

| |
|--------------------------------|
| 12/28/2021 |
| 3/25/2022 |
| 7 |
| N/A – Planning Activities |
| Planning; HCDA Sec. 105(a)(12) |
| 274114.37 |

RCBG PROGRAM QUARTERLY REPORT

REPORTING CONTACT INFORMATION

| | |
|---------------------|--|
| CONTACT PERSON NAME | Rachelle Sanderson |
| CONTACT PHONE | 816.830.3633 |
| CONTACT EMAIL | rsanderson@crccpla.org |

WATERSHED COORDINATION METRICS

| | |
|--|---|
| HOURS OF WORK PERFORMED (by Watershed Coordinator) | 338.25 |
| NUMBER OF MEETINGS FACILITATED | (1) NOAA RESTORE BCA workshop (2) Institute for Sustainable Communities Workshop (3) CRPC resilience discussions (4) work group meeting for greauning resilience at home (resilient affordable housing partnership) |
| ATTENDANCE PER MEETING | (1) 20 (2) 10 (3) 7 (4) 20 |
| DIVERSITY OF DISCIPLINES/INTERESTS REPRESENTED AT MEETINGS | planners, landscape architects, academics, lawyers, housing, economic development, government, NGO, philanthropy, transportation |
| DESCRIPTION OF OTHER COORDINATION ACTIVITIES UNDERTAKEN | See narrative report |

CRS PARTICIPATION METRICS (if applicable)

| | |
|--|--------------------------------|
| CRS SCORES AND/OR NUMBER OF PARTICIPATING COMMUNITIES (one input per year) | Provided in Q3 report annually |
|--|--------------------------------|

EDUCATION AND TRAINING METRICS (if applicable)

| | |
|----------------------------------|-----|
| NUMBER OF TRAINING SESSIONS HELD | 0 |
| NUMBER OF ATTENDEES PER EVENT | N/A |

FLOODPLAIN MANAGEMENT METRICS (if applicable)

| | |
|--|--------------------------------|
| HOURS OF WORK PERFORMED (by Regional Floodplain Manager) | N/A |
| DESCRIPTION OF DEVELOPED AND ADOPTED ORDINANCES THAT REDUCE FLOOD RISK (as they occur) | N/A |
| CRS SCORES AND/OR THE NUMBER OF PARTICIPATING COMMUNITIES WITHIN THE REGION (one input per year) | Provided in Q3 report annually |
| DESCRIPTION OF ASSISTANCE PROVIDED TO PARISH AND MUNICIPAL STAFF WITH FLOODPLAIN PERMITTING | N/A |
| DESCRIPTION OF OTHER CRS OR FLOODPLAIN MANAGEMENT ACTIVITIES UNDERTAKEN | N/A |

GOVERNANCE AND SUSTAINABILITY METRICS (if applicable)

| | |
|--|-----|
| NUMBER OF GOVERNANCE STRUCTURE OPTIONS (one input per year) | N/A |
| NUMBER OF GRANT APPLICATIONS SUBMITTED (one input per year) | 0 |
| NUMBER OR AMOUNT OF CAPITAL PROJECTS FUNDED (one input per year) | N/A |

PUBLIC OUTREACH METRICS (if applicable)

| | |
|---|----------------------|
| NUMBER OF CITIZEN INTERACTIONS OR COMMUNITY-ORIENTED EVENTS HELD | 2 |
| NUMBER OF ATTENDEES AT EVENTS | 50 |
| NUMBER OF CONTINUING EDUCATION HOURS OR CERTIFICATIONS AWARDED TO PARISH, MUNICIPAL OR REGIONAL STAFF | 0 |
| NUMBER OF CONTINUING EDUCATION HOURS OR CERTIFICATIONS AWARDED TO LOCAL PROFESSIONALS | 0 |
| DESCRIPTION OF OTHER PUBLIC OUTREACH ACTIVITIES UNDERTAKEN | GNOHA listening tour |

REGIONAL CAPACITY ANALYSIS AND REGULATORY REVIEW METRICS (if applicable)

| | |
|---|----------------------|
| DESCRIPTION OF DELIVERABLES COMPLETED BY LSU OR WITH INPUT BY LSU | See narrative report |
|---|----------------------|

WATER MANAGEMENT RESOURCE SHARING METRICS (if applicable)

| | |
|---|---|
| NUMBER OF EDUCATIONAL EVENTS HELD | 0 |
| NUMBER OF NEW PRACTICES ADOPTED BY MEMBER JURISDICTIONS | 0 |

NARRATIVE

Please describe additional capacity-building activities conducted during the quarter.
See narrative report



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REGION 7

2022 QUARTER 4 (01/01/2021- 03/31/2021) REPORT NARRATIVE

Rachelle Sanderson
Regional Watershed Coordinator (Region 7)
Capital Region Planning Commission



WHAT PROGRESS HAS YOUR ORGANIZATION ACHIEVED IN MEETING THE GOALS AND OBJECTIVES LAID OUT IN THE PROPOSAL?

Please note that due to COVID-19, all meetings listed below were hosted virtually on Zoom.

Highlights

- Awarded funding through the Gulf Research Program (\$300,000)
- Resource guide developed by the New England Environmental Center in early 2022. [Navigating the Federal Funding Landscape: A Guide for Communities \(20+ Ways to Pay for Local Environmental Priorities Including Climate Resilience, Water Resource Management, Renewable Energy & Sustainable Agriculture\)](#)

Regional Steering Committee

The Regional Steering Committee did not meet this quarter.

Capacity Building

Capacity building for this quarter focused on building relationships across the region and identifying shared challenges and opportunities. This was done by completing, or beginning, the following activities:

CONTINUED WATERSHED COORDINATOR COMMUNITY CALLS

Similar to previous report Watershed Coordinator Community calls continue as intentional space for Watershed Coordinators to find consistency and alignment in activities and to share existing knowledge around existing challenges and opportunities. Since the establishment of these discussions, watershed coordinators have found strategic paths forward and alignment around the work through various efforts related to the long-term governance structures and regional project selection across the state. Since the last report, the Watershed Coordinators in Regions 5 and 8 have been leading efforts on developing a shared Google folder for the watershed coordinators, a list of potential funding resources and more.

ONE-TO-ONE CALLS WITH STRATEGIC STAKEHOLDERS

Similar to previous reports, discussions with strategic stakeholders who are a part of existing organizations, and governments, that are critical to ensuring the success of work within Region 7 are ongoing. These conversations encourage participation in Region 7 meetings, and in some cases, plant the seeds for longer-term asks for partnerships and strategic collaboration where gaps exist in knowledge, skillsets, and resources with the existing RSC membership and implementation team.

Leveraging Funds and Activities & Funding Opportunities

The Louisiana Watershed Initiative approach “requires unprecedented coordination and cooperation across all facets and functions of government agencies as we work together to mitigate future flood risk.” It is for this reason that we are also focused on leveraging existing activities, coordinating, and collaborating where there is strategic alignment. Below are activities that Region 7 is leveraging for the purpose of mutually advancing activities between LWI and our



partners. It is important to note that various teams that have been brought together in supporting Region 7 have been successful in every grant-based funding opportunity they have pursued bringing together over 75 individuals across 50 institutions and leveraging over \$1.3M through capacity building efforts and 3 funded research grants.

PARTNERSHIP WITH GEORGETOWN CLIMATE CENTER (\$100,000)

Status: Work is underway, regional vision anticipated to be completed mid-June 2022

- **Funds leveraged:** \$100,000 through a grant to GCC from the Doris Duke Foundation
- **Duration:** January 2021 – June 2022
- **Activity:** Development of a hybrid strategy and visioning tool that explores the intersection of affordable housing and flood risk by considering (1) rural housing (2) urban housing and (3) nature-based solutions. This work is being done with a planning work group that is outlined in the 2021 quarter 1 report.

PARTNERSHIP WITH ENVIRONMENTAL PROTECTION AGENCY OFFICE OF RESEARCH AND DEVELOPMENT (\$50,000)

Status: Work is underway and structured decision-making workshops have been scheduled

- **Funds leveraged:** \$50,000
- **Duration:** Spring 2021 – Mid-2022
- **Activity:** EPA in partnership with CRPC's Region 7 LWI program will develop a resilience roadmap to operationalize tools and resources focused on goals identified in the [Region 7 Guiding Principles Framework](#) with four parishes in the region.

PARTNERSHIP WITH NEW ENGLAND, MARYLAND, AND SYRACUSE ENVIRONMENTAL FINANCE CENTERS (\$50,000)

Status: Work is complete

- **Funds leveraged:** \$50,000, please note that this is an approximation and that this value may change as a clearer scope of work is determined
- **Duration:** Spring 2021 – Mid-2022
- **Activity:** Environmental Finance Centers will work with CRPC's Region 7 LWI program efforts to develop a training conference for the region that focuses on delivering mission-critical information and an opportunity to practice the practical application of what is learned through collaborative cross-jurisdictional exercises between Region 7 partners. This workshop took place in November 2021. In addition to this work the EFC staff worked with a local jurisdiction to develop a funding guide called, [Navigating the Federal Funding Landscape: A Guide for Communities](#).

