

Illinois Floodplains Work Feasibility Study
For Calumet Collaborative, January 8, 2021



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Flint River Basin



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Study mission: Recommend new state incentives for multi-benefit floodplain development

What is “multi-benefit floodplain development”?



Mississippi River at Moline, IL by Olivia Dorothy

Floodplains are any low-lying area that is subject to flooding.

Just like rivers, floodplains can be big or small.

The same hydraulic and geologic forces apply to rivers, creeks, streams, ditches, and storm sewers.



Illinois River, IL by Chris Young



Urban Ditch by Illinois DNR

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What is “multi-benefit floodplain development”?



Edwards River, IL by Roy Plasschaert and aerial support by LightHawk

Land development is driving the loss of floodplain benefits.
In Illinois, 41% of riparian areas are in a “disturbed land use”



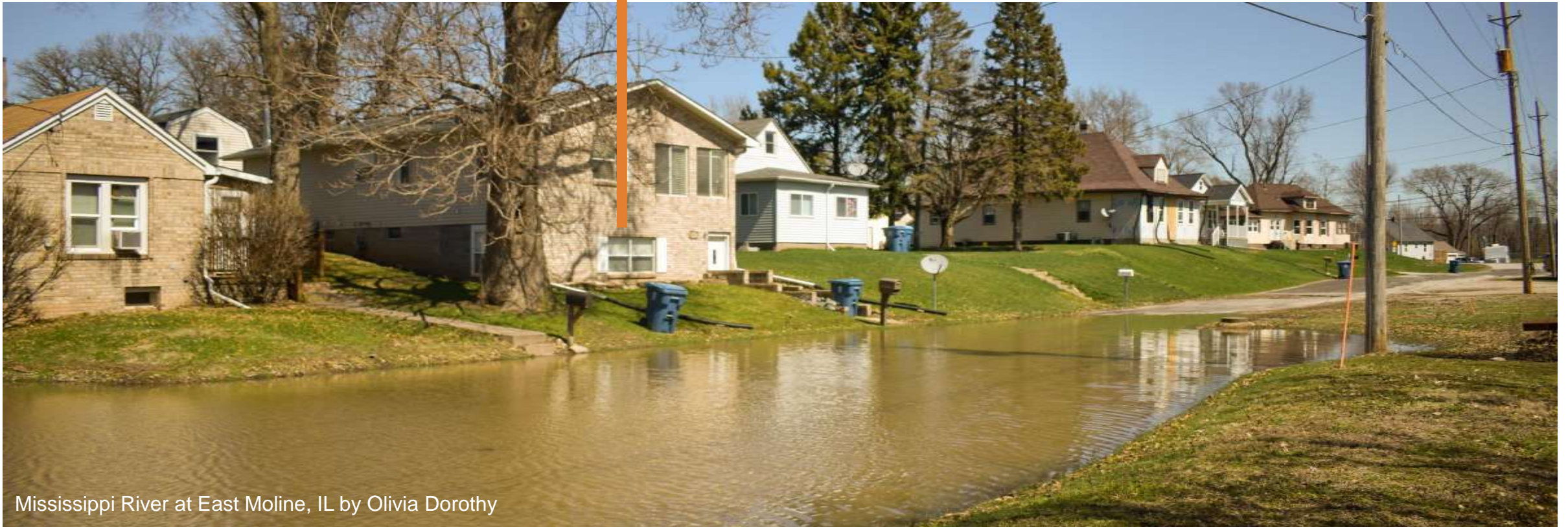
Illinois River by Chris Young



Mississippi River at Alton by Tailia Long

Study mission: Recommend new state incentives for multi-benefit floodplain development

What is “multi-benefit floodplain development”?



Mississippi River at East Moline, IL by Olivia Dorothy

Multi-benefit projects aim to address disparate needs and community priorities in the same space.



Mississippi River at Davenport by Olivia Dorothy

Multi-benefit floodplain development seeks to improve community resilience AND maximize healthy floodplain functions.

