



# Rural Communities Rise to the Challenge of Dual Disasters

*Briefing Series: Rural Communities, Climate, and COVID-19 Recovery*

June 18, 2020

Materials will be available at:

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# Planning for Small Town & Rural Communities, Infrastructure, and Disasters

**Environment and Energy Study Institute**

Rural Communities Rise to the Challenge of Dual Disaster

June 18, 2020

*Richard K. Norton*

*Urban and Regional Planning Program*

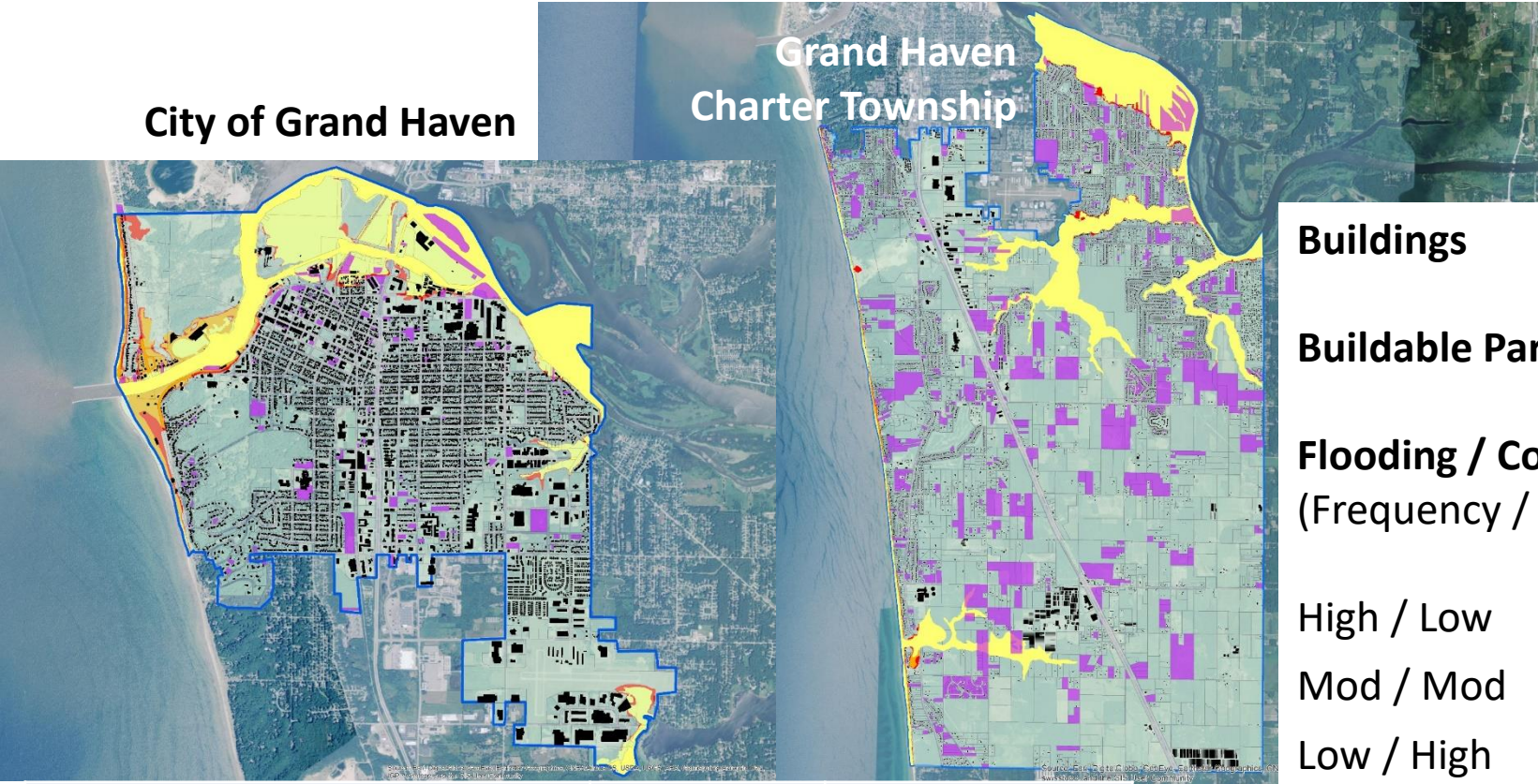
*University of Michigan*

# Thumbnail History:

Rural → Rural / Urban → ~ Rural / Exurban / Suburban

	1860	~1920	~1950s	Today
Approx Pop (M)	31	106	165	332
% Pop 'Rural'	~ 80%	~ 50%	~ 33%	~ 20%
Rural Land (M ac)		~ 1,700	~ 1,500	~ 1,400
% Land Rural		~ 90%	~ 80%	~ 75%
	Many, smaller farms Market towns A few cities	Industrial cities Market cities Rural	Cities Suburbia Rural	Cities Edge cities / suburbs Exurbia Fewer, larger farms

# Small Town & Rural Coastal Michigan Today



**Buildings**

**Buildable Parcels**

**Flooding / Coastal Hazard (Frequency / Severity)**

High / Low

Mod / Mod

Low / High

(Images Not on the Same Scale)

	Grand Haven City	Grand Haven Township
Approximate GL Shoreline (mi.)	2	7
Land Area (sq. mi.)	5.8	28.7
Approximate Total Population	10,000	15,000
Population Density	2.7 persons /acre	0.8 persons / acre
Total Parcels	5,656	6,599
Avg. Parcel Size (acre / parcel)	0.66	2.78
Moderate Storm - Parcels at Risk: # (%)	887 (16%)	924 (14%)

# Ongoing Challenges: Being Rural

- Business of farming / forestry
- Environmental
- Demographics
- Urbanization pressures
