STATE OF LOUISIANA
DIVISION OF ADMINISTRATION
LOUISIANA OFFICE OF COMMUNITY DEVELOPMENT

LOUISIANA Office of COMMUNITY DEVELOPMENT

REPORTING PERIOD START	3/26/2022
REPORTING PERIOD END	6/25/2022
WATERSHED REGION	7
NATIONAL OBJECTIVE	N/A – Planning Activities
ELIGIBLE ACTIVITY	Planning; HCDA Sec. 105(a)(12)
EXPENDITURE/COMPLETION STATUS	303,079.33

RCBG PROGRAM QUARTERLY REPORT

REPORTING CONTACT INFORMATION

CONTACT PERSON NAME	Rachelle Sanderson
CONTACT PHONE	816.830.3633
CONTACT EMAIL	rsanderson@crcpla.org

WATERSHED COORDINATION METRICS

HOURS OF WORK PERFORMED (by Watershed Coordinator)	365.25
NUMBER OF MEETINGS FACILITATED	1
ATTENDANCE PER MEETING	20
DIVERSITY OF DISCIPLINES/INTERESTS REPRESENTED AT MEETINGS	Parish staffers, community representatives, drainage distrcts, etc.
DESCRIPTION OF OTHER COORDINATION ACTIVITIES UNDERTAKEN	To see other coordination activities please see the attached 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	To see other activities please see the attached narrative report.
NUMBER OF ATTENDEES AT EVENTS	0
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	To see other activities please see the attached narrative report.

REGIONAL CAPACITY ANALYSIS AND REGULATORY REVIEW METRICS (if applicable)

DESCRIPTION OF DELIVERBALES 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

REGION 7

2022 QUARTER 2 (04/01/2022- 05/31/2022)
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?

Highlights

- National launch of Greauxing Resilience at Home: A Regional Vision. This work is the outcome of an 18-month long partnership with Georgetown Climate Center and a local working group comprised of Parish staffers, academics and NGO partners.
- Continued funding of the Urban Equity Climate Compact through the Institute for Sustainable Communities. This work will focus on funding mechanisms for affordable housing, the increasing cost of flood insurance, and increasing residential energy burden.

Regional Steering Committee

The Regional Steering Committee met on May 10th, 2022 to receive an update on the Louisiana Watershed Initiative legislation.

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:

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 $3.1M through capacity building efforts and 3 funded research grants. Please see pages 7-8 for a more detailed look at achievements during Phase 1 of RCBG.**

PARTNERSHIP WITH GEORGETOWN CLIMATE CENTER ($100,000)

Status: Regional Vision is completed, working group is focusing on implementation

- **Funds leveraged:** $100,000 through a grant to GCC from the Doris Duke Foundation
- **Duration:** January 2021 – June 2022 to develop Regional Vision; Implementation is ongoing
- **Activity:** Work with local stakeholders on the implementation of goals listed in the Regional Vision

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

Status: Work is underway and structured decision-making workshops have taken place. The team will be convening partners to review findings to date.

- **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.

LINCOLN INSTITUTE CASE STUDY AWARD ($2,000)

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

- **Funds awarded:** $2,000
- **Duration:** Spring 2021 – Fall 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, two workshops have taken place and the final workshop is scheduled for mid-July. Workshop materials for the second workshop are attached. To view materials from the first workshop, please see the 2022 Quarter 1 report.

- **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, beginning outreach discussions and data collection.

- **Funds awarded: $300,000 to LSU**
- **Duration: Through November 2023**
- **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, NOW CALLED URBAN EQUITY CLIMATE COMPACT (UECC)

Status: The second phase has been funded.

- **Duration: Through mid 2023**
- **Activity:** This work will focus on funding mechanisms for affordable housing, the increasing cost of flood insurance, and increasing residential energy burden.

ENVIRONMENTAL PROTECTION AGENCY, OFFICE OF RESEARCH AND DEVELOPMENT, COMMUNITY RESILIENCE

Status: The second phase has been funded.

- **Duration: Through Fall 2024**
- **Activity:** This work will focus on understanding community resilience metrics across the region, ground truthing them, and then building programming to address gaps and opportunities as identified through those metrics and discussions.

PARTICIPATION IN COMMITTEES/TASK FORCES

- APA Water and Planning Network Steering Committee
- 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** - 2022 Coastal & Estuarine Summit, *No Place Like Home: Preparing for and Managing Retreat From and Within Coastal and Riverine Communities.* .

PRESENTATIONS GIVEN/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**
- **April 6: Designing Confluence Workshop for LSU School of Architecture**
- **April 20-21: Partnership for Resilient Communities**
- **June 16:** Greauxing Resilience at Home webinar
- **Scheduled July 6:** Lunch & Learn seminar for LSU School of Architecture students
- **Scheduled September 13:** Gulf Partnership Conference
- **Scheduled first week of December:** 2022 Coastal & Estuarine Summit

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. All work related to the network analysis, plan evaluation, and subdivision code evaluation has been finalized and reports will be made available July 2022.

COLLABORATION AND WORK ON CAPACITY BUILDING AND KNOWLEDGE CREATION

This work has focused on the following items:

- Collaboration through Gulf Research Program grant
- Collaboration through NOAA RESTORE grant
- Collaboration through RESTORE Center of Excellence grant

- 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 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?

For the first time since submitting these quarterly reports, the region has faced no significant challenges as a result of disasters or the COVID19 pandemic.

HAVE THE GOALS AND OBJECTIVES CHANGED? HOW?

The goals and objectives have not changed.

CAPITAL REGION PLANNING COMMISSION

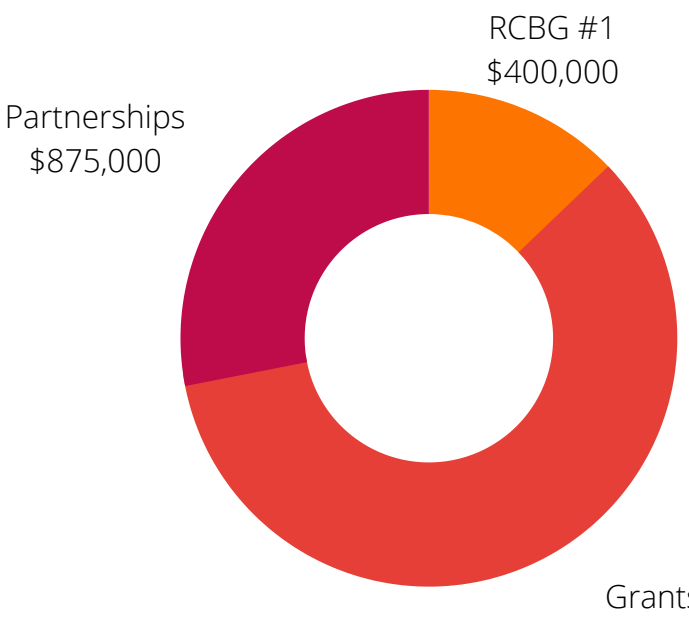
Achievements, LWI

Since May 2020

01

Funds Leveraged

$3,115,427 total, $1,000,000* pending. This is more than six times the original RCBG investment.

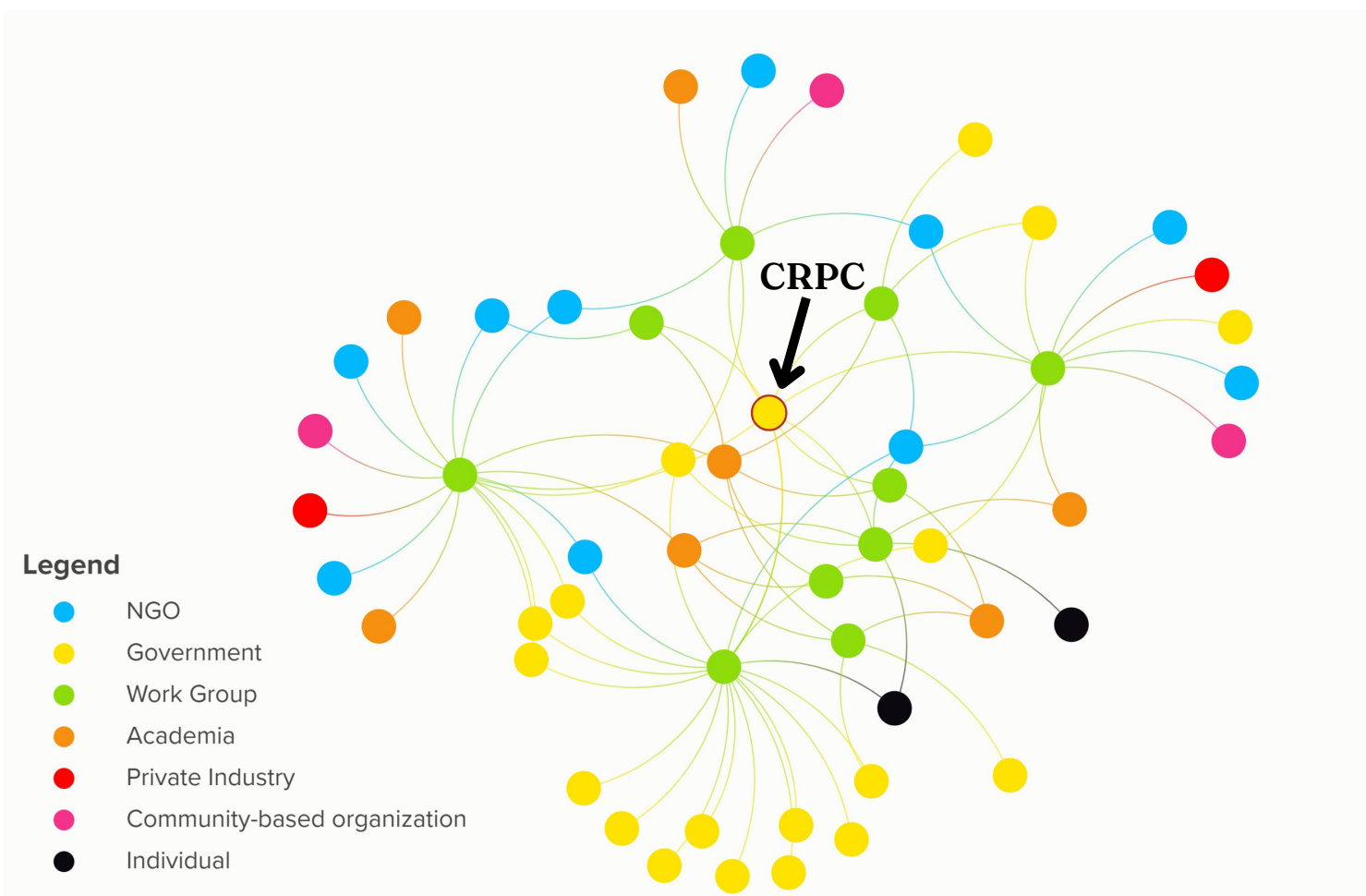


- NOAA RESTORE Planning
- RESTORE Center of Excellence
- National Academy of Sciences Gulf Research Program
- NOAA RESTORE Implementation*
- Georgetown Climate Center
- Environmental Finance Center Network
- EPA Office of Research and Development
- Lincoln Institute
- Louisiana State University
- Institute for Sustainable Communities

02

Strategic partnership network

Coordination and collaboration across a partnership network of 75 individuals and 50 institutions. Click image for a detailed look.