LINCOLN INSTITUTE CASE STUDY AWARD (\$2,000)

Status: Awarded June 29, 2021, work is underway and final case study will be publicly available by June 2022

- **Funds awarded:** \$2,000
- **Duration:** Spring 2021 – Mid-2022



- **Activity:** A team of individuals from LSU, NYU, and Capital Region Planning Commission will be putting together a case study titled, *Can Meandering Paths Connect a Fragmented Planning System? Developing a regional governance structure to enable watershed planning in Southeast, Louisiana, inquiry study*. This case study will focus on the development of the Region 7 governance structure and the challenge and opportunities discovered within that process.

NOAA RESTORE SCIENCE PROGRAM FUNDING OPPORTUNITY: PLANNING FOR ACTIONABLE SCIENCE (\$115,172)

Status: Awarded, one workshop has taken place and the second of three is scheduled for April, workshop materials are attached

- **Funds awarded:** \$115,172 to Capital Region Planning Commission
- **Duration:** September 1, 2021 – August 31, 2022
- **Activity:** To develop a cost-benefit framework for watershed management that will inform and reduce uncertainties during project selection of the Louisiana Watershed Initiative. The project team includes: Capital Region Planning Commission (Lead), LSU, LSU Agricultural Center, Pontchartrain Conservancy, Louisiana's Office of Community Development and, Department of Environmental Quality. More information can be found here: <https://restoreactscienceprogram.noaa.gov/funding/2-3-million-for-planning-actionable-science>

RESTORE CENTER OF EXCELLENCE (\$426,543)

Status: Awarded, data collection and organization is underway

- **Funds awarded:** \$426,543 to The Data Center
- **Duration:** September 2021 – September 2023
- **Activity:** This research funded through the RESTORE Center of Excellence will: (1) develop new modeling strategies and micro-level data sources for exploring coastal population change. A major contribution of the project is to address issues of measurement at an appropriate temporal and geographic scale to understanding individual- and community-level responses to coastal hazards. (2) Measure the empirical effects of flood events on altering the baseline pattern of population and economic shifts in coastal Louisiana. (3) Build bridges between the Coastal Master Plan and other regional planning efforts that are anchored in empirical analysis and projection uncertainty. The project team includes: The Data Center of Southeast Louisiana (Lead), LSU, and Capital Region Planning Commission.

GULF RESEARCH PROGRAM BRIDGING KNOWLEDGE TO ACTION (\$300,000)

Status: Awarded, pending next steps

- **Funds awarded:** \$300,000 to LSU
- **Duration:** 18 months from the start date
- **Activity:** Utilizing hydraulic & hydrological modeling in combination with a local vacant properties database and legal, planning, and policy tools aimed at addressing inland flooding, population transitions, green infrastructure, and urban revitalization, the project team will develop actionable management alternative strategies. This approach will demonstrate strategies for optimizing growth as a function of locational



efficiency and accessibility, while minimizing growth in hazardous areas or areas with high flood protection value.

INSTITUTE FOR SUSTAINABLE COMMUNITIES (ISC) & KRESGE FOUNDATION REGIONAL COLLABORATION FOR EQUITABLE CLIMATE SOLUTIONS (RCECS) PILOT COHORT

Status: Workshops completed, awaiting next steps for the second phase

As stated in the previous report, Region 7 was invited to participate in and create a team of 4-6 individuals for the RCECS pilot cohort. Recent updates from ISC have let the team know that the name of this effort is changing and that there will be additional resources to support these efforts in 2022.

PARTICIPATION IN COMMITTEES/TASK FORCES

- APA Water and Planning Network Steering Committee
- Climate Initiatives Task Force
- Georgetown Climate Center and LCG's Regional Climate Collaboratives Forum
- Network of Networks
- The Water Collaborative

Elevating Work to National/International Platforms

ABSTRACTS SUBMITTED

- **Accepted** - Hazard Mitigation Partners Workshop; Partnerships and Capacity-Building Efforts to Greaux Equitable Resilience in Louisiana's Region Seven Watershed (Partnered with CPEX, St. Tammany, and Georgetown Climate Center)
- **Accepted** - Gulf of Mexico Conference; Incorporating co-benefits and costs to coastal hazard mitigation decision-making (Partnered with LSU)
- **Pending** - National Adaptation Forum; Water As an Agent of Joy: How to cultivate spaces of healing while living through a climate crisis (Partnered with The Water Collaborative and Greater New Orleans Housing Alliance)

PRESENTATIONS GIVEN/SCHEDULED

- **Scheduled April 6:** A Safe Place to Call Home for Consortium for Climate Risk in the Urban Northeast; connected to Georgetown Climate Center partner work
- **Scheduled April 6:** Designing Confluence Workshop for LSU School of Architecture
- **Scheduled April 20-21:** Partnership for Resilient Communities

ADDITIONAL OPPORTUNITIES PURSUED

- **None during this quarter**



LSU Deliverables

CRPC has been coordinating with the LSU consultant team on a weekly basis to focus on the following items. It is anticipated that final reports will be made available in April 2022.

NETWORK ANALYSIS AND PLAN EVALUATION (NAPE)

This work has focused on the following items:

- Planning strategies for coding and evaluation
- Finalized evaluation protocol and coding structure
- Network section is pending
- Preliminary evaluation work on reviewing parish Goals and Objectives based on the Plan Evaluation Protocol
- During this month we also inventoried the Gravity Drainage Districts in LWI
 - Drafting of final documentation and reports. Identifying how to communicate what plans say about policies and projects that adhere to LWI policies and eligible procedures
- Orientation for new student to support work

SUBDIVISION CODE EVALUATION

This work has focused on the following items:

- At this point, we are considering the subdivision coding part of the spreadsheet as complete
- Significant progress on schema for evaluation
- Vetting codes, discussions with East Baton Rouge and Tangipahoa
- Further review of codes to double check interpretations, etc.

COLLABORATION AND WORK ON CAPACITY BUILDING AND KNOWLEDGE CREATION

This work has focused on the following items:

- Collaboration with Co-City Fellow with Build Baton Rouge on Reflective Case Studies on Coalition Building in Multi-Jurisdictional Context
- Collaboration through GCC Planning Work Group
- Collaboration with Georgetown, CRPC, and NYU on Journal of American Planning Association paper
- Resource Building Activities:
 - Gulf Research Program Proposal
- Collaboration on Lincoln Institute Case Study

CONSISTENCY AND LEVERAGING DELIVERABLES OF OCD'S CONSULTANTS

Additionally, LSU and CRPC have been in conversations with OCD, and their consultants, to ensure that work is not being duplicated. During these conversations, it was made clear that some deliverables will need to be altered to leverage the work of other contractors. Several conversations have been dedicated to this.



WHAT CHALLENGES OR OBSTACLES HAVE BEEN FACED IN MEETING THESE GOALS AND OBJECTIVES?

COVID-19

The Omicron variant of COVID-19 peaked in mid- to late-January across southeast Louisiana. We managed this by hosting meetings virtually during this time period.

HAVE THE GOALS AND OBJECTIVES CHANGED? HOW?

The goals and objectives have not changed.



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NOAA RESTORE WORKSHOP #1

IDENTIFY APPROACHES FOR INCORPORATING CO-BENEFITS AND COSTS TO HAZARD MITIGATION DECISION-MAKING POST-WORKSHOP SUMMARY

On February 22, 2022 a group of 20 participants gathered to discuss two draft approaches for incorporating the costs and benefits of issues of equity and impacts to natural function for the purpose of project design and selection. Below is a reminder of what we discussed, what we addressed during our activities, what we learned, and an outline of our next steps.

BACKGROUND

Louisiana Watershed Initiative (LWI)

The Louisiana Watershed Initiative was established following the Great Floods of 2016. This initiative is introducing a watershed-based approach to reducing flood risk in Louisiana with a focus on:

- Using scientific tools and data;
- Enabling transparent, objective decision-making;
- Maximizing the natural function of floodplains; and
- Establishing regional, watershed-based management of flood risk¹.

Connecting this NOAA RESTORE Science Program Grant to LWI

One program area of LWI is to support the funding of projects through three rounds of competitive funding. As with many project selection processes, the current process includes the utilization of a benefit-cost analysis (BCA) tool to support in justifying the project.

Currently, the traditional BCA tools that are available overlook the following areas for infrastructure-oriented flood mitigation and watershed management:

- The water quality costs of some gray infrastructure flood risk reduction solutions (e.g., channelization);
- Potential spatial spillovers² that include a full range of up-stream to down-stream external benefits and costs which occur upstream and downstream from infrastructure; and
- Non-market costs³ to low- and moderate-income communities.

The development of a BCA decision-making framework that aligns with the mission of LWI is critical to prioritizing and reducing uncertainty around water management project selection. By incorporating additional costs and benefits into

¹ <https://watershed.la.gov/about>

² A “spatial spillover” means your location and actions matter to other people. If one area makes a decision to get their water out as quickly as possible without talking to their neighbors downstream, there may be unintended consequences (e.g., flooding and poor water quality)

³ Non-market costs can be thought of as things that are not traded in markets. In other words, there is no defined or set dollar amount that is assigned. Examples may include clean air, clean water, and other items that are not bought or sold in explicit ways.

NOAA RESTORE WORKSHOP #1

our decision-making process, we can better understand how current investments may be impacted by projects that alter the landscape and where water flows. This planning grant supports the development of a research, development, and implementation plan to address these challenges. The grant is led by the Capital Region Planning Commission and includes LSU, LSUAg, and Pontchartrain Conservancy. Additionally, our full team that includes natural resource managers includes Louisiana's Office of Community Development - Disaster Recovery Unit and Department of Environmental Quality.