- Higher poverty, unemployment, disabilities
- Lower educational opportunities, diversity

# Ongoing Challenges: Planning For Rural

## Scale

- Per-capita cost of ~ *urban* infrastructure  
(*Roads, water, wastewater, stormwater, broadband*)
- Per-capita cost of services  
(*Police, fire, EMS, hazard/emergency response*)
- Governance (*administration, analysis, planning*)

## Politics / Culture

- Government / regulation
- Property rights / individualism

# Case Study: Midland Flood



Credits: MLive.com (photos by Neil Blake and Jake May) and Detroit Free Press – May 20, 2020



# Case Study: Midland Flood



Credit: Detroit Free Press – May 20, 2020

## Some Numbers:

- 2 dams failed
- 10,000 evacuated
- 3,700 properties damaged
- 2,300 homes damaged  
(only 14% had insurance)
- \$190 M in losses
- \$ 55 M response / infr costs
  
- 2,500 dams state-wide
- 1,061 regulated
- 2 state dam safety inspectors
- 5 dams in critical condition

# Vision:

## Sustainable & Adaptable Communities & Landscapes

**Rural**

- Rural: Working + Natural
- Physically Resilient: ↓ hazards
- Economically Resilient: Diverse/green/amenity

**Small Town**

- Small Town Compact
- Physically Resilient: ↓ hazards
- Economically Resilient: Local/CSAs

**Urban (City)**

- Urban Dense
- Physically Resilient: ↓ hazards
- Economically Resilient: More global

# (Kind of) New Challenges

- New normal
- Disconnects, thousand cuts, & boiling frogs
- Political polarization
- On-size fits all silver bullets (landscape dumb)
- Under-investment in government
- Unfortunate (policy) expectations
- Loss aversion > prudence