CAPITAL REGION PLANNING COMMISSION

ACHIEVEMENTS, LWI

Since May 2020

03

Awards received

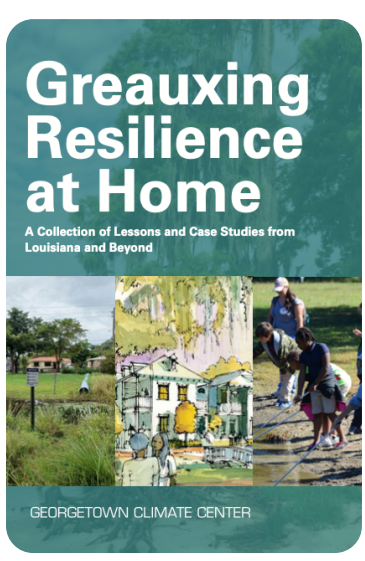
This work, and those doing it, have been recognized through national awards.

- Lincoln Case study award
- Rachelle Sanderson - A. Ivan Johnson American Water Resources Association Young Professionals Award
- US Water Prize Cross-Sector Partnership Award (applied)

04

Work completed so far

- Greauxing Resilience at Home: A Regional Vision
  - (June '22) This national resource provides planning and policy mechanisms for policymakers addressing resilient affordable housing.
- Plans, network, and codes analysis
  - (June '22) This regional review of plans and codes related to floodplain management provide a baseline to track progress against moving forward.
- Federal Funding Guide
  - (January '22) Developed through a partnership with the Environmental Finance Center Network this document outlines grants and loans to help communities fund local environmental and climate-related priorities.
- Governance recommendation
  - (June '21) This document outlines the activities and governance structure for a regional watershed management entity.
- Guiding Principles Framework
  - (August' 20) This framework outlines the vision, values, and goals for Region 7.



REGION 7 REGIONAL STEERING COMMITTEE MEETING ON MAY 10, 2022

Accompanying slides and a recording of this meeting can be found online at: https://crpcla.org/previous-events-archive.

Please note that any time that you see "RSC" in this document, it stands for Regional Steering Committee. Anytime that you see "LWI" in this document, it stands for Louisiana Watershed Initiative.

INTRODUCTIONS AND WELCOME

- Rachel Sanderson, Watershed Coordinator
- Bridget Bailey, Region 7 RSC

PRESENTATION ON SB 414

Valerie Black, Assistant General Counsel and Legal Policy Researcher, Water Institute of the Gulf
Presentation is appended, and available at vblack@thewaterinstitute.org.

DISCUSSION

Comments are not verbatim.

- Steve Kistler: In Article 6 of Louisiana Constitution, the section that defines a Political Subdivision appears to allow for taxing authority, bonded indebtedness, and property assessment. Needs clarification.
- Dietmar Rietschier: I prefer that we not create regional governments. Need clarification that we are not.
- Tom Stephens: Would a local jurisdiction need to get approval for a water project from the Coalition?
    - Valerie Black response: That is not in the bill.
- Tom Stephens: Apparently the most immediate challenge is how to spend the $1.2 Billion.
- Major Coleman: The program encourages reliance on scientific principles to evaluate projects for funding.
- Bridget Bailey: Will this bill streamline the 250 separate agencies with some responsibility for regulating surface water?

    - Valerie Black response: Legislation is silent… This would depend on future decisions made at local and regional levels.
- Bridget Bailey: This legislation may bring about conflict between local and regional standards. For instance, on freeboard.
- Steven Kistler: There are not a lot of "dos" and "don'ts" in this legislation. Council seems to have a lot of discretion. It leaves unchanged the process for awarding funds.
- Dietmar Rietschier: Criteria for project evaluation and awarding funds are overcomplicated. Smaller communities will not do as well as larger ones. The program needs to fund projects from both larger and smaller communities.
- Major Coleman: We need to talk to one another, and learn to collaborate.
- Major Coleman: One benefit of a Regional organization is to prevent negative impact on neighbors.
- Ruth Phillips: We need to talk to our legislators. Each of us should read the actual bill; it does not match the 1-pager… they do not have the same information.
- Ruth Phillips: Also, this does not appear to be accountable to the Public. Second, it does not have a budget.
- Steve Kistler: There is no guarantee of local participation at the Coalition level, or at the Council level. There are new additions to the Council but they all have statewide responsibilities and constituencies. It is paramount that each Region have a seat on the Council.
- Kim Coates: I don't feel warm and fuzzy that I have representation.
- Kim Coates: How would taxation work?
    - Valerie Black response: Depends on the Region, and what the Coalition asks of the legislature.
- Kim Coates: We already have a drainage district with its own taxing authority.
- Tom Stephens: Perhaps the program should split the funding 8 ways and give 1/8 to each Region. That would still be a lot to do.
- Steve Kistler: Is there a sunset on this legislation?
- Steve Kistler: Have drainage districts used their power of assessment?
- Dietmar Rietschier: If our objective is to bring down the barriers to Regional management, is the ARBC a barrier?
    - Valerie Black response: No
    - Dietmar (continued): This needs clarification.
- Major Coleman: Can we not go to the Capitol and testify before the committee?
- Valerie Black: It seems like Region 7 would prefer more detail and specifics in the legislation.
- Ross Liner: We need a plan for "equity." Perhaps two pots of money; one for the smaller communities and one for the larger communities.
- Steve Kistler: Currently, the Council determines how the funds are distributed to us. Will it be the same going forward?
- Gary Mego. Didn't we agree to allow the State to decide?
    - RSC: Yes.
- Ross Liner: When the Regional Plan is completed, will any money remain?
    - David Cody response: The timeline for the completed Regional Plans is still being set, and depends in part on the availability of the hydrological models, which should be completed by the end of 2023.

But the plans should be completed before the Round 3 awards. $375.6 million remains in the budget for Local and Regional Projects and Programs (i.e. for Rounds 2 and 3).

- Major Coleman: Can we meet with Senator Mills?
    - Rachelle Sanderson: That would be organized through OCD.
- Public comment: LWI is not a new program – it has already been in place for 3 years. The legislation makes it permanent under state law.
- Public comment: What is the source of the funds for technical assistance?
    - David Cody response: Final decisions are not made yet, but it is the intention of the program to include local technical assistance in Phase 2 of the Regional Capacity Building Grant, which starts next year. The Design Support Pilot program will also help some localities and parishes with their applications for funding.

Capital Region Planning Commission

Ascension • East Baton Rouge • East Feliciana • Iberville • Livingston • Pointe Coupee • St. Helena
Tangipahoa • Washington • West Baton Rouge • West Feliciana

Regional Steering Committee

May 10, 2022 1 – 2:30 PM

	NAME	AFFILIATION	EMAIL ADDRESS
1	Bridgett Bailey	Tangipahoa Parish Gov't	bbailey@tangipahoa.org
2	THOMAS STEPHENS.	EBR PRINCIPAL.	
3	Steve Kistler	Livingston Parish	skistler@lpgov.com
4	Dietmar Rietschier	Amite River Basin Co—	drietschier@Amiteba sin.org
5	Ivy Mathieu	St John Coastal Committee	Ivy_Mathieu@yahoo.ca
6	Tara Lambeth	St. John Parish	t.lambeth@stjohn-la.gov
7	DAVID CODY	HENRY CONSULTING	dmcody@yahoo.com
8	Kim Coates	Tangi Parish	district10@tangipahoa.org
9	Brigette Hyde	TAngi Parish Council	district9@tangipahoa.org
10	Jamie Setze	CRPC	jsetze@crpcla.org
	NAME	**MUNICIPALITY**	**EMAIL ADDRESS**

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Capital Region Planning Commission

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11	RONALD CARTER	PC LPBF	RONNY@SCIENCEFOROURCOAST.ORG.
12	Ross Liner	STP	rliner@stpgov.org
13	Karen Zito	HBA GreaterBR	karene hbAgbr.org
14	Major Coleman	St. Helena Parish	Majorcoleman04@yahoo.com
15	Kim Marousek	CRPC	Kmarousek@crpcla.org
16	JACK HARRIS		jaxmail@mac.com
17	Ruth Phillips	APG	ruth.phillips@apgov.us
18	Gary Mego	West Feliciana	gmego@wfparish.org
19	Genea Lathers	OCD	genea.lathers2@la.gov
20	KILEY BATES	C.G.D.D.I	kiley@tangipahoadrainage.org
21			
22			
23			
24			

	NAME	SIGNATURE	ADDRESS	MUNICIPALITY	PHONE NUMBER	EMAIL ADDRESS

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NOAA RESTORE Science Program Grant Workshop #2

April 5, 2022

The team

NATURAL RESOURCE MANAGERS

LOUISIANA WATERSHED INITIATIVE

DEQ LOUISIANA

LOUISIANA Office of COMMUNITY DEVELOPMENT

GRANTOR/ COLLABORATOR

NOAA — National Oceanic and Atmospheric Administration — U.S. Department of Commerce

TEAM LEAD

GCRPC

PROJECT TEAM

LSU

LSU AgCenter — Research · Extension · Teaching

Pontchartrain Conservancy

Expectations for today

- **Get settled with a quick introduction and recap**
- **Introduce new material**
- **Introduce concepts and examples for breakout groups**
- **Breakout groups to discuss examples**

Background

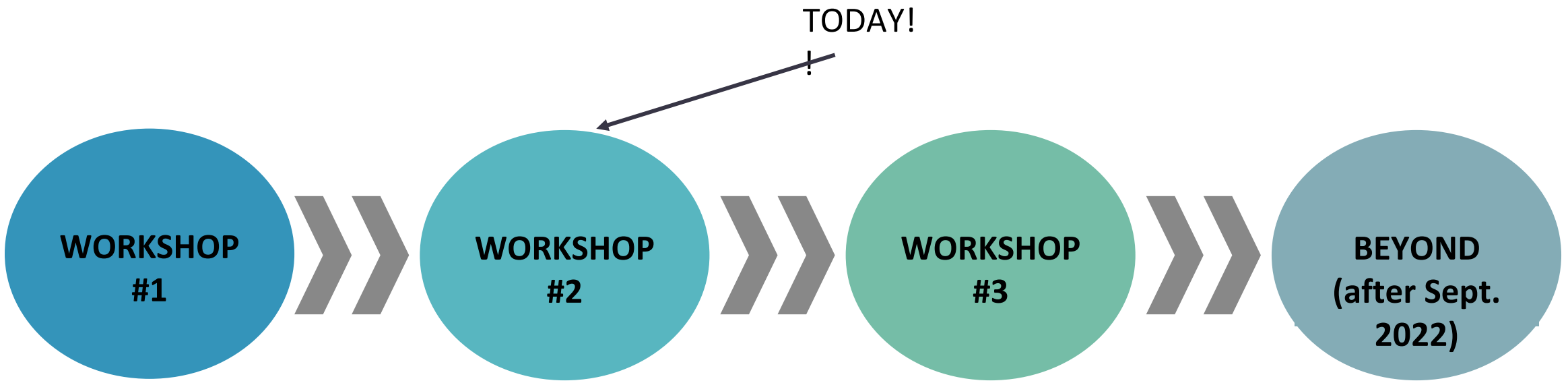
- **Project title: Incorporating co-benefits and costs to coastal hazard mitigation decision making**

- **Purpose:** Research and develop cost-benefit framework for watershed management that will inform and reduce uncertainties during multi-criteria LWI project selection

- **Deliverable:** Plan to the benefit of LWI 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.