WORKSHOP EVENTS

Prior to beginning discussions, the team presented content that focused on:

- Project background information such as purpose and the need we're trying to meet
- How equity and natural function relate to these discussions
- Learnings to date on LWI Round 1 project applications
- What the FEMA BCA toolkit is and how it does/does not incorporate issues of equity and natural floodplain function

The PowerPoint presentation is attached for your reference. Following this introductory content, two approaches (see pre-workshop packet) for the inclusion of issues of equity and natural floodplain function were described. Participants were then asked to move into their respective breakout groups to discuss a series of questions for the approach that they were assigned.

The table below outlines the key takeaways from this workshop and more specifically what we learned that was "new" and what was reiterated based on what we learned before.

Key Takeaways from Workshop #1

| Questions | What did we learn? | What themes were reiterated? |
|---|--|---|
| <p>What challenges or opportunities would you see in utilizing the approach?</p> | <p>Opportunities</p> <ul style="list-style-type: none"> • Create prescriptive guidance, not restrictive <p>Challenges</p> <ul style="list-style-type: none"> • Comparing across project types • Oversimplifies variable differences in different marginalized communities • May ignore local unique community characteristics and facts (data) worth considering • Absolute water numbers may not show negative effects • A simpler approach may allow more applicants to “pass” but then it requires further evaluation to ensure that the benefits exist • BCA needs to be adaptable based on the capacity an applicant has | <p>Opportunities</p> <ul style="list-style-type: none"> • Create incentives, benefits, mandates • Require collaboration between jurisdictions <p>Challenges</p> <ul style="list-style-type: none"> • LMI areas have barriers to producing application • Limited expertise, resources, funding, TA, time (might benefit from an accessible formula) • Siloed entities • Data variability + availability across entities • Approach requires guidance at appropriate detail • Census data may not be accurate • BCA toolkit is a black box and it is difficult to access the source numbers • Some data may not account for existing conditions |

NOAA RESTORE WORKSHOP #1

| | | |
|--|--|--|
| | | <ul style="list-style-type: none"> • Upfront costs + unresolved costs for models (H&H) • Assessment tools need to fit the Louisiana context • Unknown how water quality benefit will be addressed |
| <p>What is the most important information to capture with regards to community-level impact to LMI communities?</p> | <ul style="list-style-type: none"> • Interim income data • Ability to recover • Multigenerational + multi-family dwelling | <ul style="list-style-type: none"> • Information gaps • Historical inequities • Quantifying damage impacts for entities • Census + external data on immigrant and LMI communities • Defining and identifying who is LMI and by what measure |
| <p>What is the most important information to capture with regards to environmental impact?</p> | | <ul style="list-style-type: none"> • Future flood risk changes • Assessment of proposed area, surroundings, and potentially impacted areas from project • Environmental/ ecological impacts • Building and landscape vulnerability • Current natural functions and mitigation of wetlands |

NOAA RESTORE WORKSHOP #1

| | | |
|---|---|--|
| <p>What resources would need to be made available to implement this and who would they need to be made available to?</p> | <ul style="list-style-type: none"> • Monitoring resources • Data clearinghouse | <ul style="list-style-type: none"> • Historical data • Data generation/ evaluation “centers” at every level of application + area • Capacity building at all levels • TA from experts and agencies |
| <p>What would you change about the approach</p> | <ul style="list-style-type: none"> • Discontinue competitive process • Requirement for local sources of data to have and maintain data generation and sharing agreements with a nongovernment knowledge bearer • Fund not only mature/brick and mortar projects but also “ecosystem” organizations • Make process scalable at all levels • Add teeth in funding opportunity notice to require data building by applicant support organizations • A reliance on consultants for H&H modeling • Consider local contractors and local hiring (economic benefits to communities) | <ul style="list-style-type: none"> • Consistent source for information or listing of sources • Change timeline to accommodate smaller community workshops • Create portion of grant funds for capacity building for small communities |

Data Resources mentioned during the workshop:

- Number of households/structures
- Include layers for community amenities
- Consider Asset Limited, Income Constrained, Employed (ALICE) population
- Use 404 wetland values - Department of Natural Resources tables
- American Community Survey
- Technical Assistance from agencies such as Louisiana Department of Environmental Quality and Department of Natural Resources


Key feedback received during the workshop

During the workshop, we also asked for feedback in the form of pluses (what they liked) and deltas (what can be improved). Overall, participants provided the most pluses on the meeting environment. Specifically, being able to collaborate in person and having delicious food. The key deltas that were the most mentioned, as well as strategies for addressing them, can be found below. Please note that our small grant team will do their best to integrate these suggestions based on our capacity. To help with transparency with regards to this we have indicated which suggestions are a top priority.

| Delta | Suggestion(s) for addressing |
|--|--|
| Need a clearer articulation of topic and goals | <ul style="list-style-type: none"> ● (Priority) Finish pre-workshop packet and materials sooner and send out to gather feedback from non-technical experts and adjust materials accordingly ● Run through an activity with a “practice participant” to get feedback ahead of time and adjust materials accordingly |
| Need visuals/images to explain context | <ul style="list-style-type: none"> ● Develop graphics and visuals to support the information ● (Priority) Utilize existing graphics/visuals to support the information where they exist |
| Need more time in breakout groups | <ul style="list-style-type: none"> ● (Priority) Have fewer, or more concise, questions to answer in upcoming workshops ● Have a post-meeting sign up where if people are hungry for more discussion they can sign up for a small virtual group discussion |
| Have smaller breakout groups + virtual options | <ul style="list-style-type: none"> ● Consider a “virtual only” breakout group for the upcoming workshop, consider groups of 5 or less if we have staff capacity |

NEXT STEPS

Our next workshop is still being planned but we anticipate that it will occur during the first few weeks of April. The second workshop will focus on a singular approach that will likely be a combination of elements of approach #1 and #2 that were presented during the first workshop. Participants will take a deeper dive into the approach and what data/best practices may be available

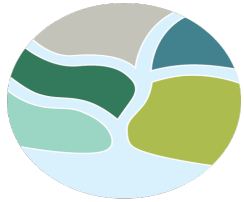


NOAA RESTORE Science Program Grant Workshop #1

FEBRUARY 22, 2022

The team

NATURAL RESOURCE MANAGERS

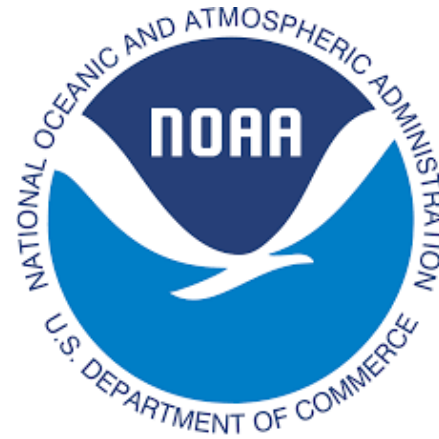


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LOUISIANA
— Office of —
COMMUNITY
DEVELOPMENT