- ✓ Economy
- ✓ Aquifer Recharge
- ✓ Flood Risk Reduction
- ✓ Recreation
- ✓ Fish & Wildlife
- ✓ Water Quality
- ✓ Justice



Irrigation by Olivia Dorothy



Mississippi River at Alexandria by Roy Plasscheart and aerial support by LightHawk



Mississippi River by Olivia Dorothy



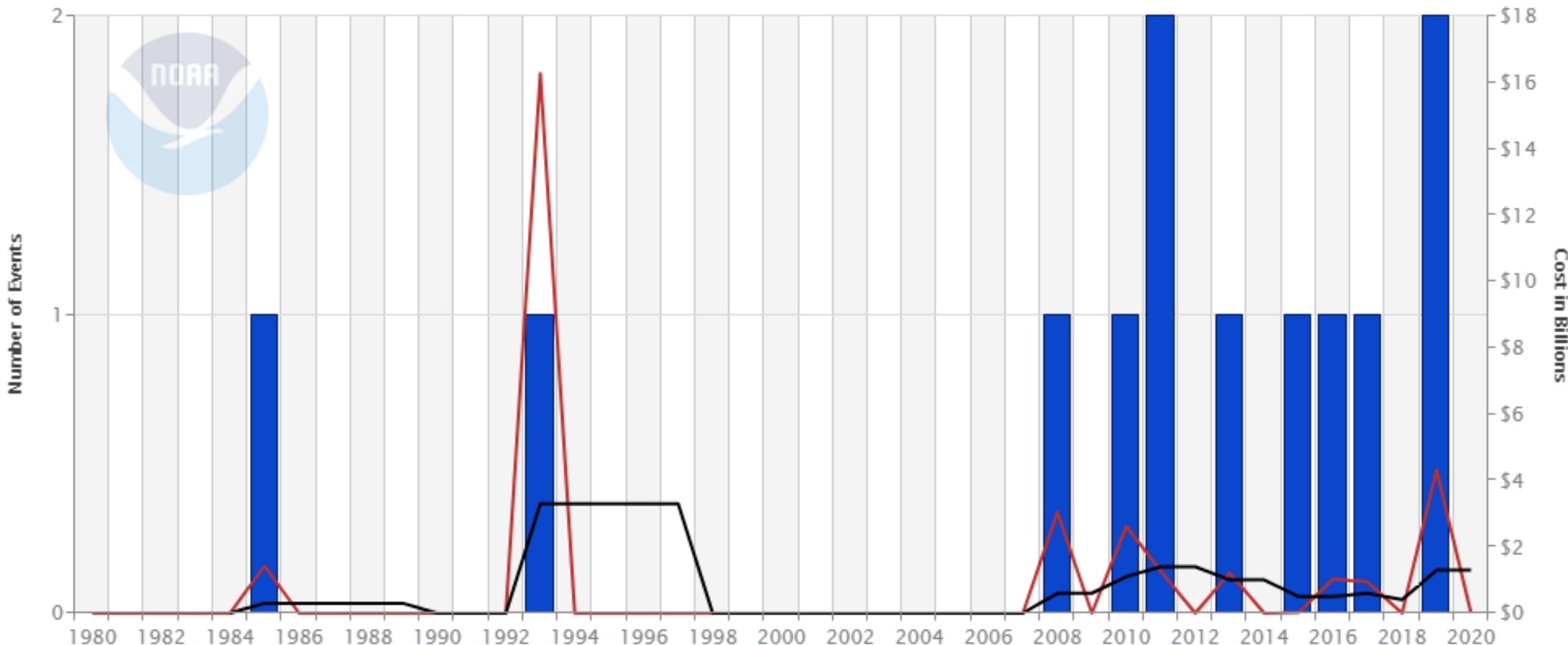
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Why do we need to change how we develop floodplains?

Central Climate Region Billion-Dollar Disaster Events 1980-2020 (CPI-Adjusted)

IL, IN, KY, MO, OH, TN, WV

■ Flooding Count ■ Flooding Cost ■ 5-Year Avg Costs



FLOOD CONTROL DOES NOT WORK

“Flood Control” moves water away from people & infrastructure

- Despite spending hundreds of billions on flood control, flood disaster damages continue to escalate.
- From 1973-1998, the federal government spent \$140 Billion recovering from natural disasters, with costs escalating over time.
- From 1973-1998, the U.S. Army Corps of Engineers spent more than \$25 billion to build and operate flood control projects – only 2% of that went towards flood risk reduction.



Flood Risk Reduction: Moving people and infrastructure away from the water



Multi-benefit floodplain development:
People benefit from flooding.

Feasibility Study:

Through examination of other state programs and review of Illinois case-studies, identify state-level incentives to increase application of multi-benefit floodplain planning and development in Illinois.