Workshop roadmap



Discuss potential approaches

Focus in on draft framework

Discuss components of the final plan

Utilize final planning document for additional funding to develop the approach

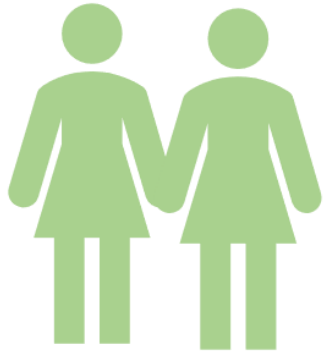
Why equity matters, ability to recover

FAMILY A

- Elderly couple
- Fixed income
- Differently abled
- No flood insurance

1-year post event

- Living in partially rebuilt house
- Took on additional debt
- Structure does not meet accessibility needs



FAMILY B

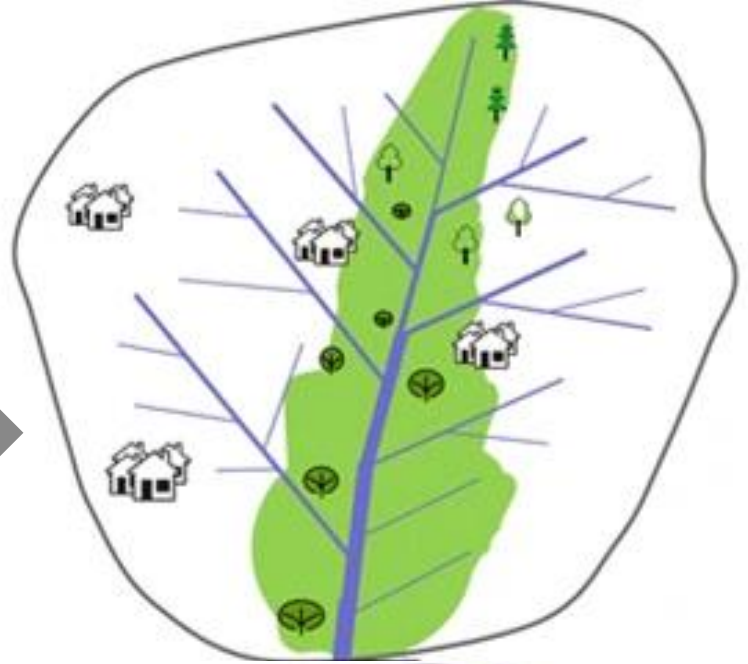
- Dual income, no kids
- Flood insurance
- Job provided leave for recovery

- Home rebuilt within six months
- Navigated admin/legal systems to receive full benefits

Why natural function matters

Channel Alteration and reduced floodplain area leads to…

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



Sustainable development and floodplain preservation leads to…

- decrease outflow velocity of water, decreasing likelihood of flooding
- increase water retention capacity
- reduce surface erosion
- reduce transfer of nutrients and pollutants downstream
- optimize potential for self-cleaning of the river

Image and text reference - Kiedrzynska et al., 2015

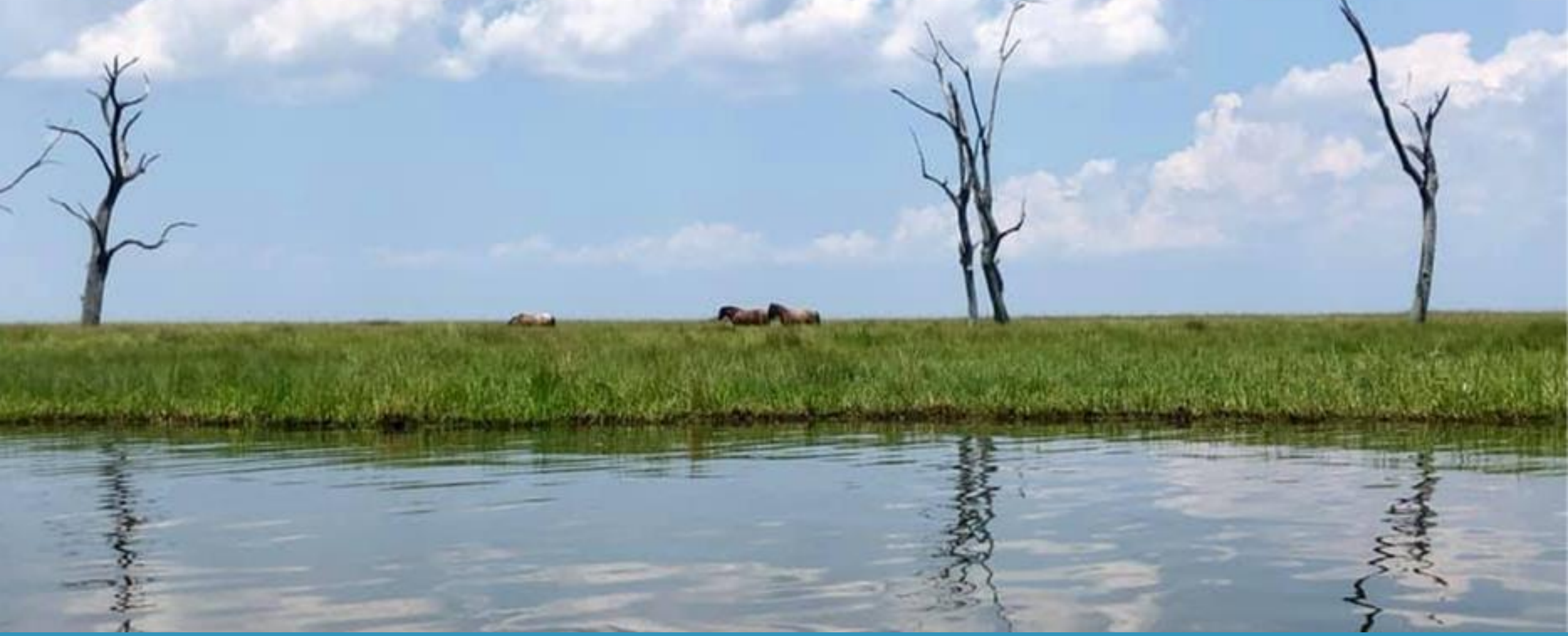
Recap from the previous meeting

What we did and learned:

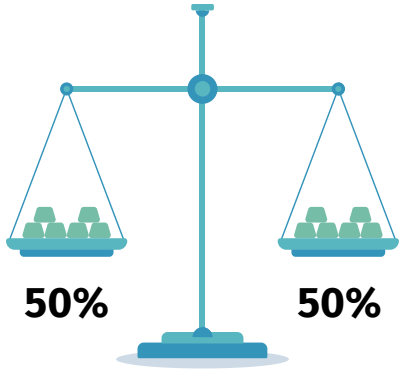
- Reviewed two approaches for a BCA framework
- An adaptive approach, with support, scaled between low to high capacity communities is key
- Prioritization of data that shows equity gaps along the spectrum of consequences was reiterated
- Prioritization of data that shows ecological benefits along the spectrum of consequences was reiterated

Points of feedback we're addressing (hopefully):

- More visuals and explanatory material during the meeting rather than in a send ahead
- Fewer, more concise questions in the breakout groups



INTRODUCE FRAMEWORK

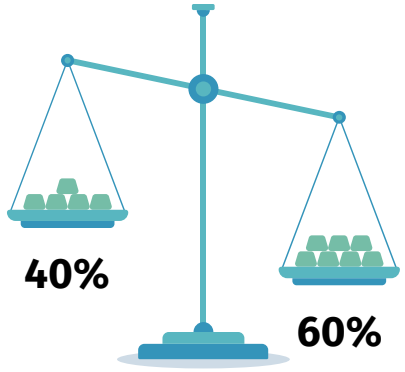


Balanced Mitigation in Coastal Watersheds

-Accounts for Downstream Consequences (+ -) of Projects

-Fairly values environmental harms and benefits

-Balances the greater vulnerability of certain communities

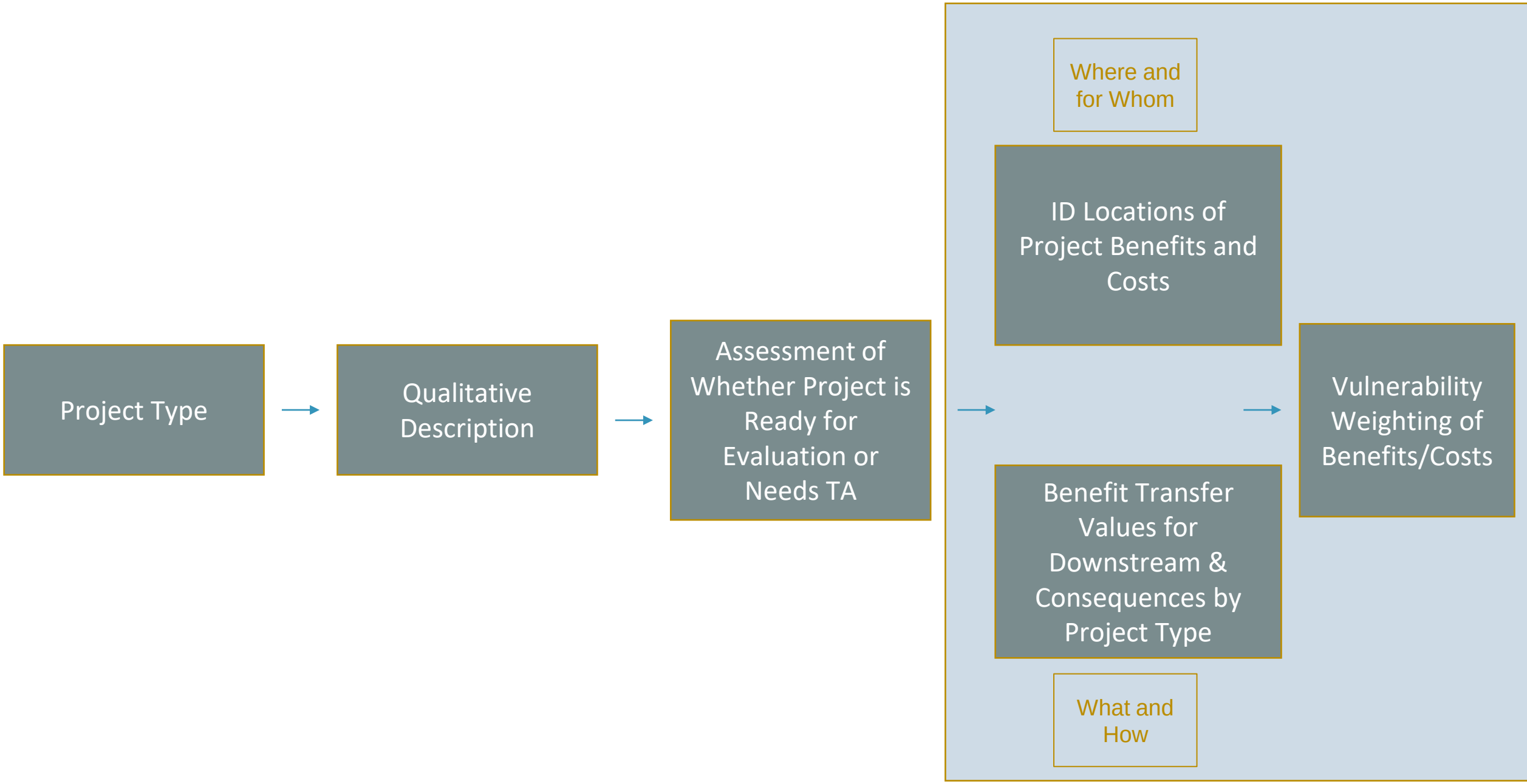


Current BCA Tools

-Do not include downstream impacts (externalities)