GRANTOR/ COLLABORATOR



TEAM LEAD

PROJECT TEAM



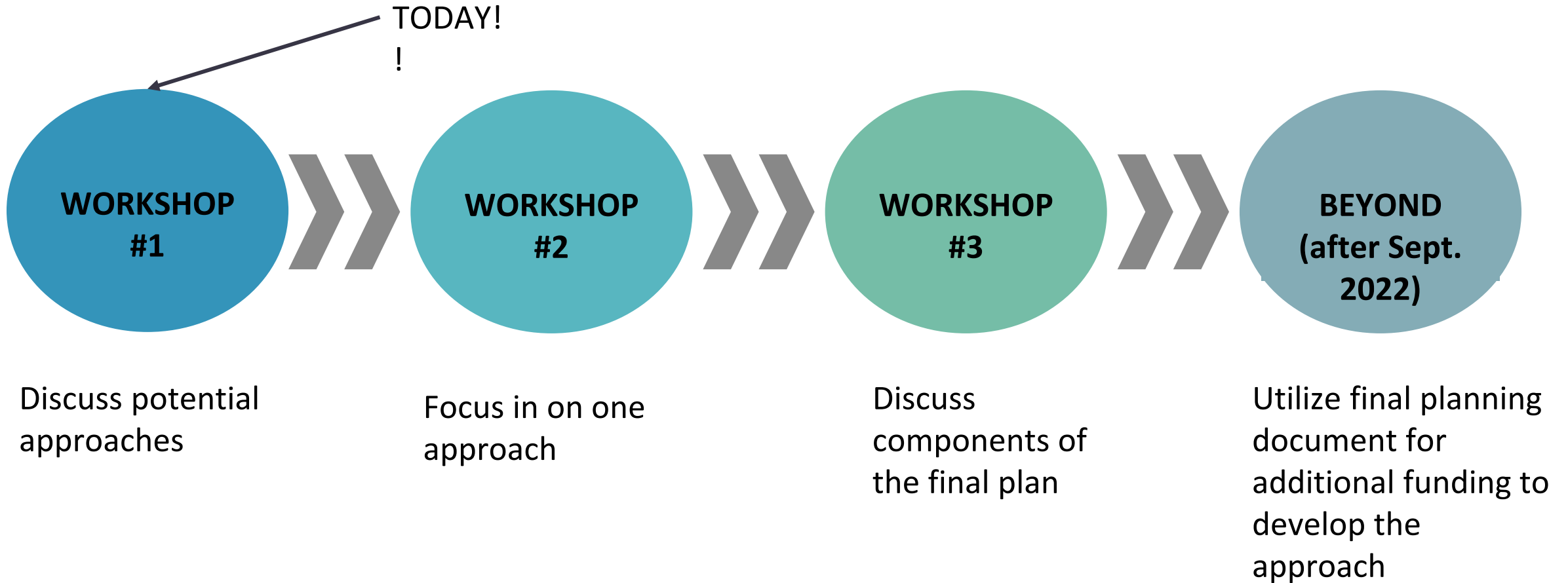
Pontchartrain
Conservancy



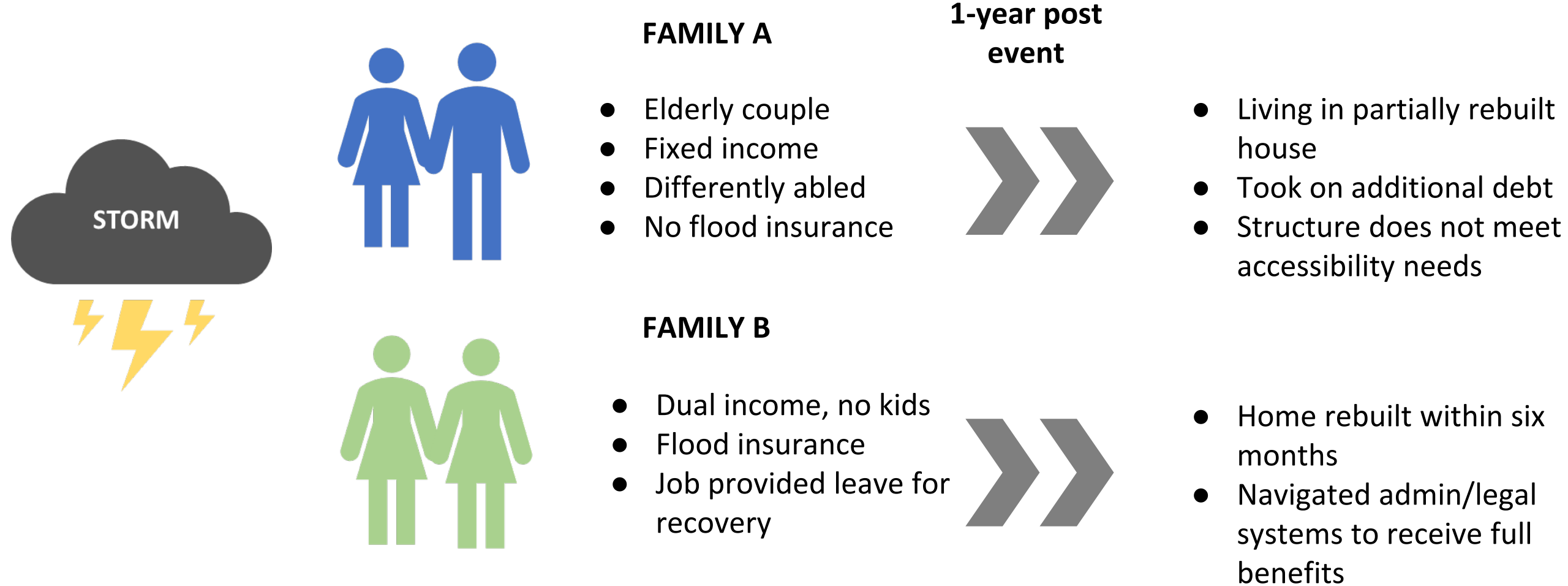
Background

- **Project title: Incorporating co-benefits and costs to coastal hazard mitigation decision making**
- **Purpose:** Research and develop cost-benefit framework for watershed management that will inform and reduce uncertainties during multi-criteria LWI project selection
- **Deliverable:** Plan that may be able to be utilized for a second round of funding
- **The need that we're trying to meet:** equity and natural function aren't captured that well in benefit cost analysis.
 - With our existing tools we value higher-value neighborhoods higher, lower-value neighborhoods lower. This drives where we see projects designed and implemented. The full range of costs and benefits to LMI neighborhoods isn't captured.
 - With our existing tools we don't capture the full range of costs and benefits to natural function. For example, a gray infrastructure project may have negative impacts to water quality and ecosystem health that aren't captured in current tools.
- Key terms
 - **Spillovers**
 - **Non-market**
 - **Equity weighting**

Workshop roadmap



Why equity matters, ability to recover



Why equity matters, compounding impacts

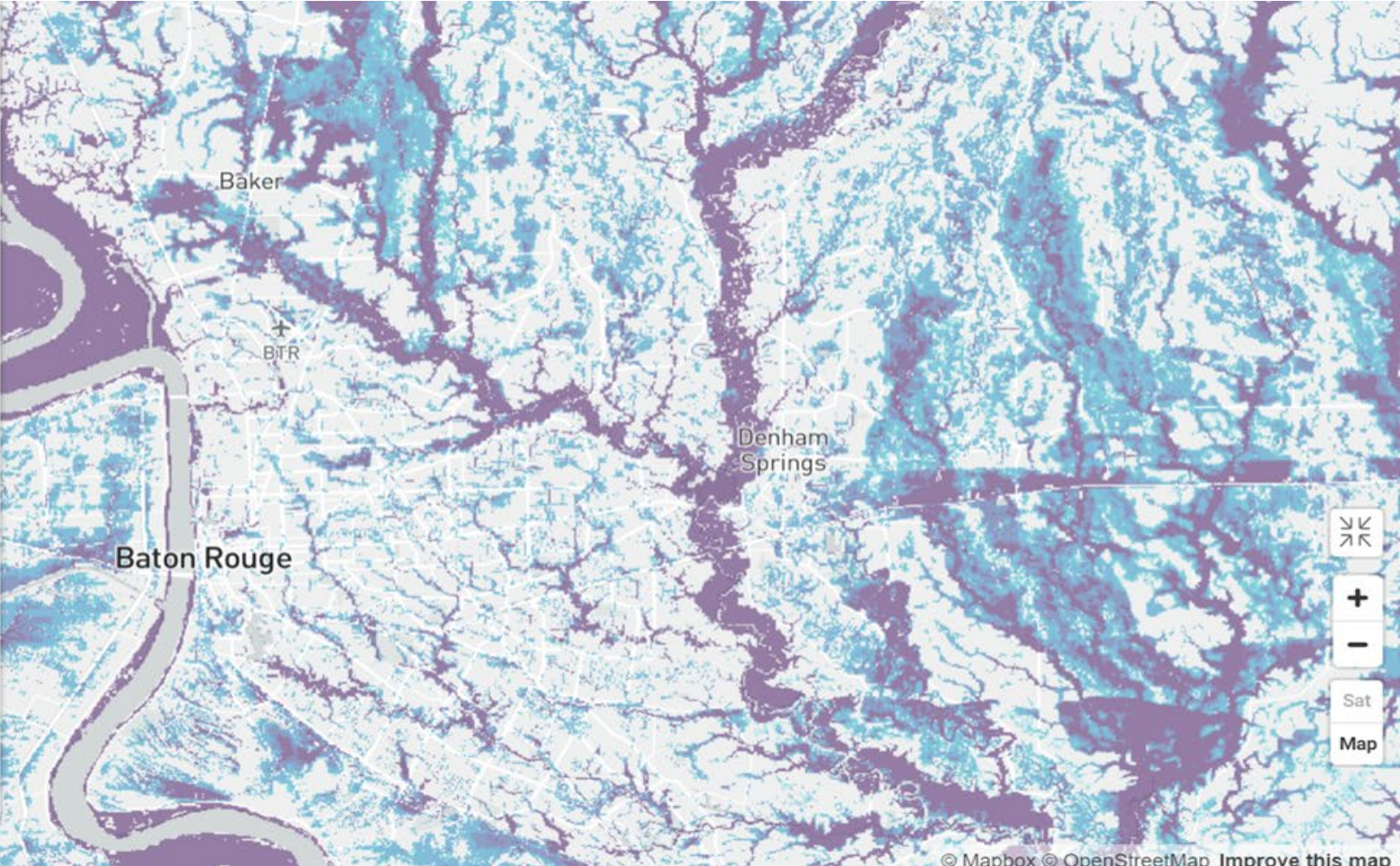
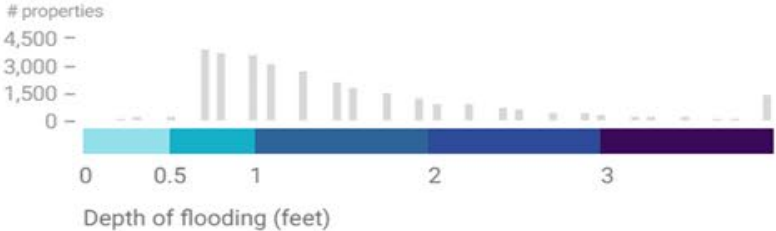
Select a projected flood risk:

More likely to occur →

| | | | | | |
|---------------------|--------------|-------|-------|-------|-----|
| Flooding likelihood | 0.2% | 1% | 5% | 20% | 50% |
| Water to building | 33.1K | 20.7K | 6,322 | 1,101 | 18 |

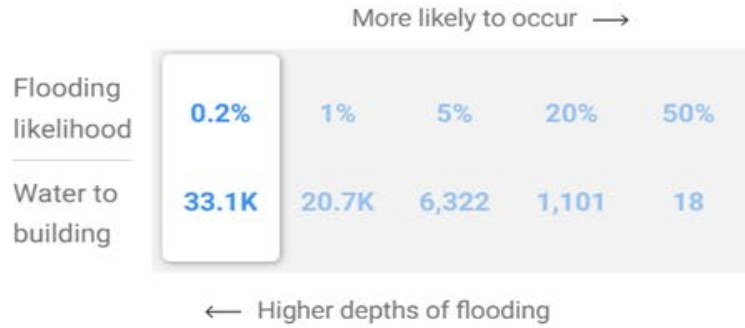
← Higher depths of flooding

Approx. 33.1K properties have a **0.2% chance** of some amount of water reaching their building in 2022.