# New Directions

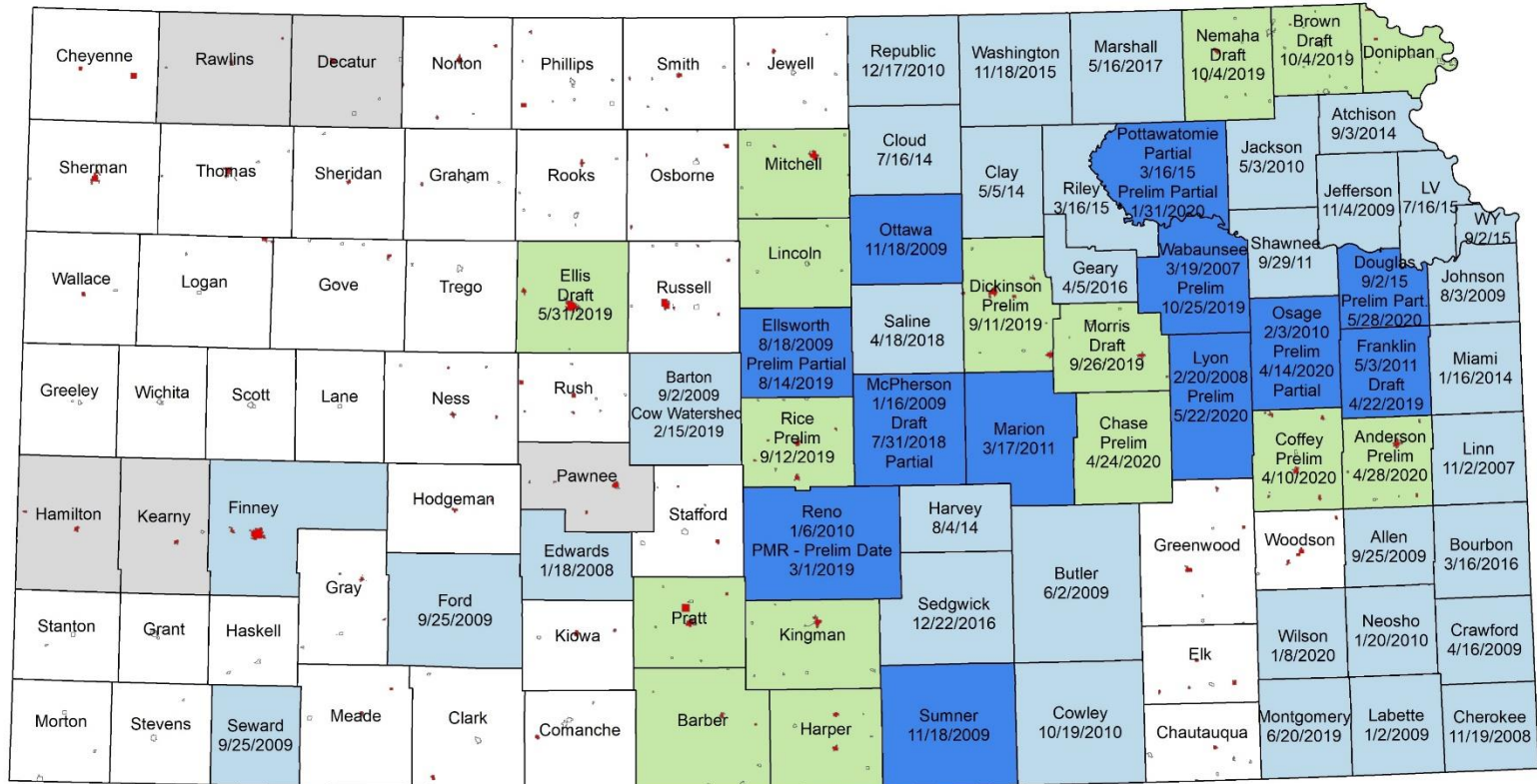
- Participation before, not after
- Good governance (government)
- Landscape-smart policies
- No-regrets policies
- Learn to live with nature (relocate / adapt, then engineer as last resort)
- Stewardship economics

Questions?



# Rural Community Challenges

## Kansas Floodplain Mapping Status



May 29, 2020

### Modernized DFIRM

- Effective DFIRM
- Effective DFIRM with Redevelopment
- DFIRM Under Development

### Not Modernized FIRM

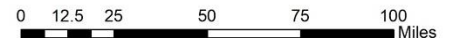
- County-Wide Available

### Cities with SFHA Identified

- Yes
- No



Dates reflect the most recent study and may vary by location within a county. Consult the watershed map for watershed projects.