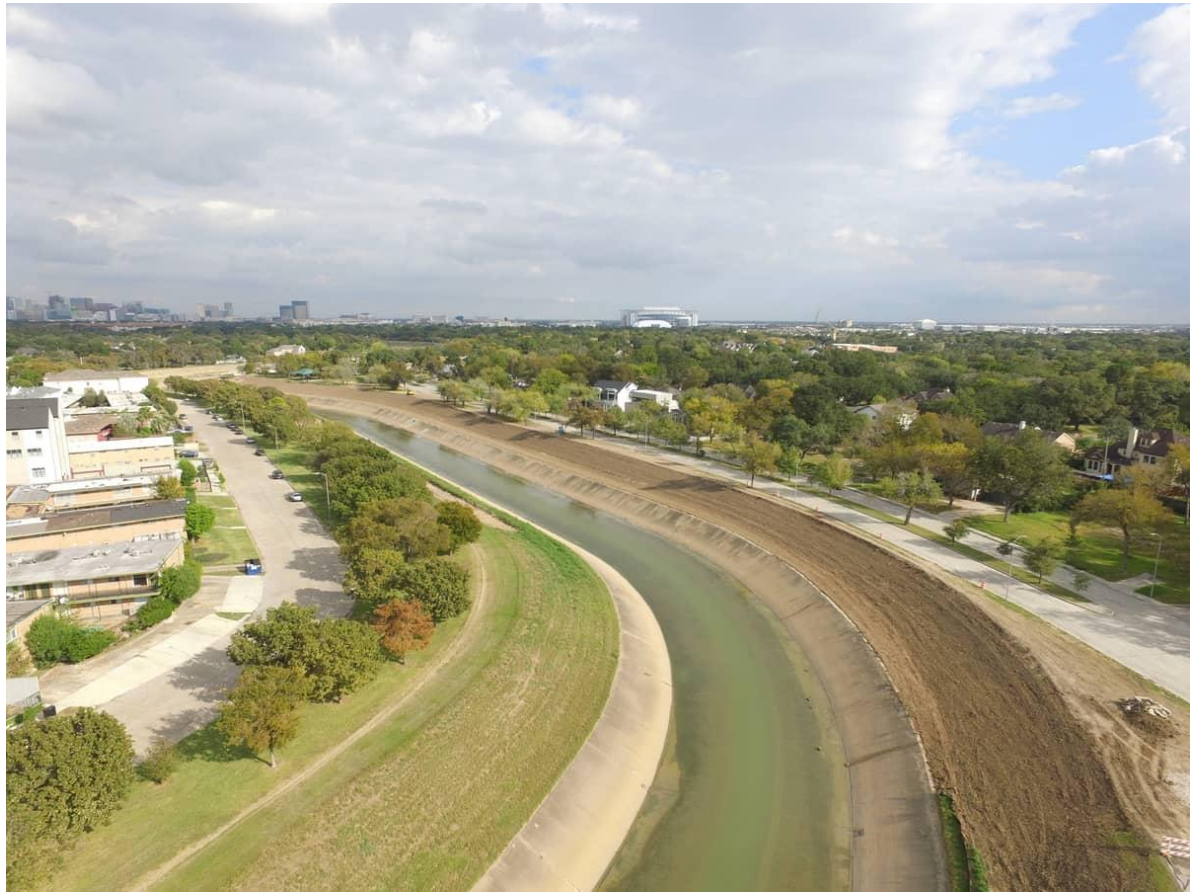
-Has limited ecosystem service benefits and does not monetize harms to the environment

-Does not include ways to balance vulnerability and may be biased to areas with more valuable and larger properties


Project Type
Qualitative Description
Assessment of Whether Project is Ready for Evaluation or Needs TA
Where and for Whom
ID Locations of Project Benefits and Costs
Benefit Transfer Values for Downstream & Consequences by Project Type
What and How
Vulnerability Weighting of Benefits/Costs


WESLEY TOWN
INEVAFLOOD RIVER
ISLA "EYE-LAH" TOWN

Channel Alteration vs. NBS in Wesley Town

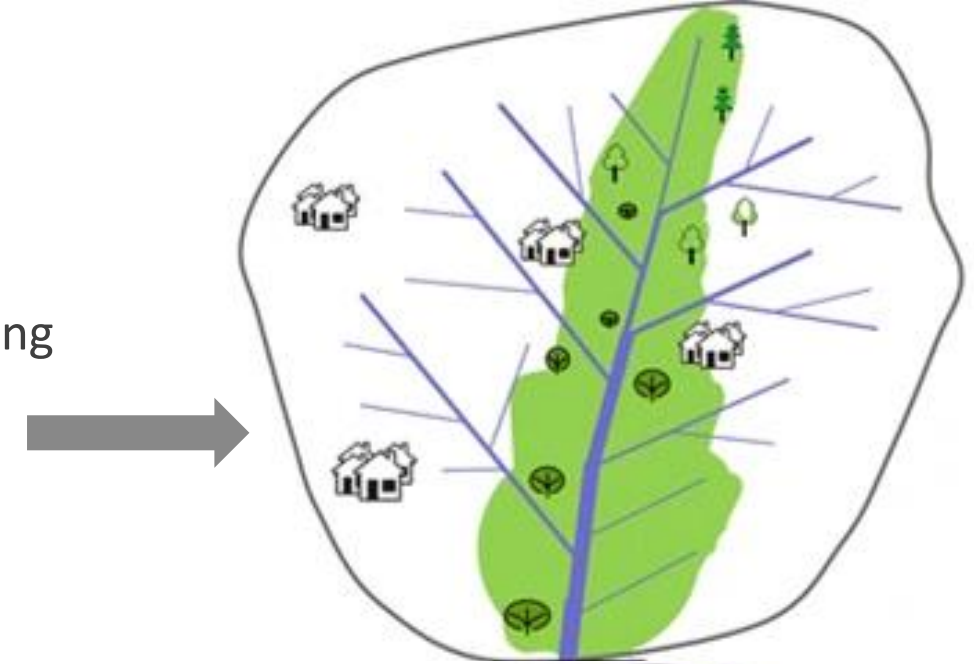


FEMA: "…can accelerate the quantity and/or velocity of flow through an area, they may increase the flood impacts on downstream reaches."

Why natural function matters

Channel Alteration and reduced floodplain area leads to…

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



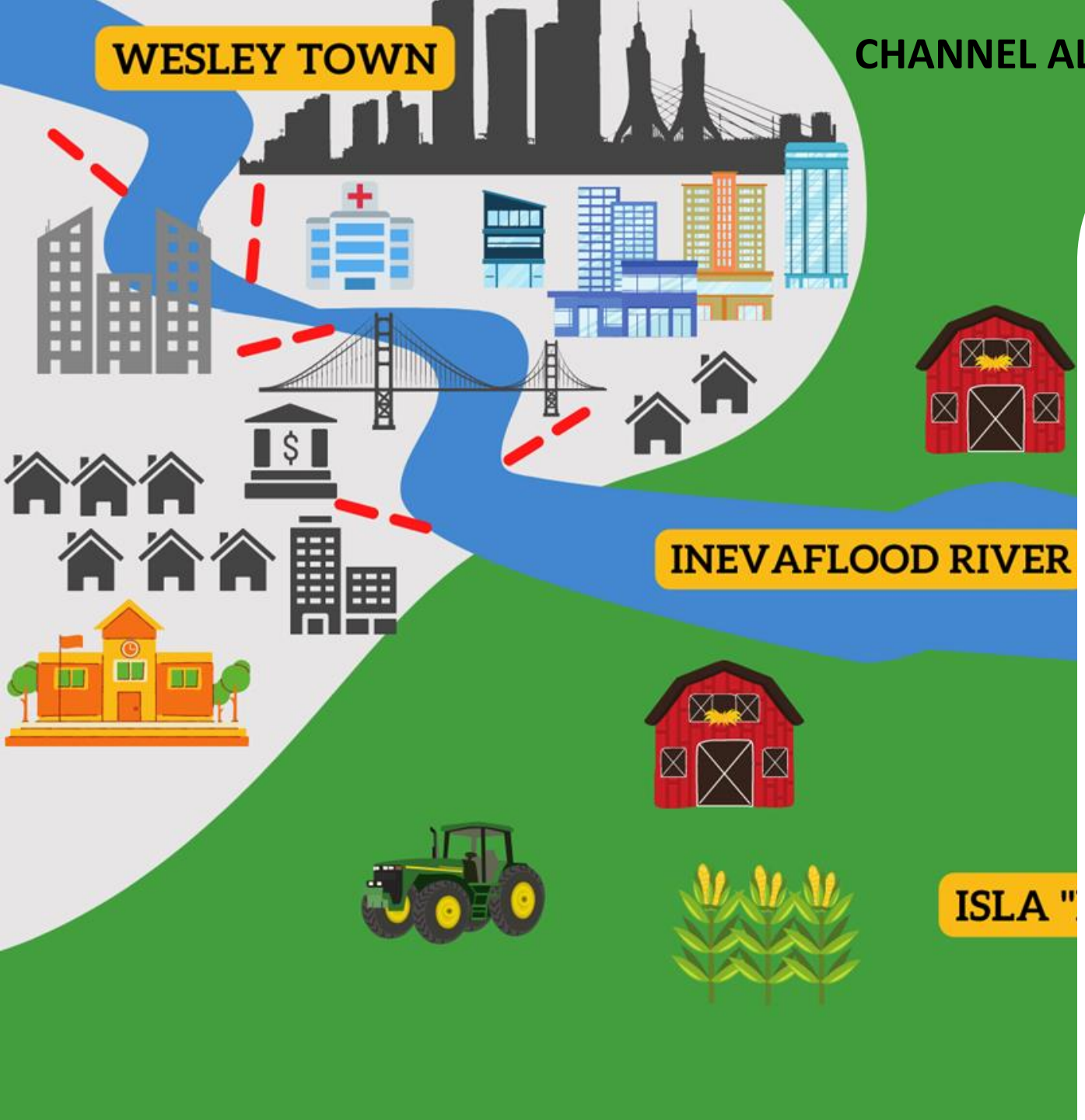
Sustainable development and floodplain preservation leads to…

