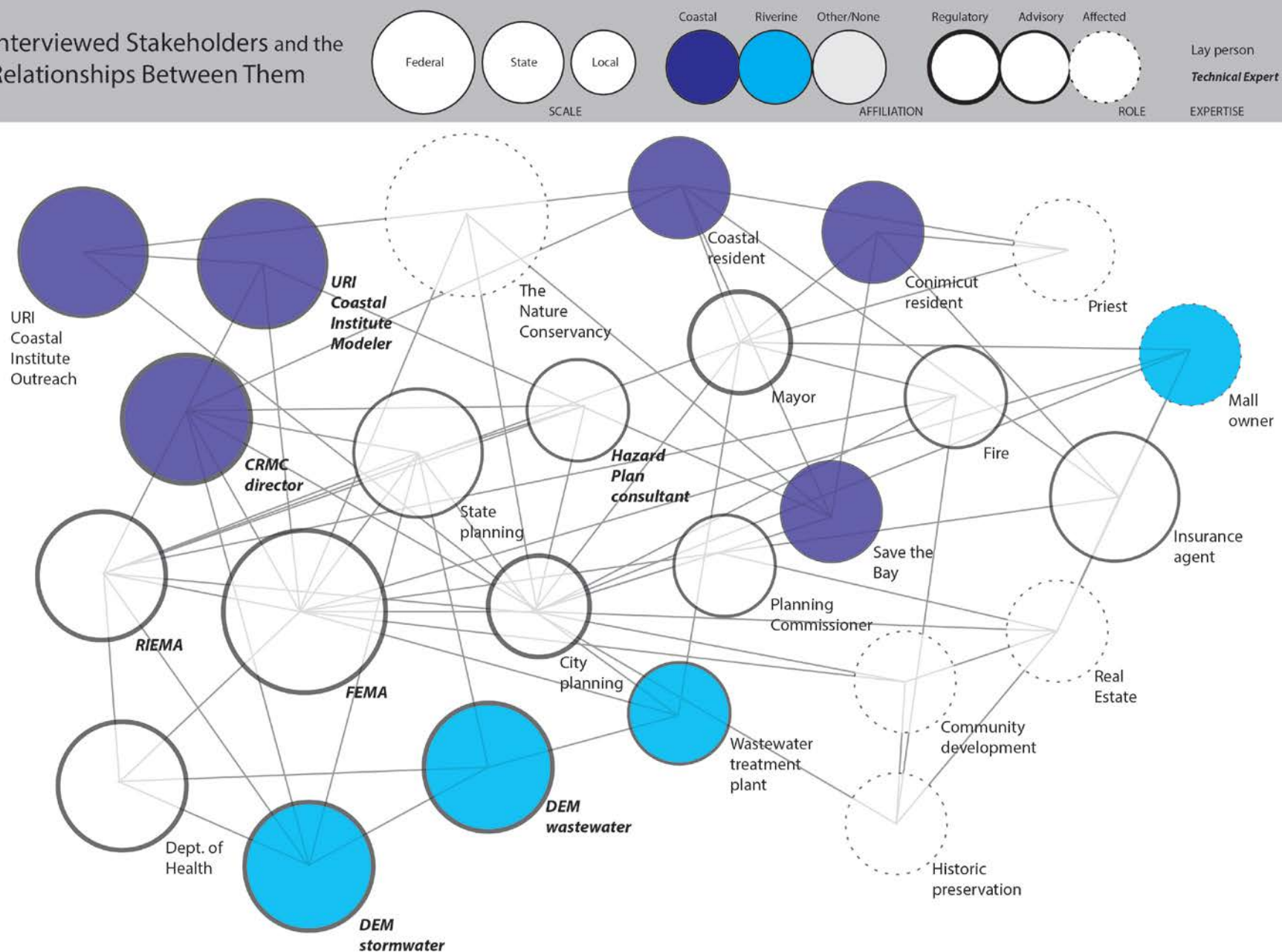
# THE IMPLICATIONS OF GETTING FLOODPLAIN DELINEATION WRONG

- ARE WE PROTECTING THE WRONG PLACES?
- IS THE PUBLIC SAFE?
- ARE OUR INVESTMENTS AT RISK?
- IS POLICY FAIR OR WISE?
- ARE WRONG MAPS LEADING TO A GENERAL MISTRUST IN GOVERNMENT? IN EXPERTS?
- ARE FLOODPLAIN DELINEATIONS RESULTING IN MISPERCEPTION OF RISKS?