Illinois River by Chris Young

EXAMPLES OF MULTI-BENEFIT FLOODPLAIN DEVELOPMENT

- Washington: Floodplains by Design Public-Private Partnership
- Vermont: Rivers Program offers financial incentives
- California: DWR Division of Multi-Benefit Projects
- Sydney, NY: Community Relocation Project

DRAFT RECOMMENDATIONS



Collaboration: Communities encounter many barriers navigating state and federal flood-relief programs. Some communities are better equipped to access resources than others. Need to set up an office of floodplain management to coordinate across agencies.



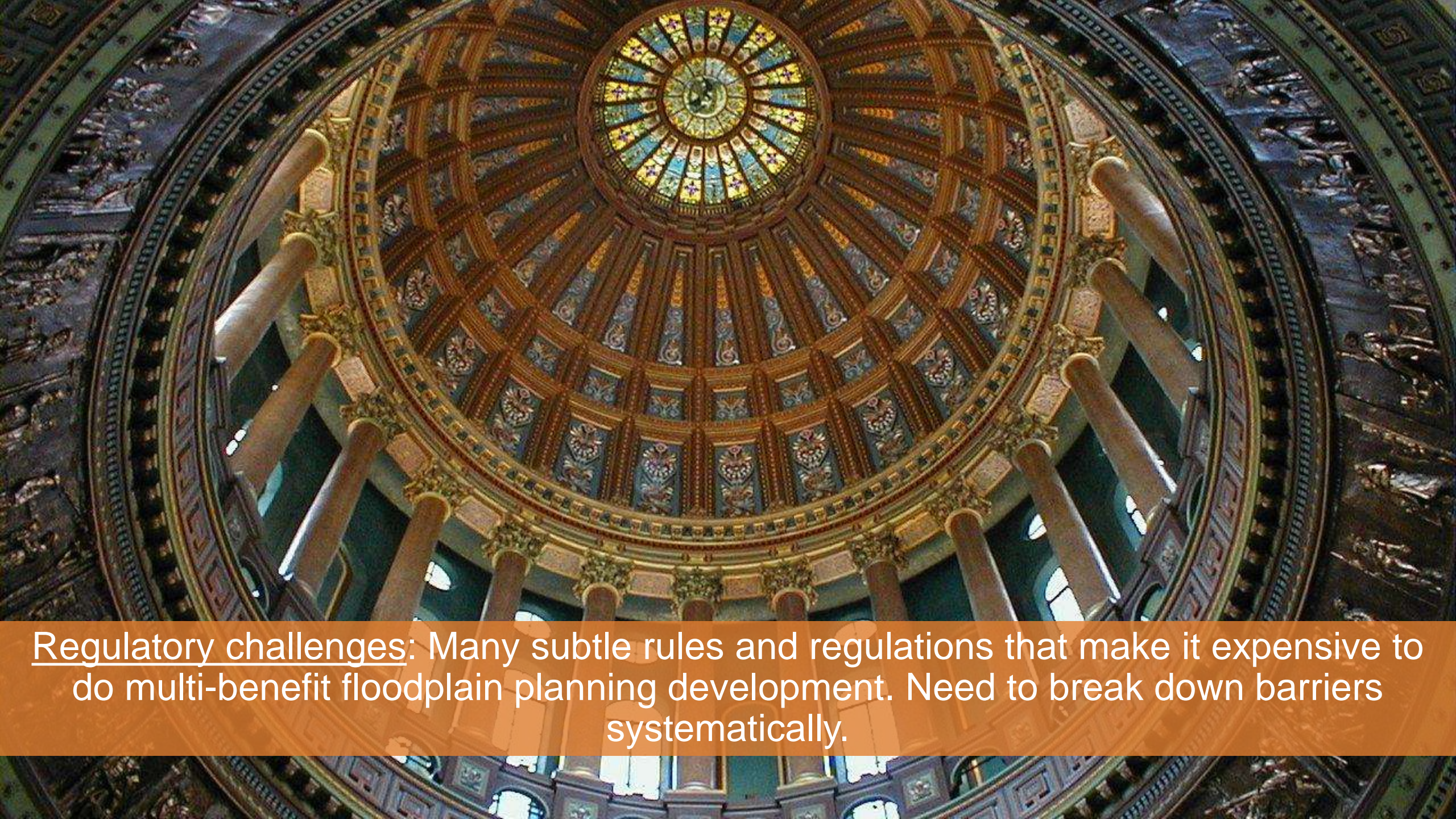
Columbia Bottoms Conservation Area, Mississippi River at St Louis, MO by Olivia Dorothy



Climate resiliency: Climate change is driving rapid changes in the region's hydrology and flood zones. Relying on past precipitation data to build static flood control structures under these rapidly changing conditions is ill-advised as such structures may be inadequate to handle future flood risk. Need to expand adoption of "soft" flood solutions.