- decrease outflow velocity of water, decrease likelihood of flooding
- increasing water retention capacity
- reduce surface erosion
- reduce transfer of nutrients and pollutants downstream
- optimize potential for self-cleaning of the river
- can compliment recreational opportunities

Image and text reference - Kiedrzynska et al., 2015

Trade-offs of Nature Based Solutions (NBS)

- Ecosystem services
  - Not incorporated into traditional benefit cost methods.
  - Not included in FEMA BCA until 2015.
- Still lacking integration
  - “[...tools that are capable of assessing the multiple benefits, particularly the performance and cost-effectiveness of NBS for hazard reduction and management are not readily available.” (Kumar et al, 2021)
- Localized property protection benefits from NBS
  - may be harder to estimate or lower than grey-infrastructure, even if overall net benefit is higher (Daigneault et al, 2016)
- Higher up-front cost than traditional grey-infrastructure methods



CHANNEL ALTERATION

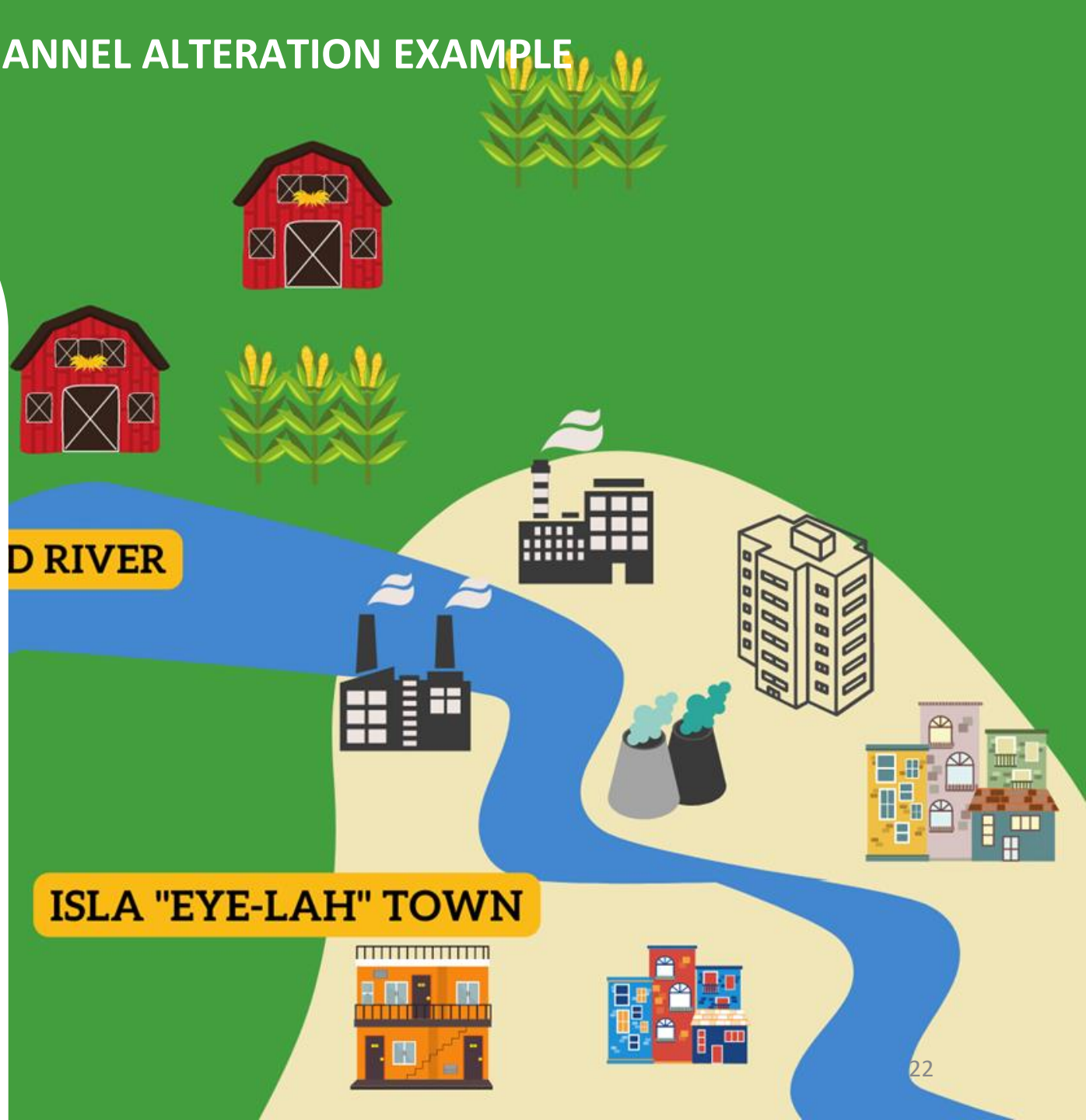
- Scope
  - Dredging approximately 0.5 mile of channel
  - Clearing and snagging approximately 3 miles
  - Channel Enlargement over 2 miles
  - Channel Lining on 0.5 miles
  - Rip rap (reinforced embankments) on 1.5 miles

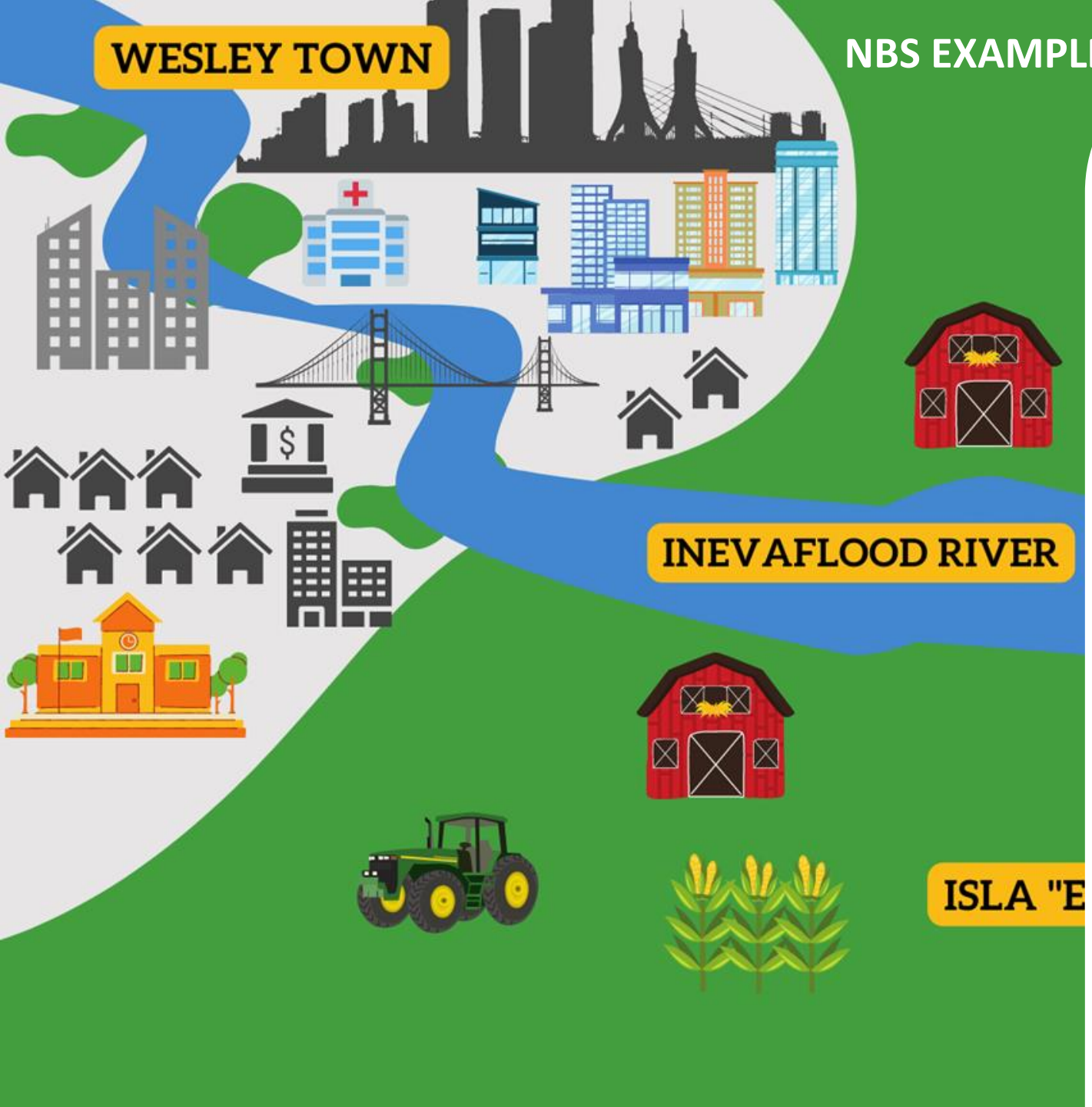
Status Quo Benefit-Cost Ratio: 3:1

CHANNEL ALTERATION EXAMPLE

- Significantly reduce flooding for two adjacent subdivisions and a commercial area in Wesleytown
- Model does not provide data on effects to Islatown, but project would increase peak flow downstream
- Negative effects on habitat and water quality in both Wesley Town and Isla Town