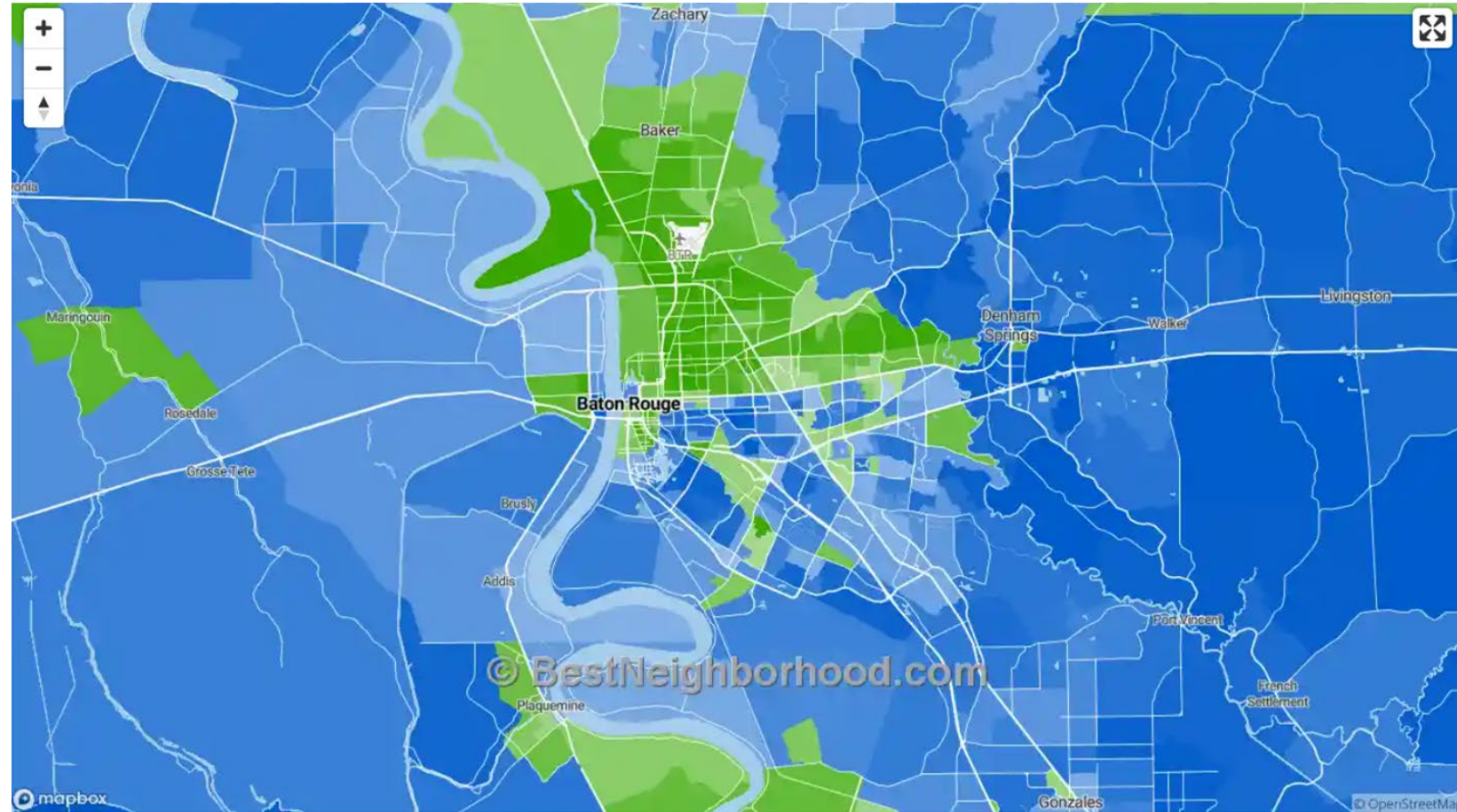
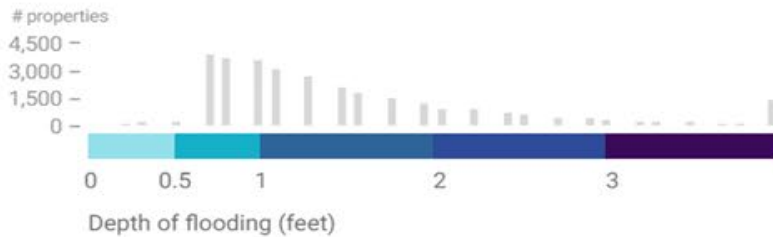


Why equity matters, compounding impacts

Select a projected flood risk:



Approx. 33.1K properties have a **0.2% chance** of some amount of water reaching their building in 2022.



Majority Race Key



Why equity matters, compounding impacts

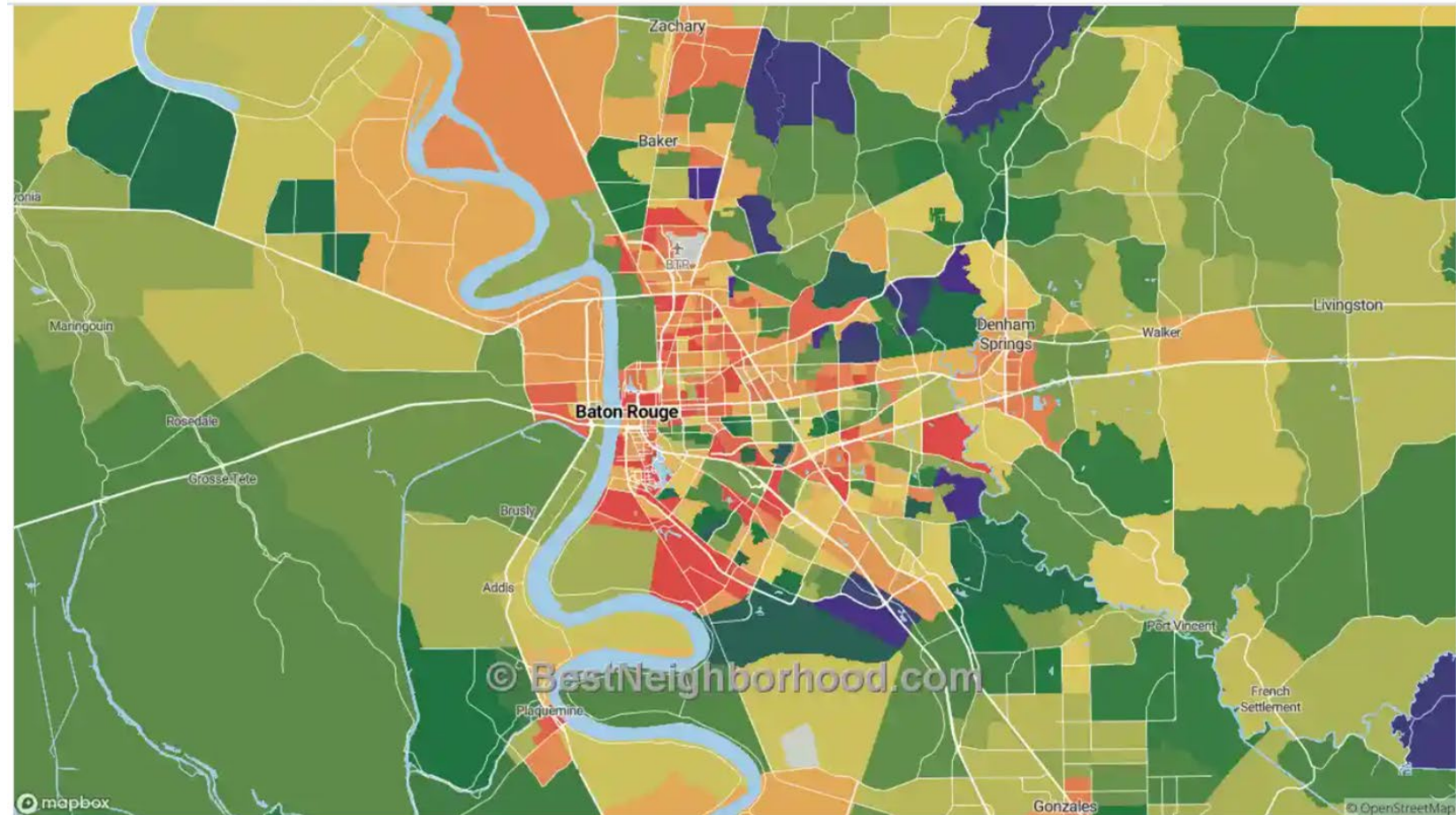
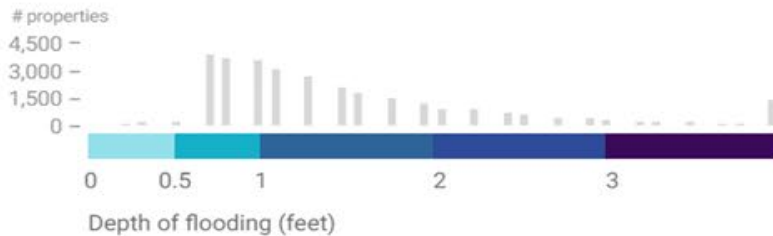
Select a projected flood risk:

More likely to occur →

| Flooding likelihood | 0.2% | 1% | 5% | 20% | 50% |
|---------------------|-------|-------|-------|-------|-----|
| Water to building | 33.1K | 20.7K | 6,322 | 1,101 | 18 |

← Higher depths of flooding

Approx. 33.1K properties have a **0.2% chance** of some amount of water reaching their building in 2022.