Costs & Benefits: Projects should look beyond short-term costs and benefits. Need to consider additional economic factors like land values and quality of life factors that drive investments. Need to develop measures that protect and help historically marginalized communities.



Regulatory challenges: Many subtle rules and regulations that make it expensive to do multi-benefit floodplain planning development. Need to break down barriers systematically.

Public health: Most flood damages occur outside the mapped floodplain. This creates additional barriers for clean up and prevention assistance. Need to better integrate stormwater and floodplain planning and development fields.



Mississippi River at Moline, IL by Olivia Dorothy

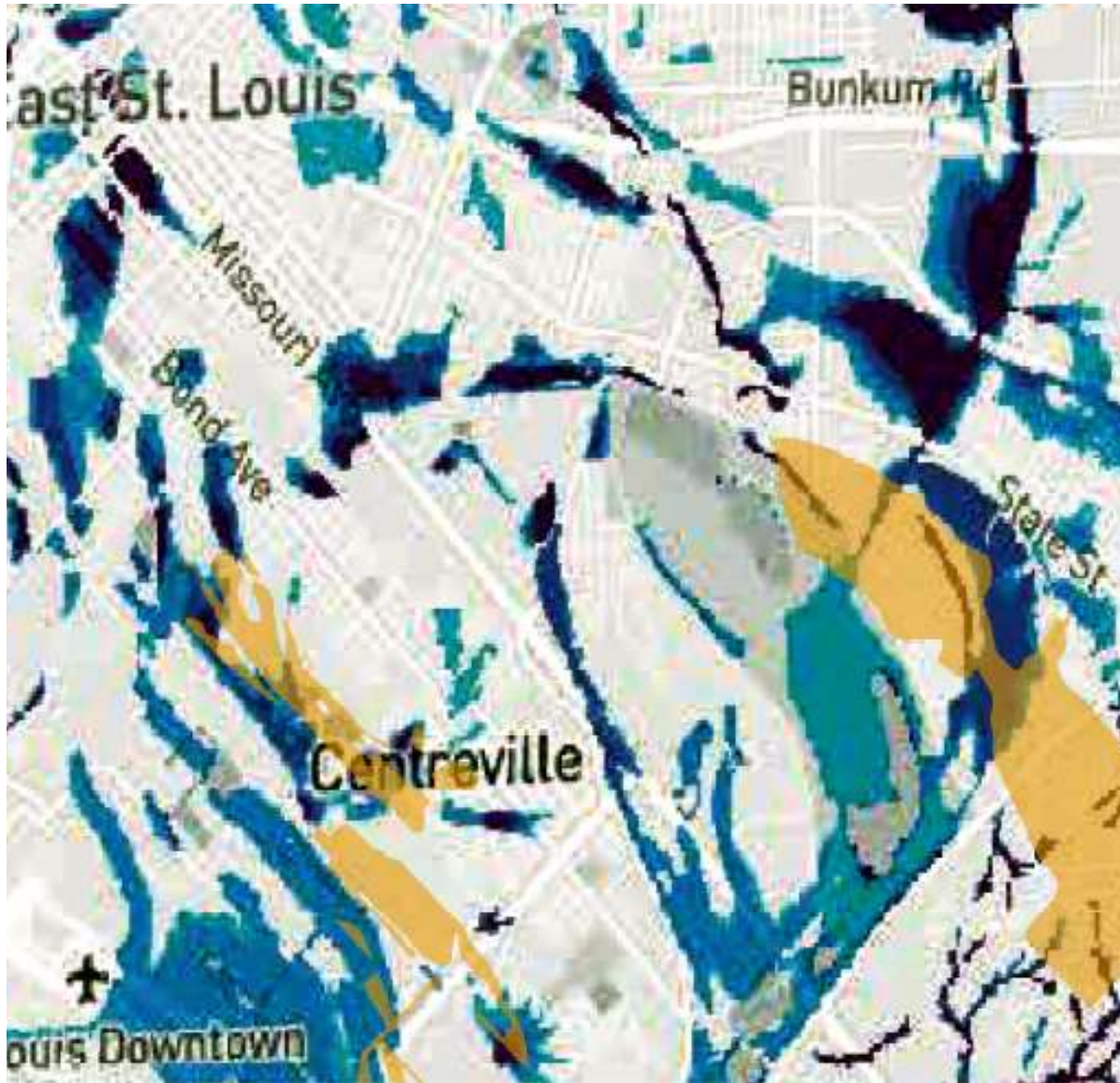


Community led: Communities have different priorities. Flood risk management knowledge needs to be more diffuse across the population. More resources need to be available for lay-people to guide community discussions.