## A CASE STUDY IN WARWICK, RI


## Interviewed Stakeholders and the Relationships Between Them





# MAIN FINDINGS

What we learned, and what might work





# CREDIBILITY

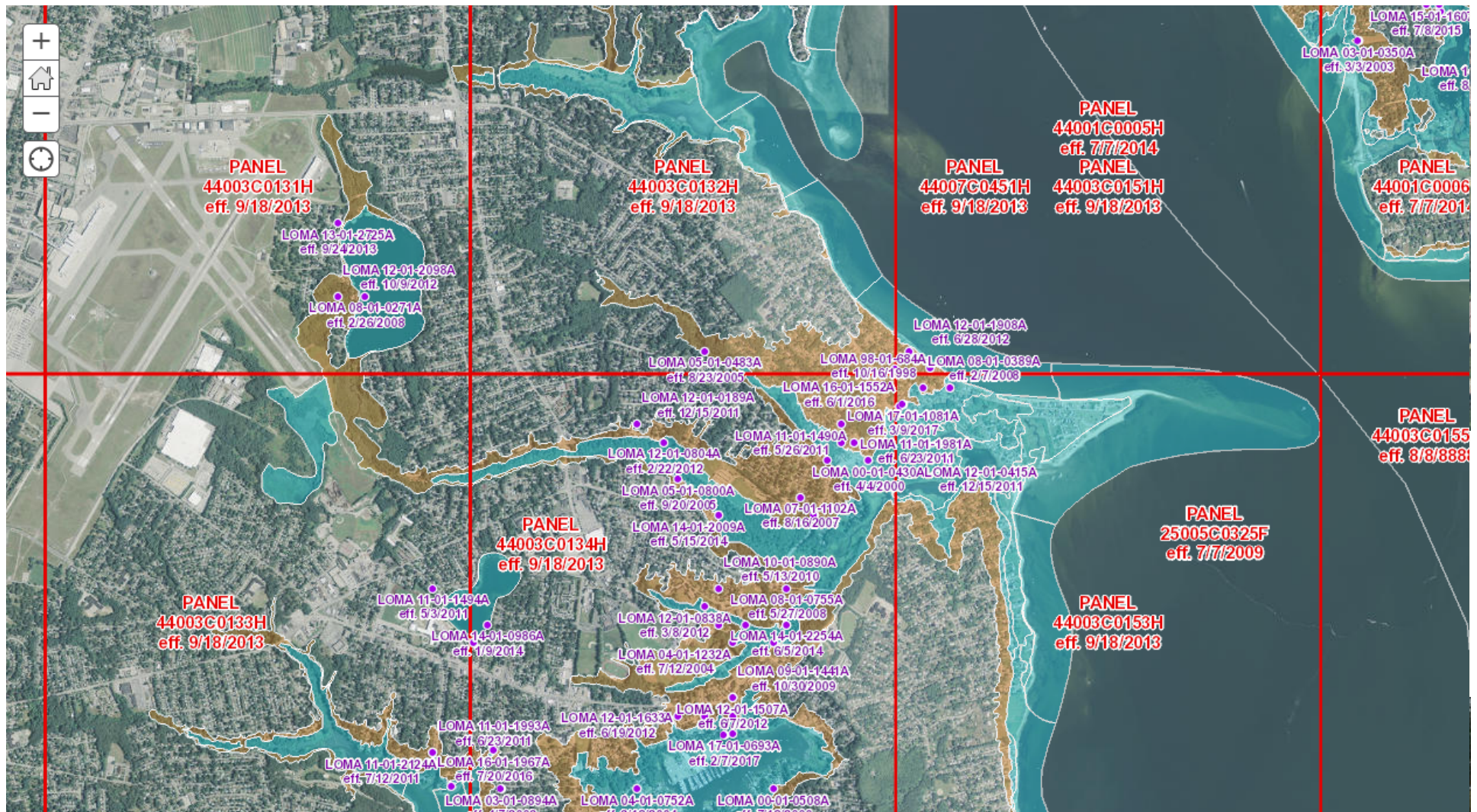
how authoritative, believable, and trusted information is.