Owners vs. Renters Key

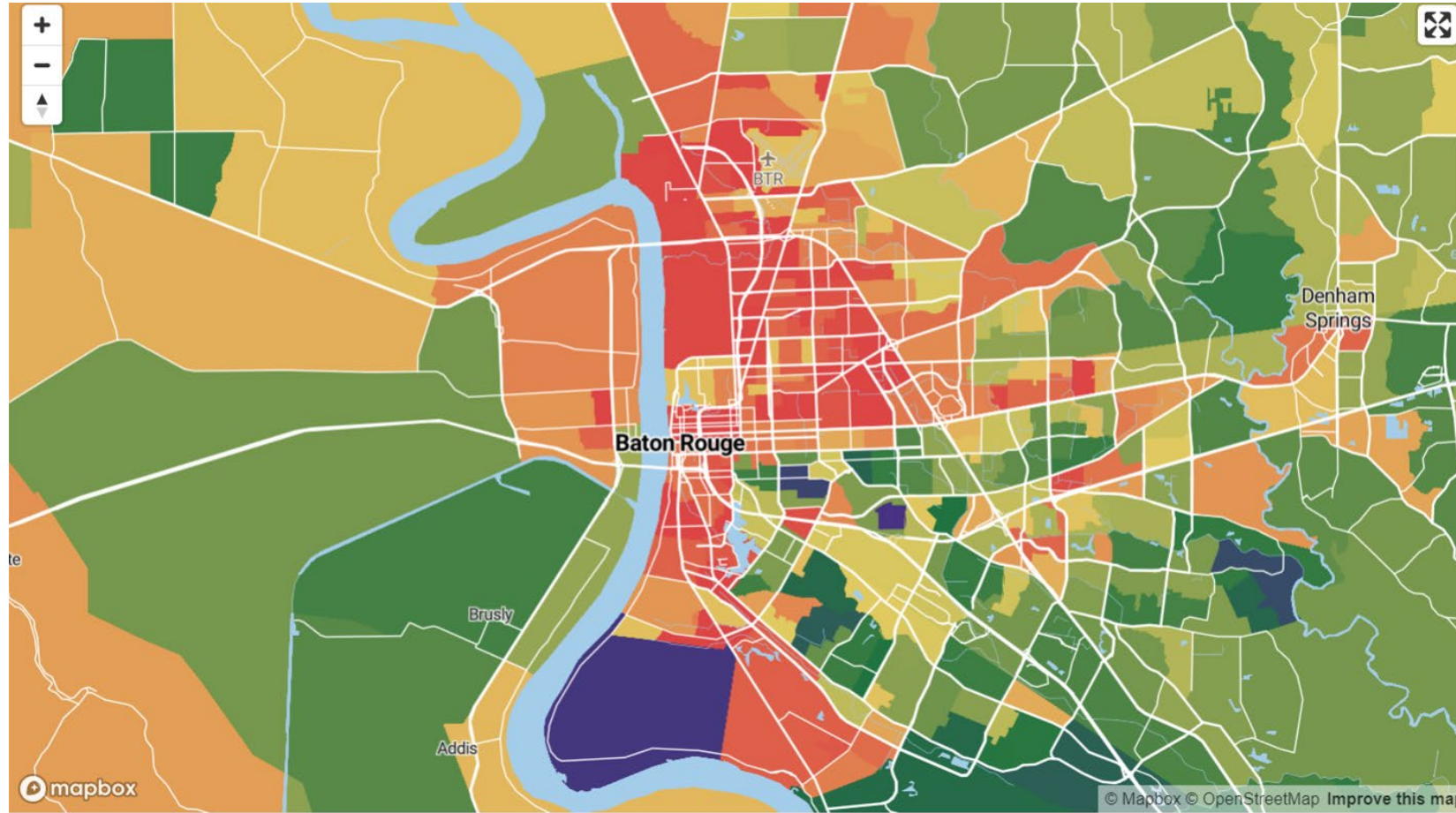
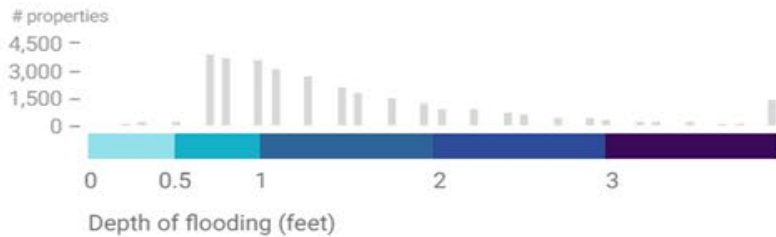


Why equity matters, compounding impacts

Select a projected flood risk:



Approx. 33.1K properties have a **0.2% chance** of some amount of water reaching their building in 2022.



Household Income Key



Why equity matters, compounding impacts

Select a projected flood risk:

MEDIAN HOUSEHOLD INCOME

The median household income grew faster than the cumulative inflation rate of 19% in the decade ending in 2019. Meanwhile, whites earn twice as much as African Americans and the income gap between them has widened over a decade.

\$56,451

EBR MEDIAN HOUSEHOLD INCOME IN 2019



MEDIAN HOUSEHOLD INCOME BY DEMOGRAPHIC

| Demographic | Median Household Income | 10-Year Growth |
|-------------|-------------------------|----------------|
| White | \$78,307 | 36% |
| Black | \$39,502 | 24% |
| Asian | \$82,938 | 79% |
| Hispanic | \$46,362 | 24% |

POVERTY

Though the EBR poverty rate is far higher than the national average, it **dropped measurably in 2019 and was below 18%** for the first time since at least 2009. The rate has declined five years in a row.

77,010

NUMBER OF EBR RESIDENTS LIVING IN POVERTY (2019)



Household Income Key



Why natural function matters

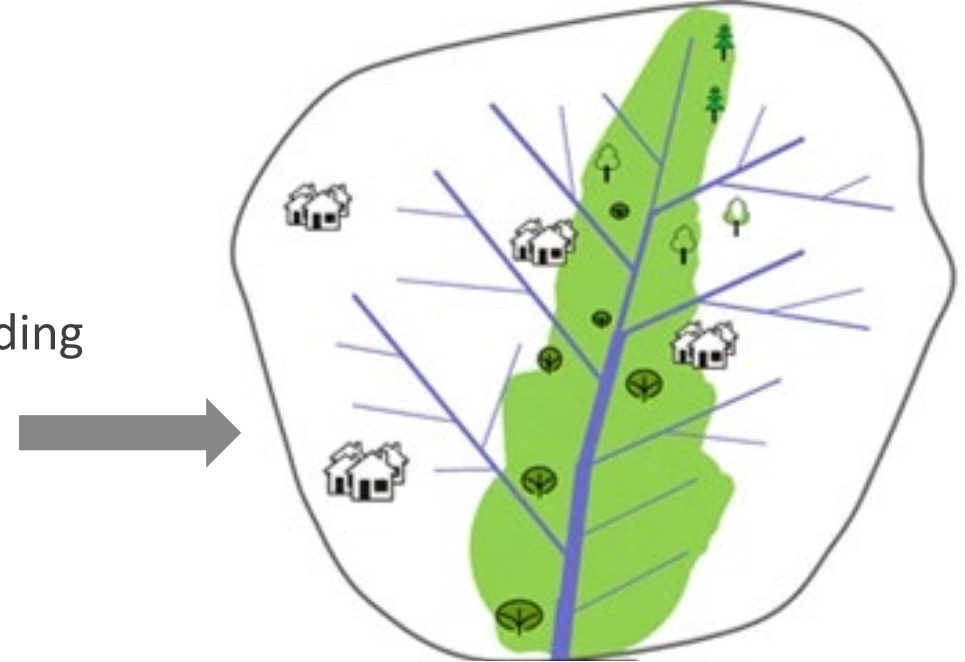
Channelization and reduced floodplain area leads to...

- increasing outflow velocity of water, increasing likelihood of flooding
- increasing surface erosion
- increasing transfer of nutrients and pollutants downstream
- reduced potential for self-cleaning of the river

Sustainable development and floodplain preservation leads to...