CASE STUDIES

Initiated

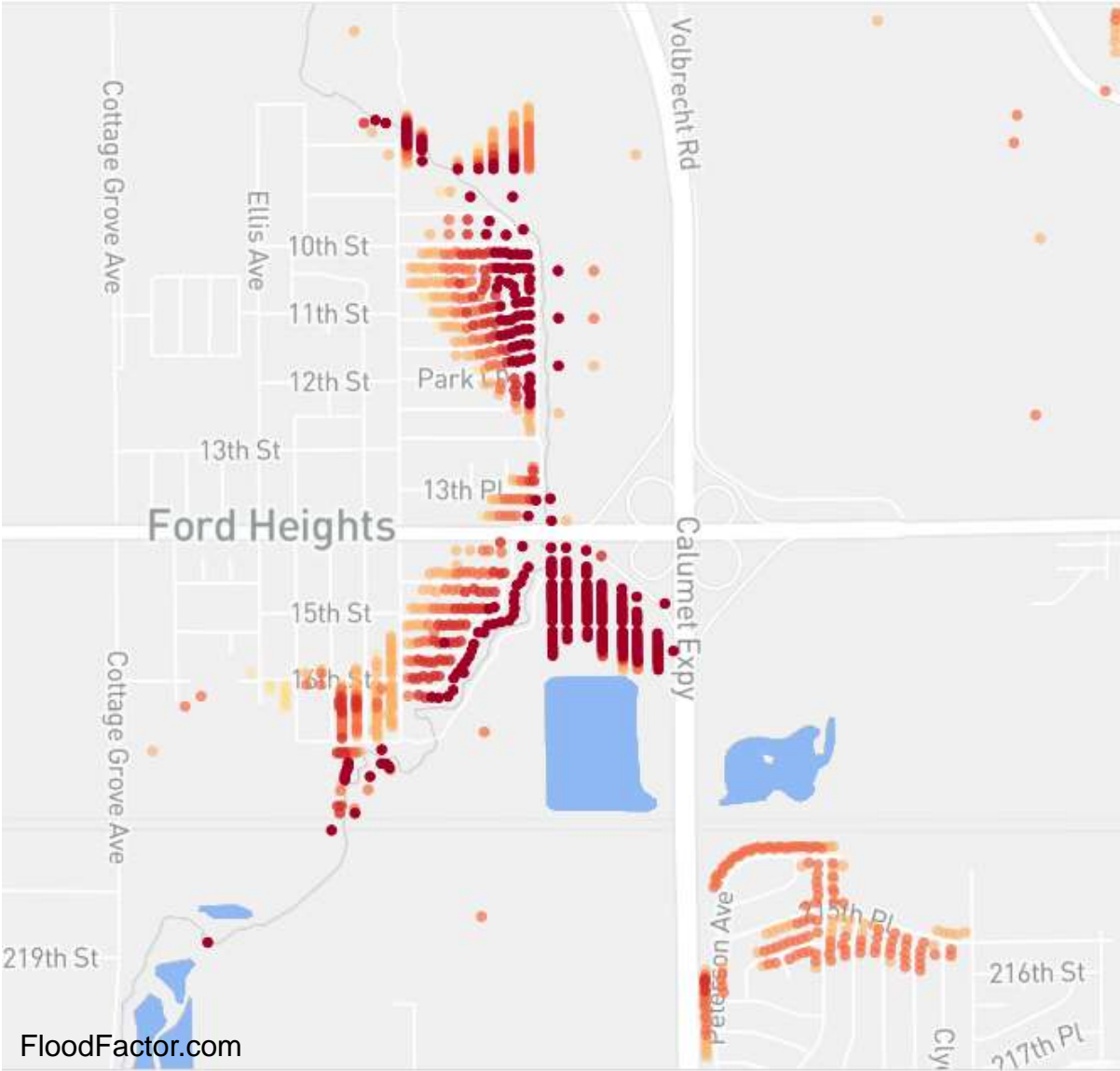
- Alexander County
- Centreville
- Rockford