Modified Channelization Benefit-Cost Ratio: <3:1

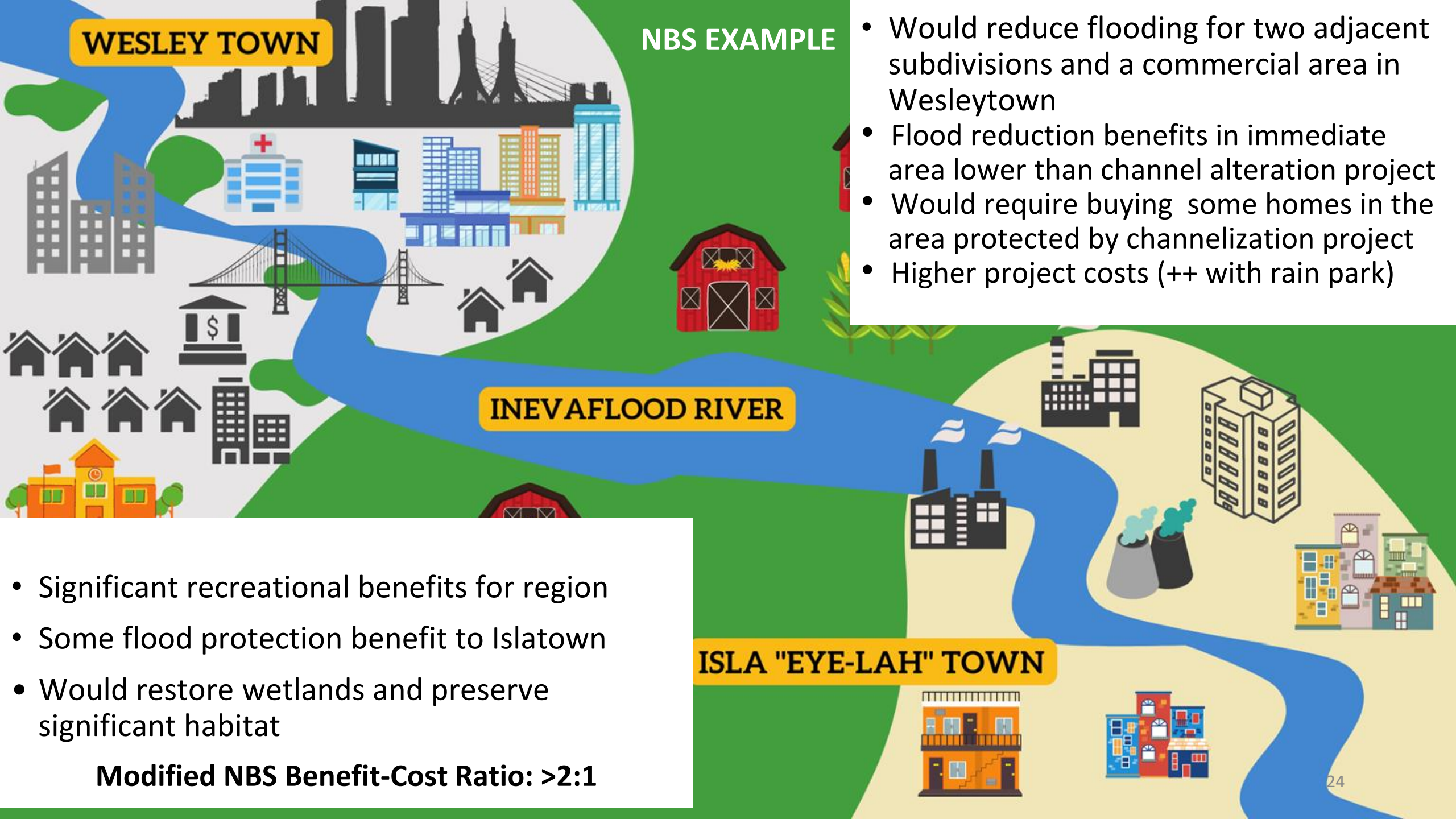




NBS EXAMPLE

- Acquisition of properties in flood-plain
  - Demolition of some structures (up to 20)
- Channel and natural floodplain restoration
  - Inclusion of paths and interpretive areas
- Potential construction of rain garden: Additional rain garden (cost ~$12,000,000) with a slow draining lake and constructed wetlands

Traditional NBS BCR: 2:1

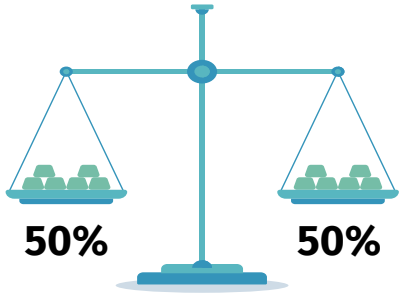


- Would reduce flooding for two adjacent subdivisions and a commercial area in Wesleytown
- Flood reduction benefits in immediate area lower than channel alteration project
- Would require buying some homes in the area protected by channelization project
- Higher project costs (++ with rain park)

- Significant recreational benefits for region
- Some flood protection benefit to Islatown
- Would restore wetlands and preserve significant habitat

Modified NBS Benefit-Cost Ratio: >2:1

How to reduce uncertainties about project selection incorporating a more accurate BCR?

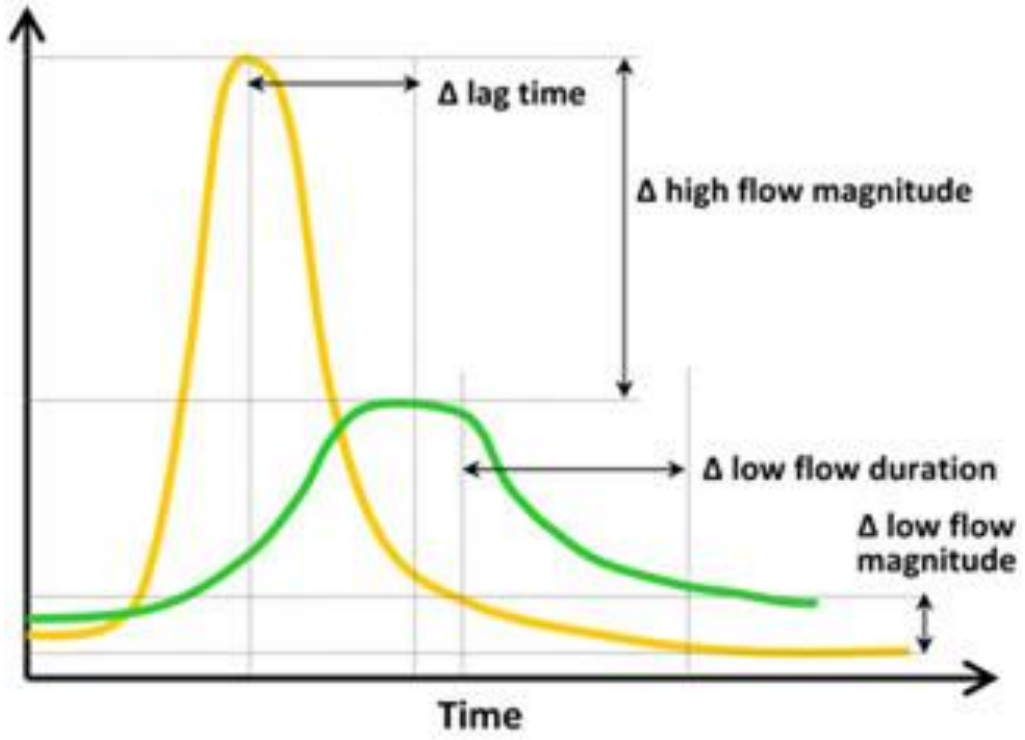


Balanced Mitigation in Coastal Watersheds

-Accounts for Downstream Consequences (+ -) of Projects

-Fairly values environmental harms and benefits

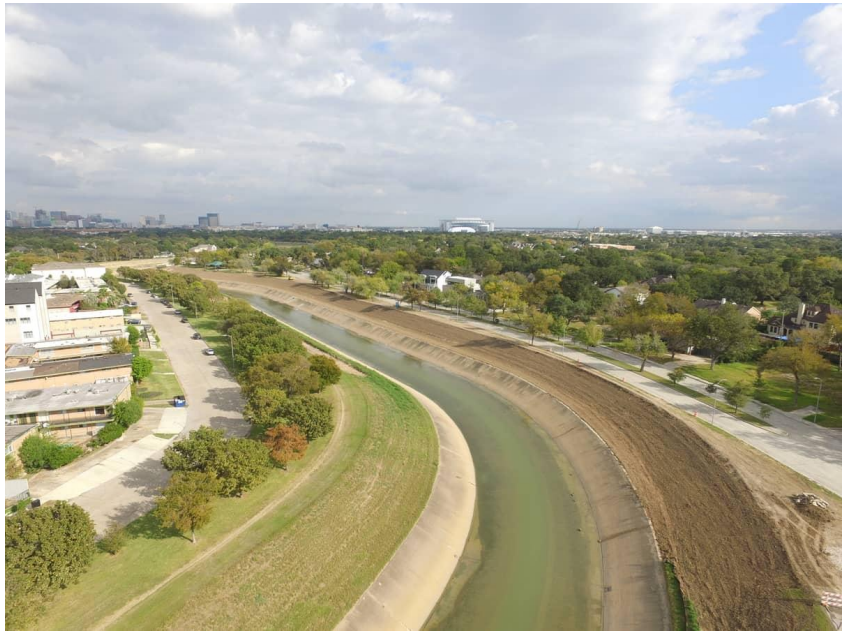
Accounts for Downstream Consequences of Projects



Pre-Project	● Average Discharge 100 cubic foot/second (cfs) ● Peak Discharge 1500 cfs
Channelization Alteration	● Average Discharge 110 cfs ● Peak Discharge 1750 cfs
Nature Based Approach	● Average Discharge 99 cfs ● Peak Discharge 1400 cfs ● Optional: Rain garden could hold 10 million gallons of runoff

Monetize Downstream Impacts: Assign Dollar Values for Changes in Average and Peak Discharge from Pre-Project, e.g. hypothetical value of $50 per cfs

Fairly value environmental harms and benefits



Brays Bayou Federal Flood Control Project Channel Modifications Discrete Segment 109 - $12,340,249

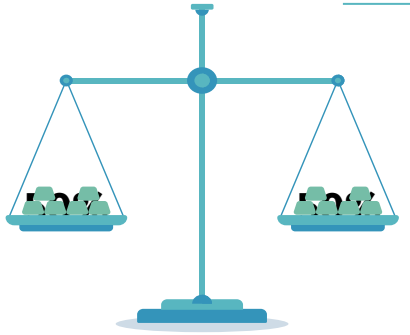
Channelization Alteration	• Net Reduction to Wetlands 15 acres • Net Reduction to Riparian Areas 200 acres
Nature Based Approach	• 15 acres in created wetlands for rain garden (optional $$) • 10 acres in lowland forest areas from homes in flood plain • 80 restored riparian acres • 2 miles of new trails

- FEMA Values of Ecosystem Services:
  - Open green space: $8,308 acre/year
  - Riparian areas: $39,545 acre/year
  - Impact to wetlands: $6,010 acre/year

In summary, include more effects

Channel Alteration	**Nature Based Solution**
Benefits ● Decreased flood risk in Wesley Town (+++) ● Lower Upfront Project Cost **Costs** ● Cost of Project ● **Decrease in water quality in Wesley Town (-) and Isla Town (-)** ● **Increased flood risk in Isla Town (-)**	**Benefits** ● Decreased flood risk in Wesley Town (++) ● **Decreased flood risk in Isla Town (+)** ● **Recreational Benefits (+)** ● **Water Quality and Ecosystem Benefits (++)** **Costs** ● Higher Project Cost

How to reduce uncertainties about project selection incorporating a more accurate BCR?