# Presidential Disasters - Not



# Mitigation Grants - Not



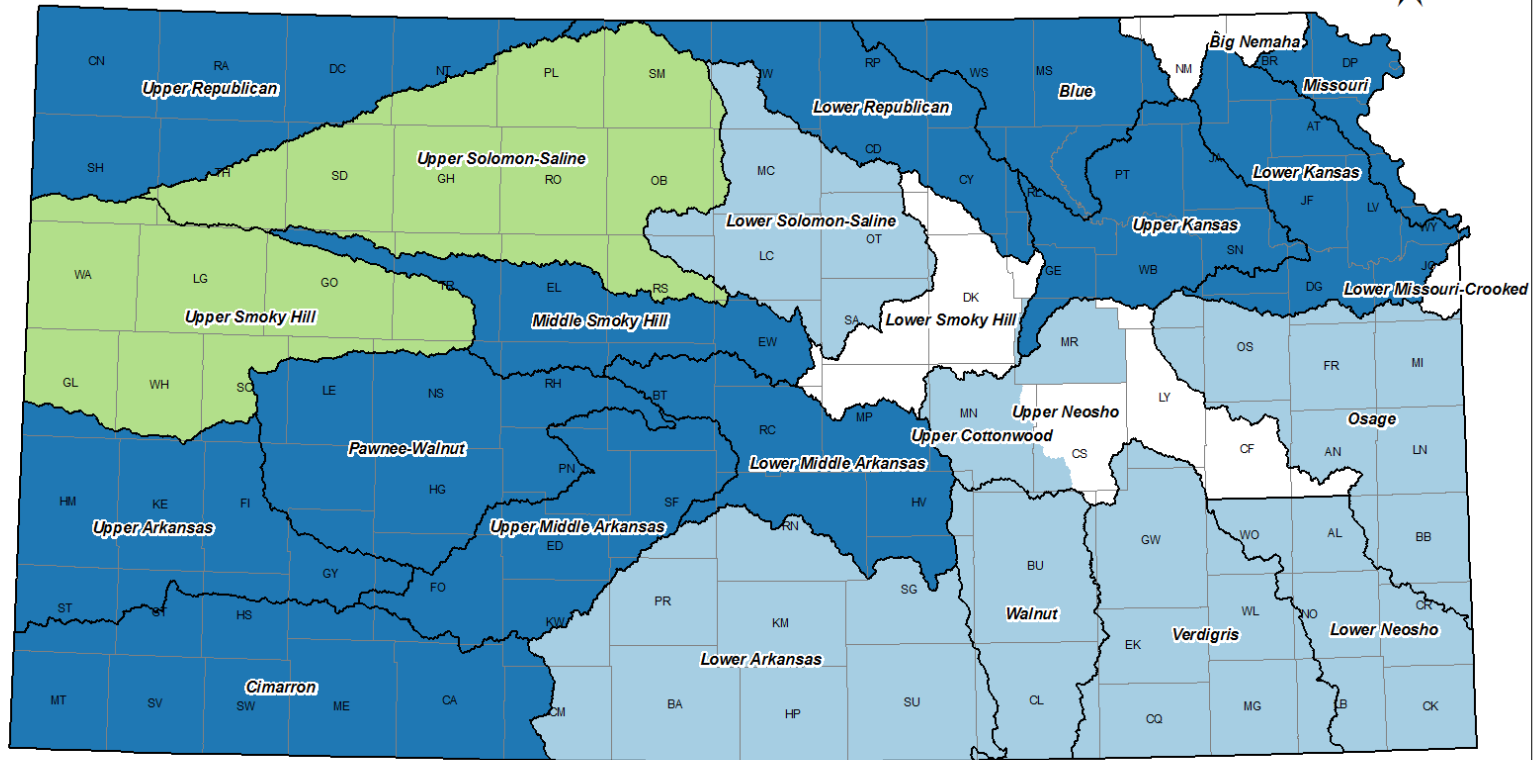


# Community Action



# State Action

## Base Level Engineering (BLE) Mapping Phases



March 3, 2020

- Project Funding Year**
- FY19 2D BLE Projects
  - FY18 2D BLE Projects
  - FY20 Proposed 2D BLE Projects

0 25 50 100 Miles

\*Not all watershed areas will be included. Please check with KDA for details.

# State Action



# State Action



# Last Thoughts

The very smallest communities need help. Some ways to help them:

- Cooperating Technical Partners (CTP) flood mapping assistance.
- Community Assistance Program – State Support Services Element to help them prevent problems before they start.
- Community Rating System (CRS) makes local programs stronger.
- Dam Safety programs, we all saw what happened in Michigan.
- Hazard Mitigation Assistance grant programs for mitigation include a target for rural communities.



**EESI**

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