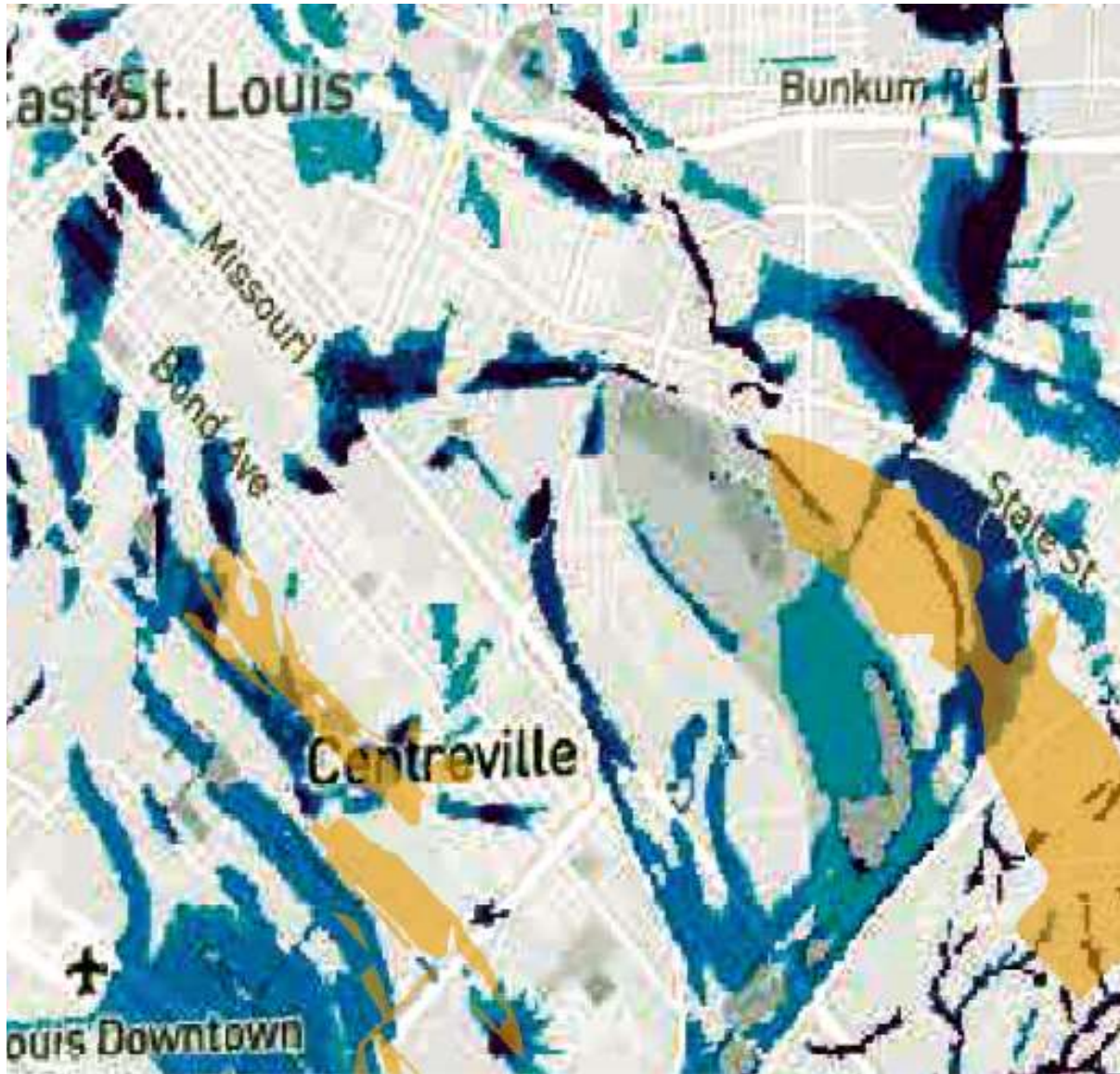


CASE STUDIES

Not-Initiated

- Ford Heights
- Danville
- Freeport





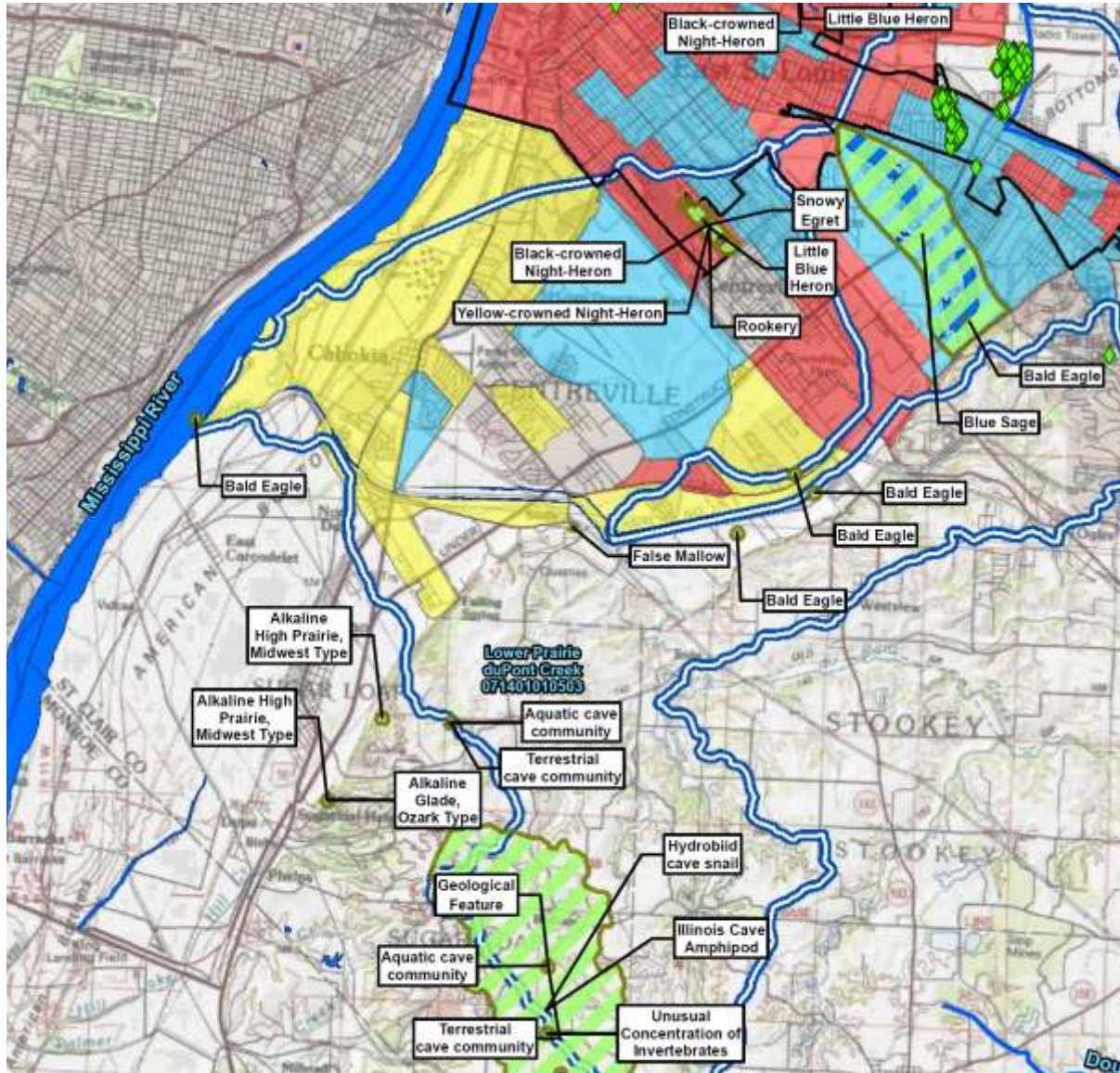
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Draft Issues

- Frequent flooding
- Extreme poverty (poorest community in Illinois)
- Failing sewer infrastructure causes flood waters to be highly toxic

CENTREVILLE

Draft Assets



- Proximity to rich natural resources
- Strong sense of community, very tightly knit
- Many were already displaced by previous flood buy-outs

DRAFT CENTREVILLE FINDINGS

- Community-level training and education about flood solutions (grants, technical, etc)
- Expert assistance identifying and applying for funding opportunities
- Facilitated venues to communicate with more politically powerful decision-makers
- Coordination across state and federal agencies to resolve multiple flooding and natural resource issues

JAM BOARD DISCUSSION GROUPS

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