Balanced Mitigation in Coastal Watersheds

-Accounts for Downstream Consequences (+ -) of Projects

-Fairly values environmental harms and benefits

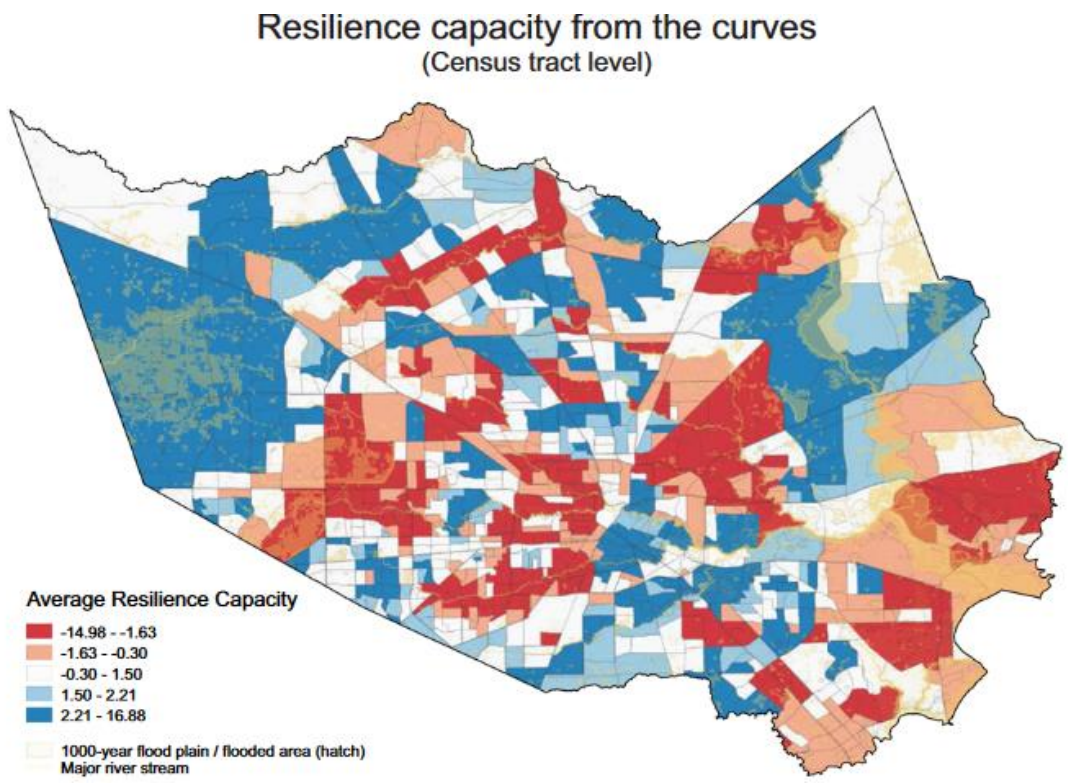
-Balances the greater vulnerability of certain communities


WESLEY TOWN
INEVAFLOOD RIVER
ISLA "EYE-LAH" TOWN

WESLEY TOWN

WESLEY TOWN		ISLA TOWN
Economic center for the region	vs	Manufacturing + industry center for the region
Median household income: $80,000	$$$ vs $	Median household income: $40,000
Majority white	vs	Majority black
Majority homeowners	vs	Majority renters
Population: 40,000	vs	Population: 20,000

Recovery and Vulnerability Varies by Socio-economics - Resilience Capacity

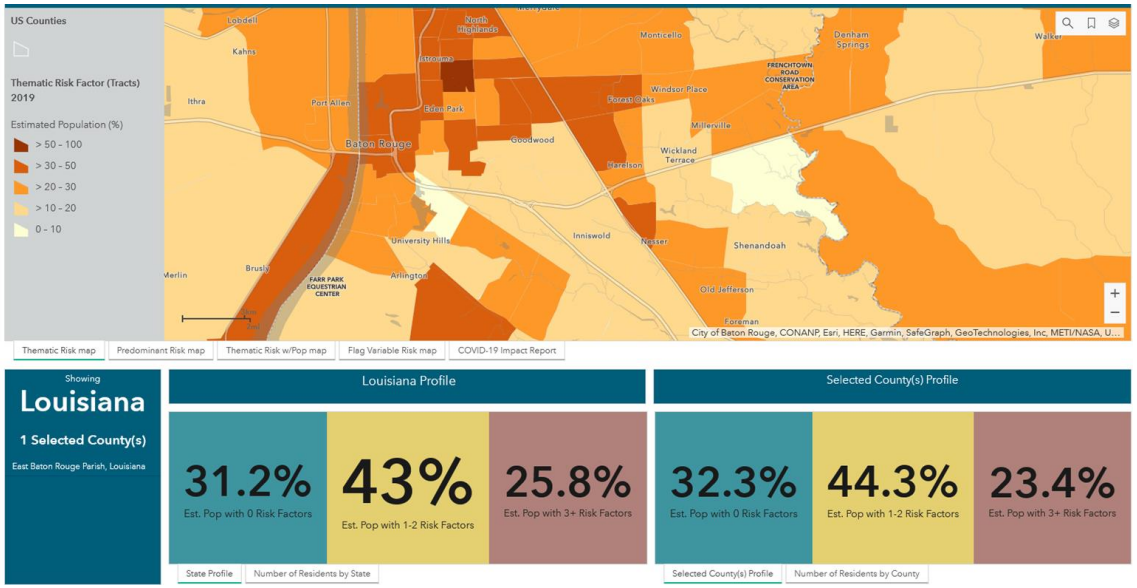


- $10,000 in flood damage to LMI household is more catastrophic than $10,000 in flood damage to a middle class family
  - Education
  - Employment
  - Housing tenure
  - Health
- Current BCA only includes social impacts in buy-out and elevation projects
- Current BCA values protection of larger structures at higher rates

https://www.nature.com/articles/s41467-021-22160-w.pdf

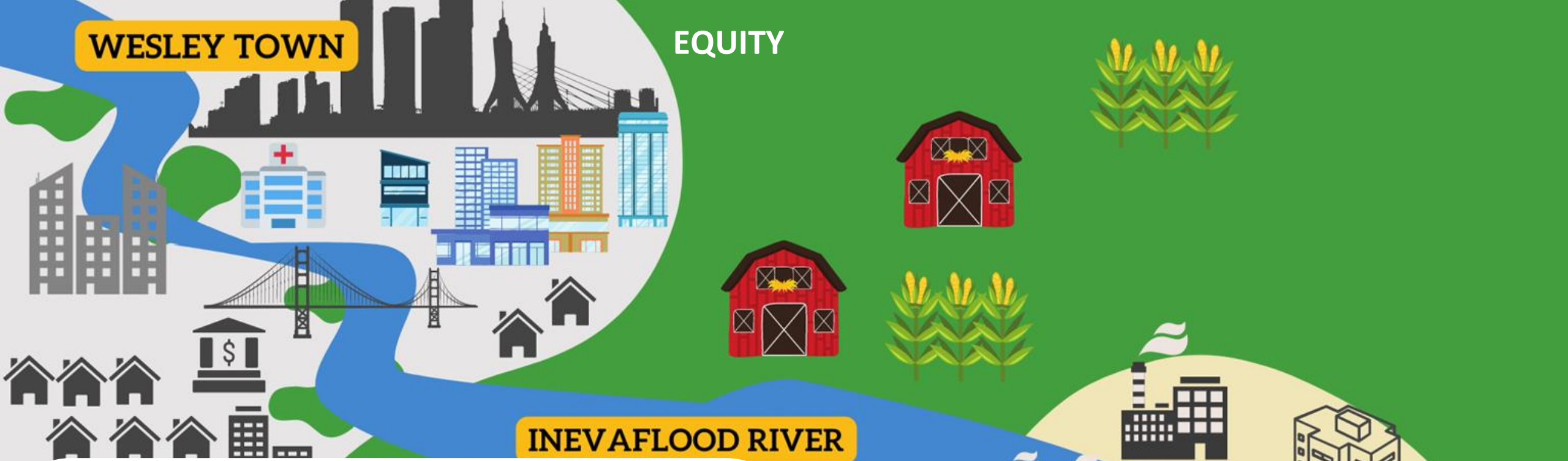
Balances the greater vulnerability of certain communities

Census Bureau's Community Resilience Estimates



- Many different small scale area indicators
  - E.g., ACS (CENSUS) median income estimates, FEMA resilience estimates, LMI areas
  - Can be used as vulnerability weighting scores
- What is the correct multiplier?
  - Wesley Town is 0.75 risk indicators score, or $80,000 median household income
  - Isla Town is 1.5 of the median area risk indicators from CRE and $40,000 median household income

https://www.nature.com/articles/s41467-021-22160-w.pdf



- **Status Quo Channel Alteration BCR: 3:1**
- **Modified Channel Alteration BCR: <3:1**
- **Equity Modified Channel Alteration BCR: <<<3:1**
- **Modified NBS BCR: >2:1**
- **Equity Modified NBS BCR: >>>2:1**

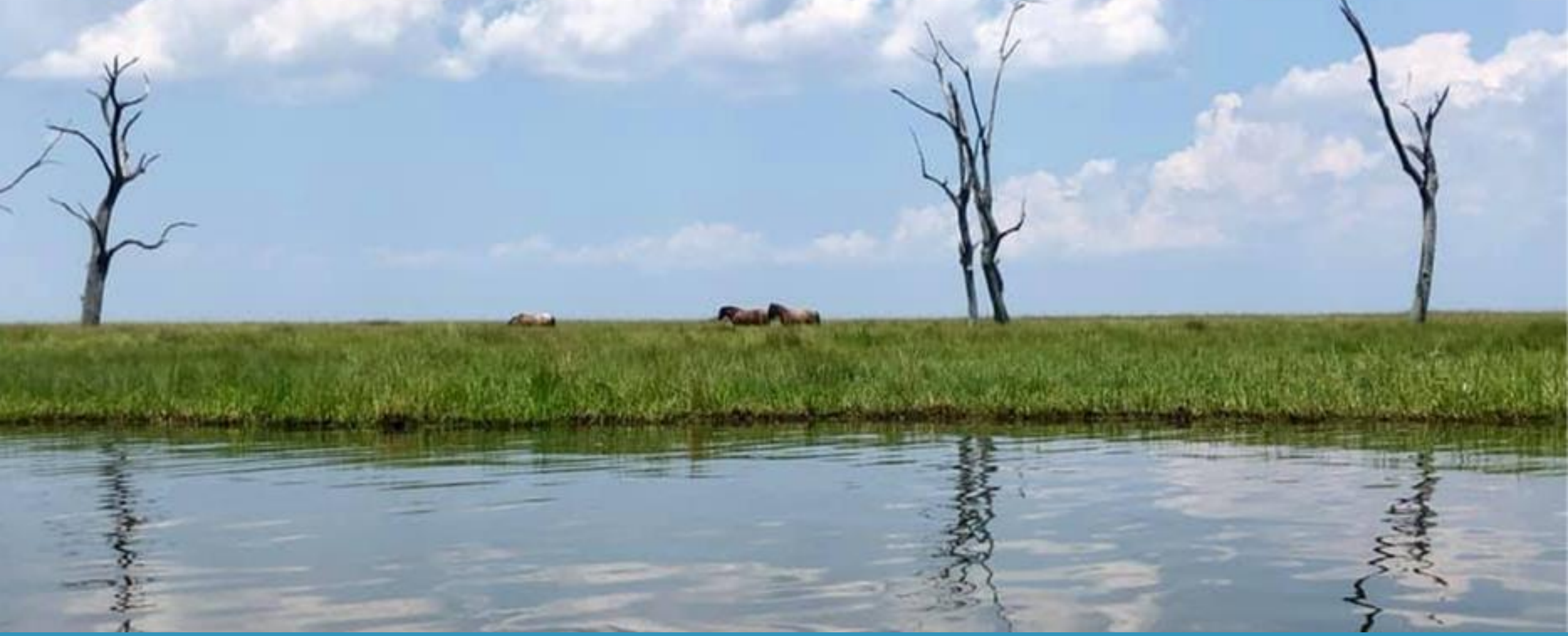
Benefit Transfer Table- Consequences by Example