- decreasing outflow velocity of water, decreasing likelihood of flooding
- increasing water retention capacity
- reducing surface erosion
- reducing transfer of nutrients and pollutants downstream
- optimizing potential for self-cleaning of the river

Image and text reference - Kiedrzyńska et al., 2015

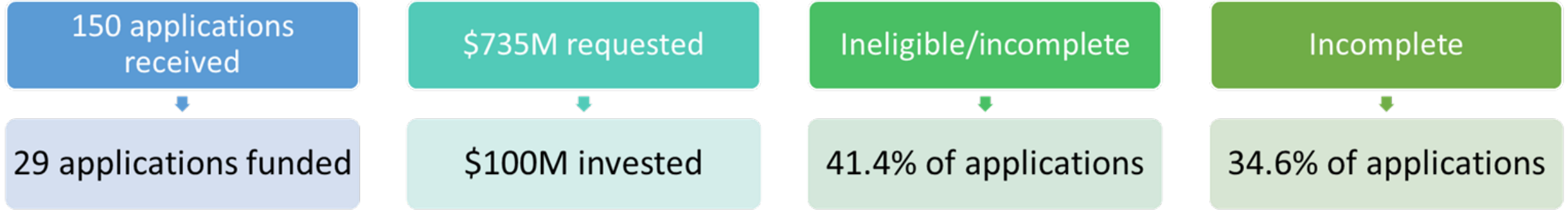


Why it matters, Federal policy/initiatives

FEDERAL

- **Community Development Block Grant (CDBG)** - Over half of the funds must be spent to the benefit of majority LMI communities
- **Justice40 Initiative** - 40 percent of the overall benefits from Federal investments in climate and clean energy to disadvantaged communities.
- **USACE** - engineering with nature, Natural and Nature-Based Features for Flood Risk Management guidelines
- **FEMA BRIC** - points in technical criteria for natural solutions

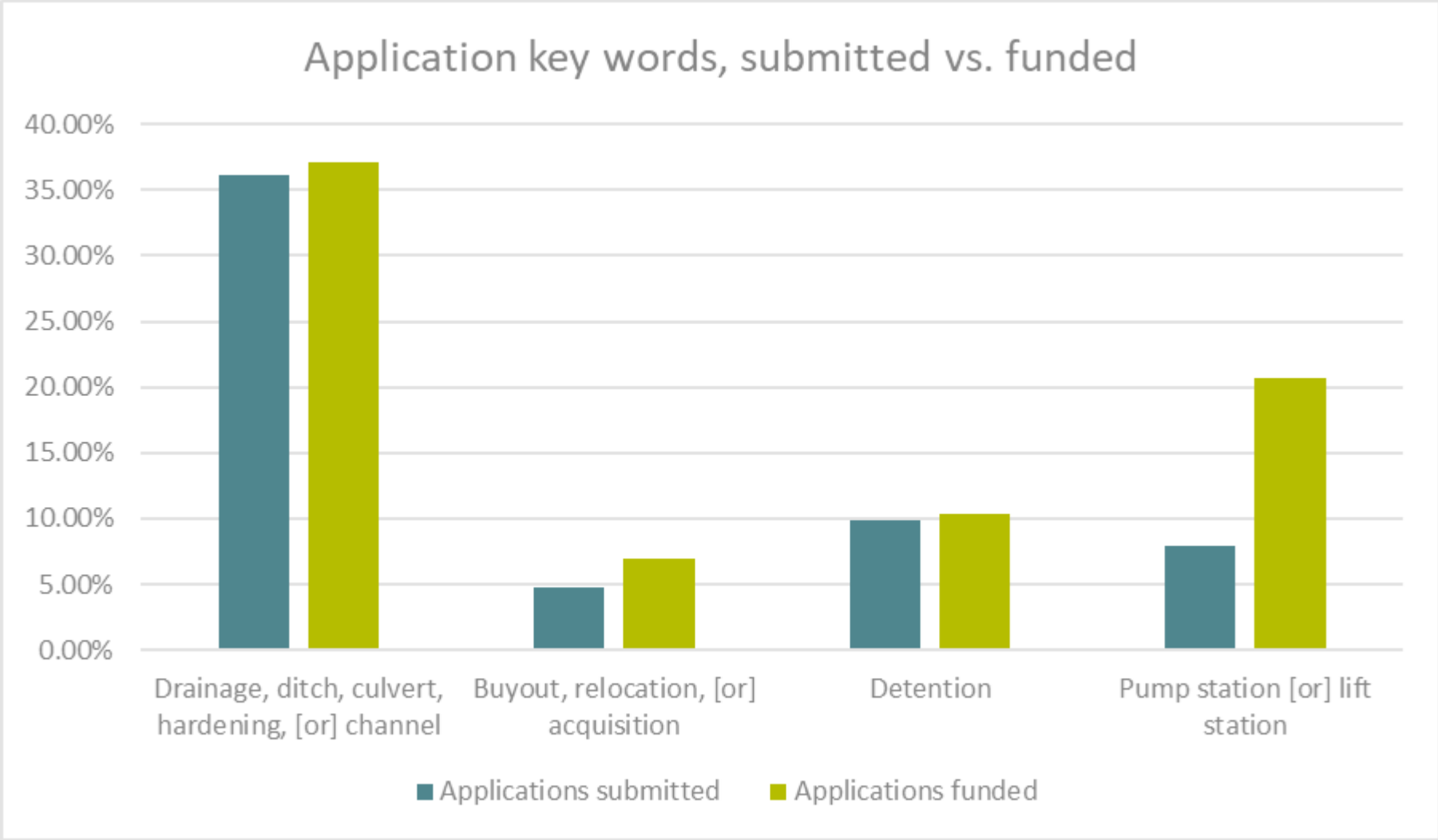
Learnings to date - Round 1 projects



The leading reasons for applications being deemed ineligible or incomplete were:

- Not having hydrologic and hydraulic information;
- It did not provide sufficient data to support benefit to a most impacted and distressed area; and
- Not having enough data to verify project benefits and/or flood risk reduction.

Learnings to date - Round 1 projects



What is the FEMA BCA toolkit, why does it matter?

FEMA's (Federal Emergency Management Agency) BCA (Benefit Cost Analysis) toolkit

- It is regularly used to determine if the benefits of a project outweigh its costs
- It is required to apply for most projects with FEMA unless you have an approved waiver
- In order to be funded through certain programs your BCA ratio must meet a certain threshold
 - Example: FEMA's Hazard mitigation grant program, your project must have a ratio greater than 1

FEMA BCA toolkit, what's the B and C?



How does it/doesn't it include flood risk red.?

Flood risk reduction benefits

Scientific Knowledge and Educational value

Cultural value & Religious Experiences

Nutrient Regulations

Social (Mental Health)