# SALIENCY

how relevant information is to decision making bodies or publics

# LEGITIMACY

how “fair” an information producing process is and whether it considers appropriate values, concerns, and perspectives of different actors



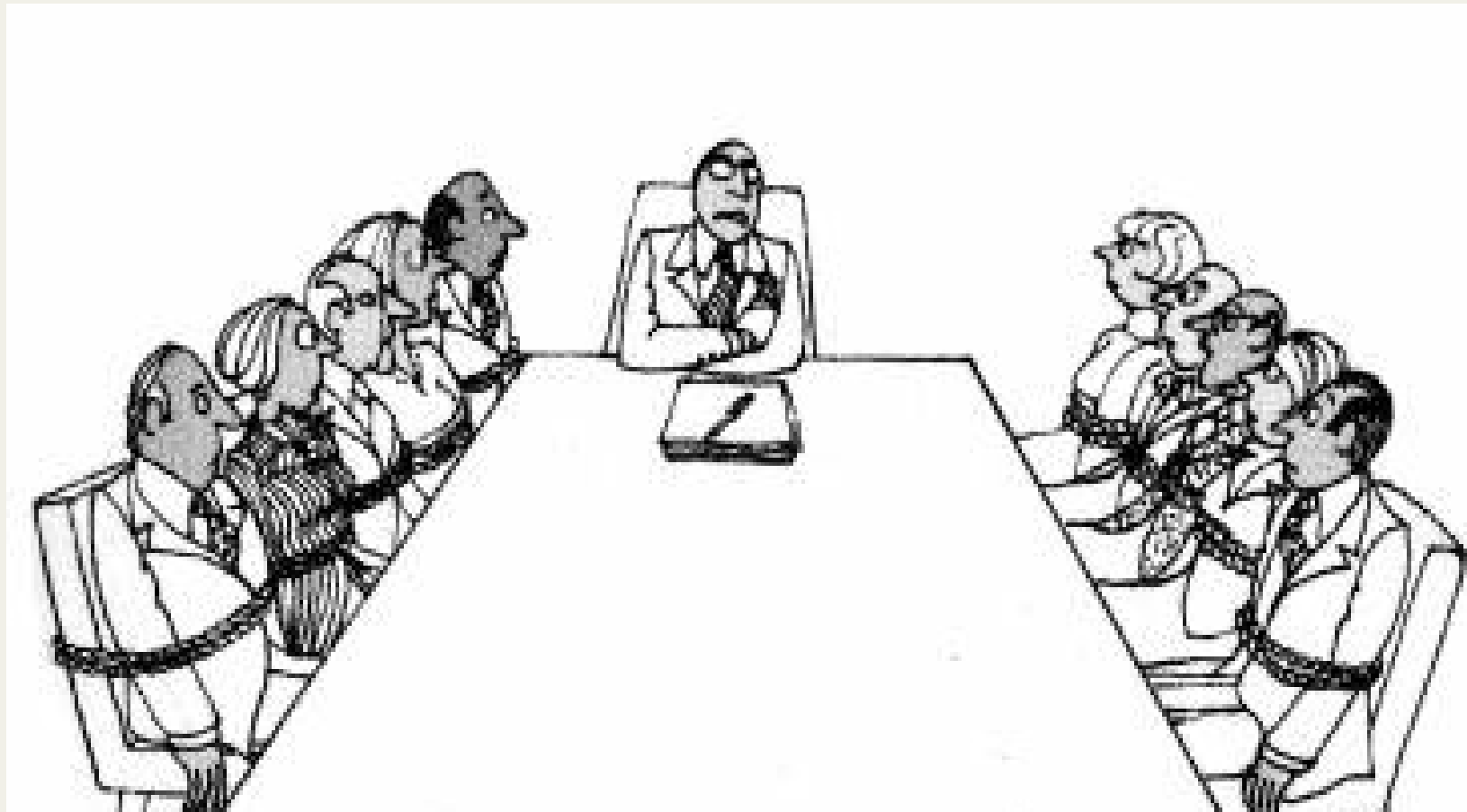
**INTEGRATE FLOODING FROM URBANIZATION, NUISANCE, COASTAL STORMS, INUNDATION, RIVERS, RISING GROUNDWATER, AND INFRASTRUCTURE FAILS**





Photo Credit: Getty Images

# RISK PERCEPTION & DECISION MAKING



**WORKING AT CROSS PURPOSES  
DESPITE A SHARED GOAL**



WHAT MIGHT A  
FLOODPLAIN  
DIPLOMACY LOOK  
LIKE?