		Positive Externality					
	Project Type	Increases flood/stormwater detention capacity	Increases stormwater infiltration	Decreases nutrient export	Recreational Opportunities	Creates/ Protects Habitat	Impacts Wetland
1	Floodplain Acquisition		X		X	X	X
2	Channelization	X					

		Negative Externality					
	Project Type	Increased flood Risk; Velocity/Volume	Increases sedimentation	Increases nutrient export	Impacts Aquatic Habitats	Impacts Wetlands	Impacts recreation
1	Floodplain Acquisition						
2	Channelization	X	X	X		X	

Breakout group - instructions

- Our facilitators are already at their respective tables
- We'll be using the two project scenarios that we just presented as vehicles to talk about a few key examples and how we might apply those in the real world.
- We'll go through two examples, we'll spend 10 minutes explaining the example and 25 minutes in group discussions
- 2 post its on your table with questions
- Use your sticky notes



BREAKOUT GROUPS

Breakout group - questions

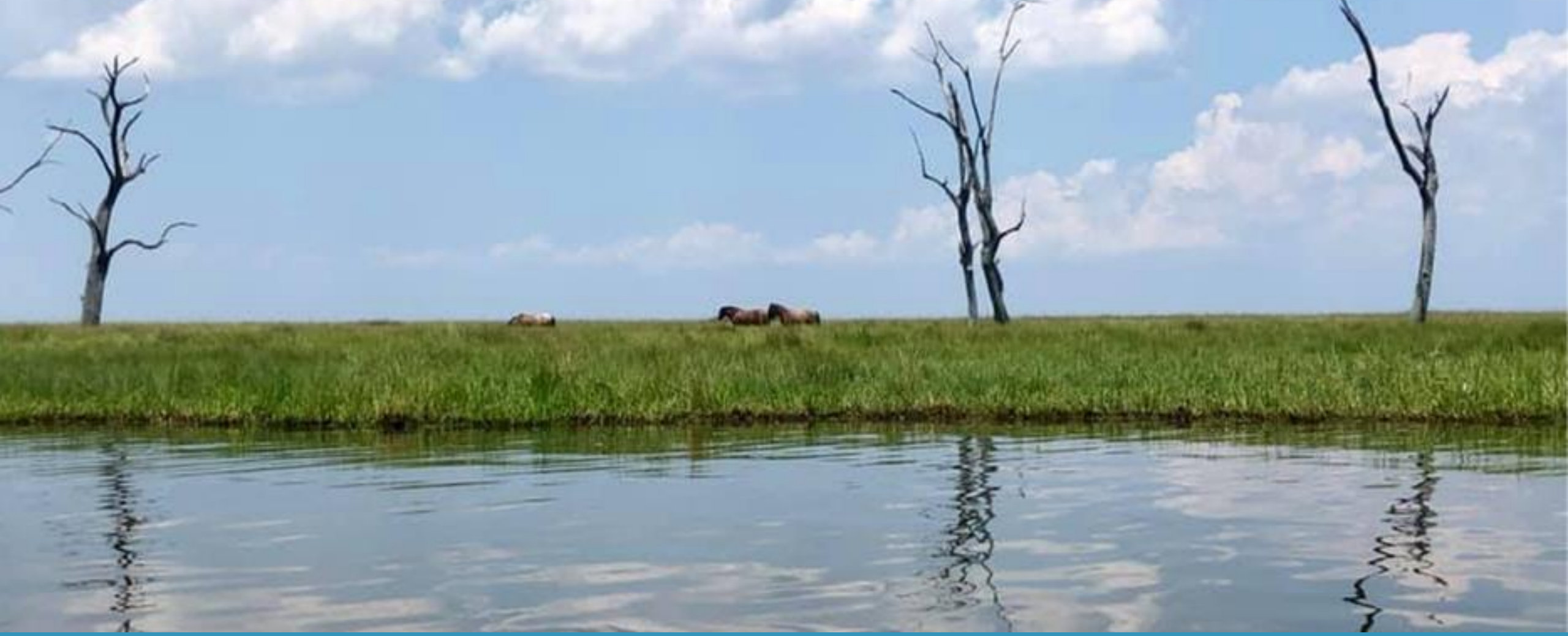
What issues do you see in applying this in the real world?

-Accounting for Downstream Flood Risks

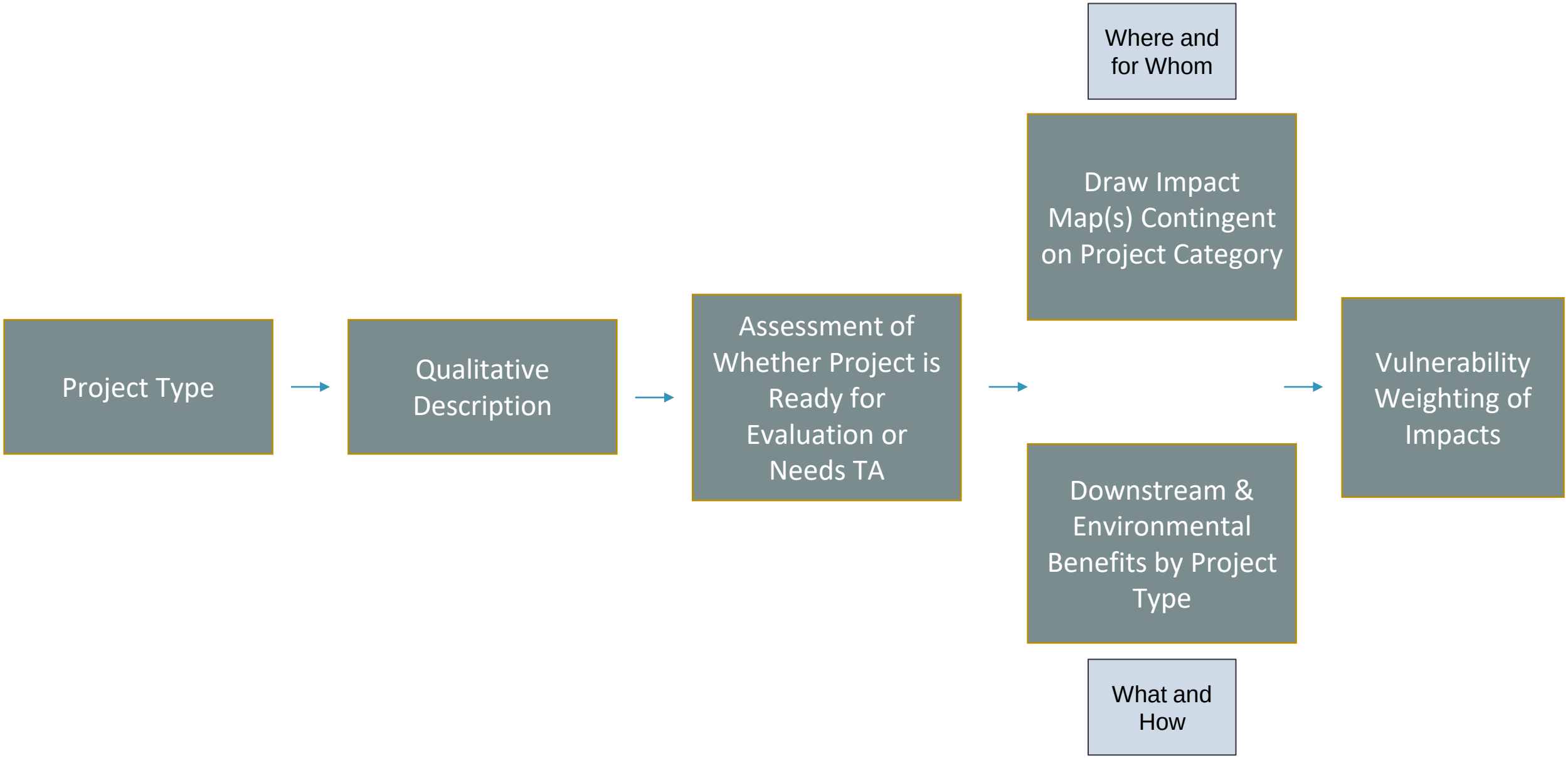
-Accounting for environmental harms and benefits

-Incorporating Vulnerability

What can be improved and how? Through use of qualitative/quantitative data?



GROUP REPORT OUT


Project Type
Qualitative Description
Assessment of Whether Project is Ready for Evaluation or Needs TA
Where and for Whom
Draw Impact Map(s) Contingent on Project Category
Downstream & Environmental Benefits by Project Type
What and How
Vulnerability Weighting of Impacts

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

Funding acknowledgment and thanks: This work is a result of research funded by the National Oceanic and Atmospheric Administration's RESTORE Science Program under award NA31NOS4510188 to Capital Region Planning Commission and their partners LSU AgCenter, LSU, and Pontchartrain Conservancy.

NOAA RESTORE WORKSHOP #2

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

POST-WORKSHOP SUMMARY

On April 5, 2022 a group of approximately 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 risk[1].

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 spillovers[2] 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 costs[3] 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 our decision-making process, we can better understand how current investments may be impacted by projects that

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[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.

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 from the previous workshop
- A draft framework and draft scenarios for applying nature-based solutions and issues of equity

The PowerPoint presentation is attached for your reference.

The table below outlines the key takeaways from this workshop.

Key Takeaways from Workshop #2			
	Channelization Scenario	**NBS Scenario**	**Both**
What issues do you in applying this in the real world?	• Doesn't quantify negative impacts • Changes in water quality, velocity, volume, and rate of erosion • Addressing and affording maintenance plans • Difficult to transition from traditional methods • Equating monetary value to non-market values • Narrow goal of reducing flood levels	• More cohesive understanding and methods of addressing metrics related to equity • Demonstrating and justifying projects • Project completion without expertise • Applicable + available land for projects • Accommodating project for future needs • Cost-share issues • Transparency • Barriers that lengthen timeline • Reversing negative impacts already done	• Defining benefit areas • Limited funding, TA, expertise • Lack of education and understanding of benefits, solutions, incentives
What can be improved and how? Through the use of qualitative/ quantitative data?	• Improve safety • Develop state program • Expand impact model to capture consequences	• Consider requiring green certification • Process for weighting costs and benefits to a community based on income • Include economic benefits by a factor in LMI communities	• Outreach and education • Consider economic impacts/ feasibility, especially businesses and preservation of historic sites • More guidance

		• Increase weighting for projects that benefit communities beyond the applicant's jurisdiction • Consider cultural impacts and range of benefits such as recreation or aesthetics • Consistent methods of evaluation and application • Capture changes in carbon emissions, water quality, ecosystems, and property value impacts	• Address and provide context and narrative components • Clarify the LWI goals that are in alignment with outcomes of BCA • Approach issues from a planning and zoning perspective with constructability and LMI data in mind • Utilizing project design and implementation as opportunities to not only address flood risk, but also existing socioeconomic challenges within low-income, BIPOC communities, and other communities experiencing disproportionate impacts

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 examples of algorithms/ quantification	● (Priority) Develop and demonstrate scenarios of how over the shelf values will be applied in the project application process and illustrate its derivation ● Present an example during workshop #3 and/ or run through an activity in a breakout group.

NEXT STEPS

Our next workshop is still being planned but we anticipate that it will occur during June/July. The purpose and additional details will be sent closer to the workshop date.