INCLUDED IN FEMA BCA TOOLKIT

Flood risk reduction costs

Construction

Maintenance

Design

Material

Land Acquisition

Labor

Flood risk reduction benefits

Floodwater regulation

Watershed conservation

Stormwater Management

Employs people

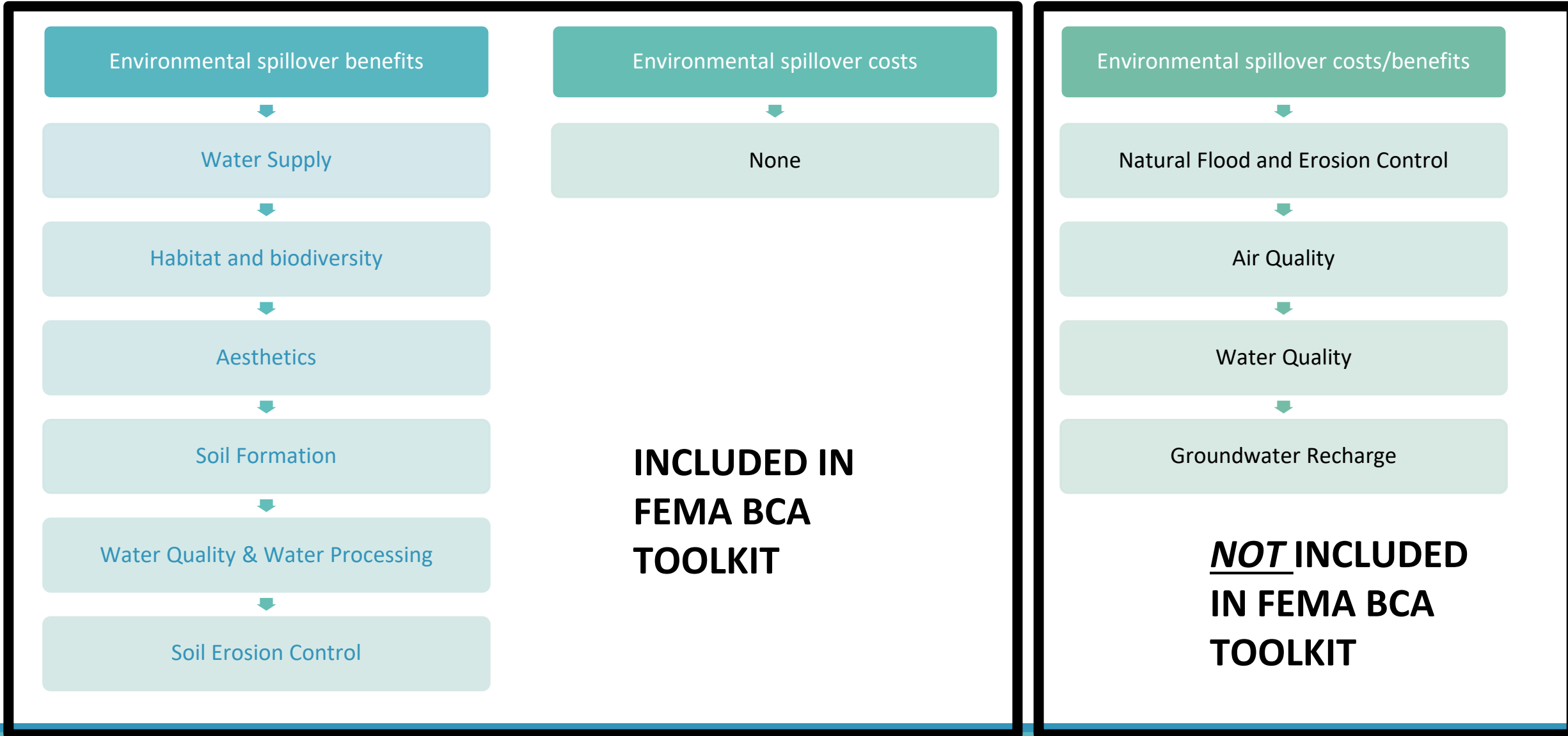
SCALE & CUMULATIVE EFFECTS

Flood risk reduction costs

Floodplain Maintenance

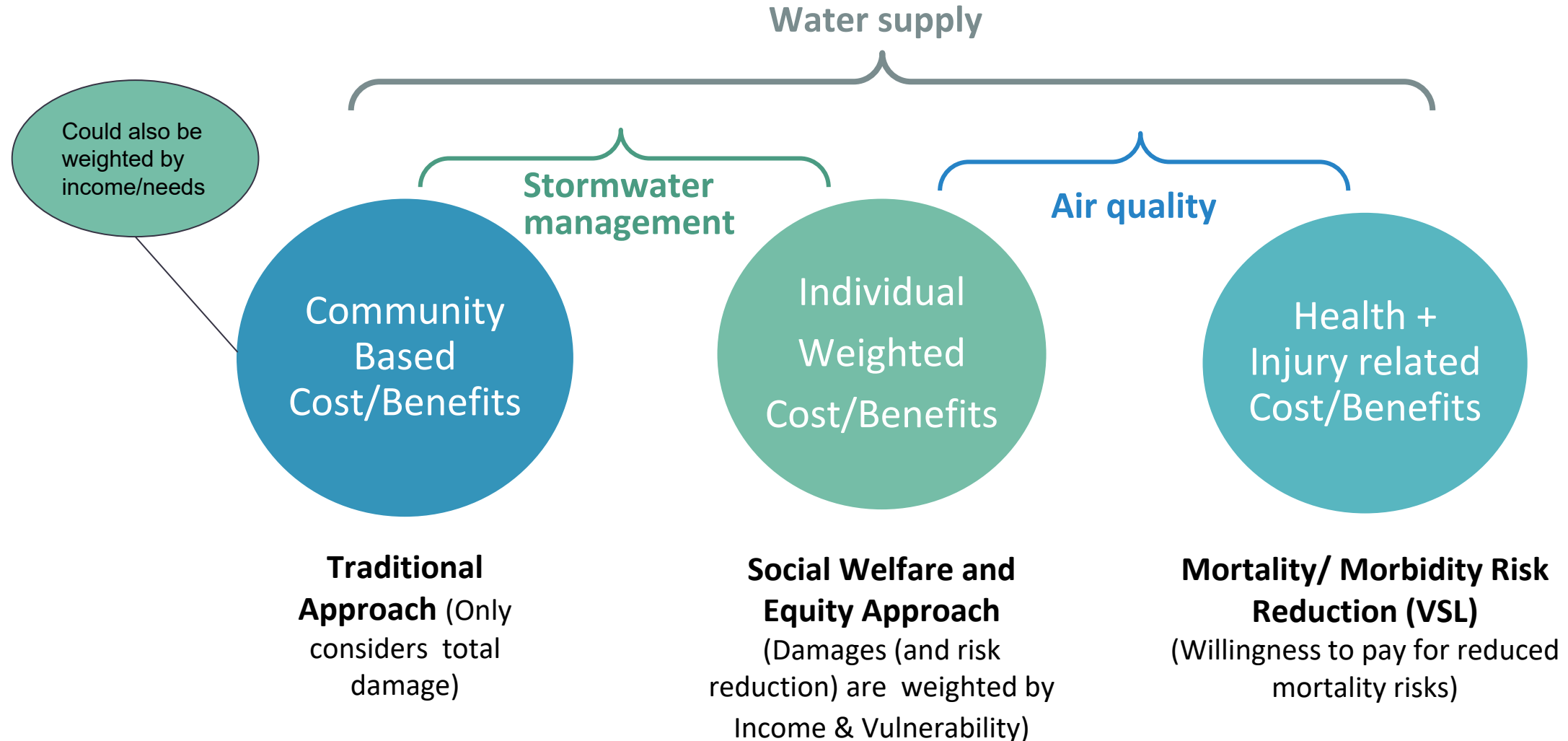
NOT INCLUDED IN FEMA BCA TOOLKIT

How does it/doesn't it include environmental?



Ideas to address what is missing

Kind et al., 2020



Two potential approaches - Approach #1

What does Approach #1 entail?

This approach would provide an average value by project type. Examples of project types: **Floodplain restoration and preservation, physical-nonstructural mitigation, etc.**

Conceptually based around FEMA BCA Toolkit or a similar approach

How Approach #1 can address spillovers and environmental costs/benefits...

- Downstream impact on flood risk. One example of addressing this may include a generic dollar value related to the volume of water that can be held upstream and/or the increased volume and velocity of water flowing downstream
- Consider using a standard dollar value per linear foot of stream bed lining or concrete channelization.
- Assigning weights in areas with impaired waterways, or in areas that have sensitive/valuable wetlands, or drain into areas with valuable water resources (e.g., fisheries)
- Providing potential deductions or filtering by project category. This would apply to project types with documented negative environmental spillovers.

How Approach #1 can address equity...

Selecting criteria related to social vulnerability to flooding and assigning area weighted values for them. Examples may include Census indicators (SOVI, or other demographic and income data) or considering weights for rental properties or estimated residents per-dwelling.

Two potential approaches - Approach #2

What does Approach #2 entail?

This approach would create an integrated approach for project applicants to use environmental and modeling data to create location-based dollar estimates for potential environmental impacts.

Uses model integration, specific ecosystem benefits tools, or other project and watershed valuation approaches. (e.g., InVest, Nature Conservancy Tools, Specific Regional Resource Valuations, and/or Models of Community Needs (e.g., access to parks, health indicators) etc.)

How Approach #2 can address spillovers...

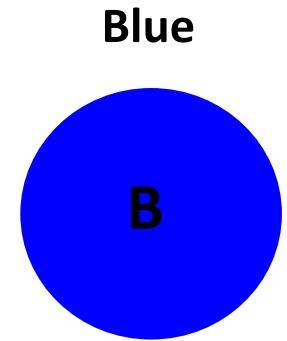
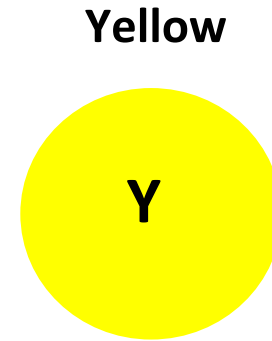
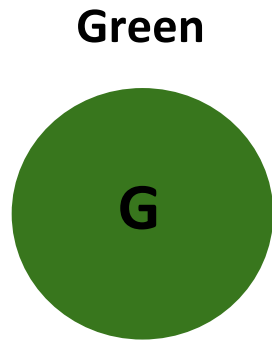
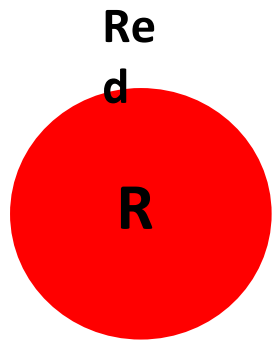
- Understanding environmental spillovers that may have impacts. This may be done by combining environmental layers and tools.
- Local resources such as ecosystem and water quality inventories are combined with information that provides specific values.
- The development of watershed model integration standards and a clear procedure for calculating the extent of the model (boundary conditions).
- Providing estimated dollar values and assigned weights to categories where more precise estimates or modeling are unrealistic.

How Approach #2 can address equity...

Social welfare equity weighting that shows a project's modeling impact. This could be a small area of social welfare BCA (Kind et al., 2016 and Kind et al., 2020) that is connected to project-level model outputs, and may require imputing incomes for beneficiaries.

Breakout group - instructions

- Our facilitators are already at their respective tables and they have a color on their nametag
- You have a color on your name tag as well
- Wall sheets + sticky notes
- Select two items to report out



Focus is on Approach #1

Focus is on Approach #2



BREAKOUT GROUPS

Breakout group - questions

1. What challenges or opportunities do you see in utilizing this approach?
1. What is the most important information to capture with regards to community-level impact to LMI communities through this approach?
1. What is the most important information to capture with regards to environmental impact through this approach?
1. What resources would need to be made available to implement this and who would they need to be made available to?
1. What would you change about this approach?



GROUP REPORT OUT

Closing and next steps

- Post-workshop summary
- Take food to go!
- Thank you for being here today!
- Pluses, let us know what you liked. Deltas, give us suggestions for how we can improve
- Next steps on mileage reimbursement and stipends for those who can receive them

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