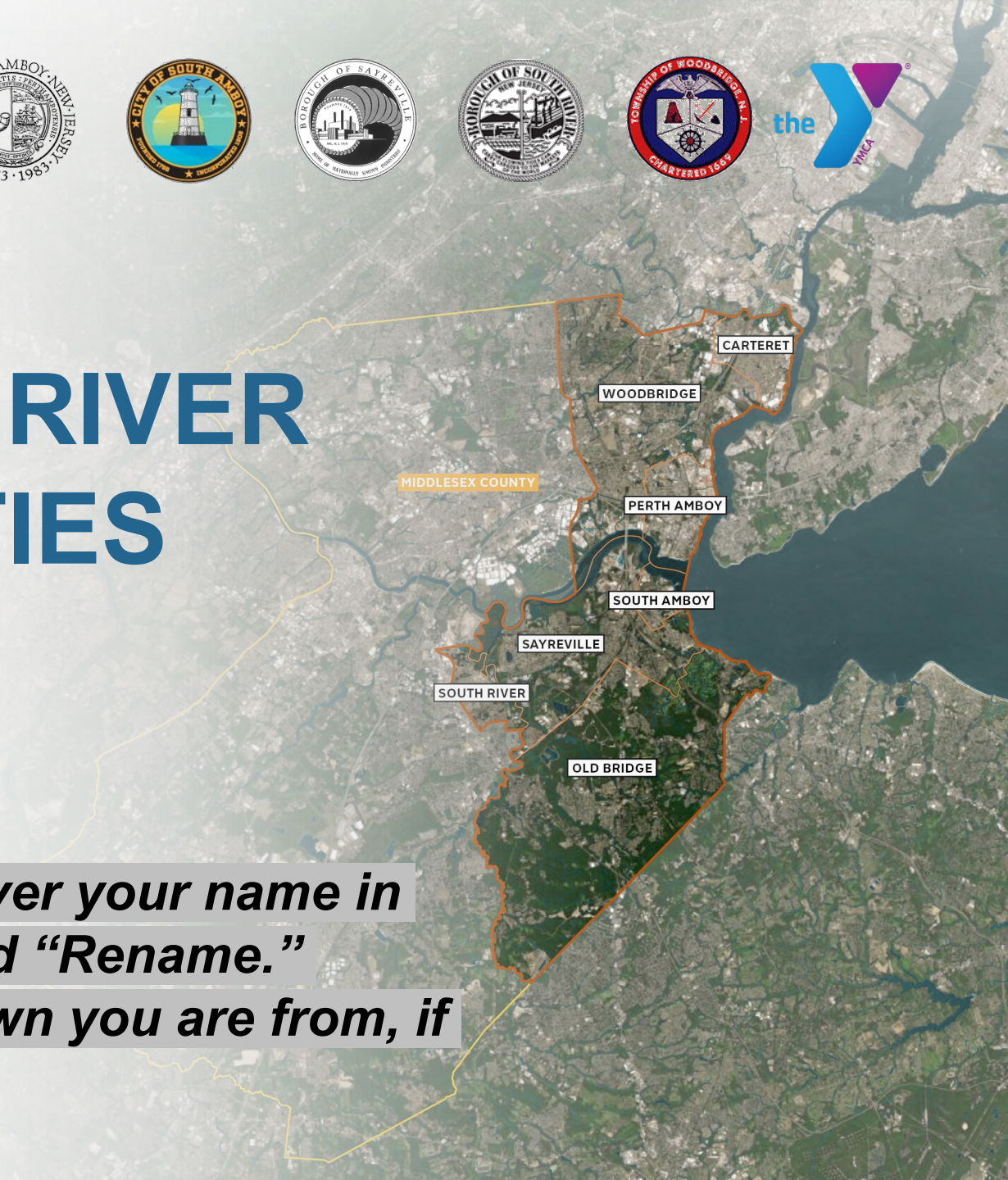


WELCOME TO THE RESILIENT RARITAN RIVER AND BAY COMMUNITIES COMMUNITY MEETING

May 18th, 6 – 7:30 PM

Please update your name by hovering over your name in the participant window, click “More,” and “Rename.”

Provide your name and indicate what town you are from, if applicable.



WHAT IS A FLOOD RISK?

Risk is the potential for a hazard to have negative impacts. In terms of flooding, this means **the potential for water to create damage and disruption in our communities**. Flood risk is the interaction between flood hazards, where people live, and the systems and structures that support our way of life. Risk increases when the hazard increases. For instance, the effect of climate change can increase risk from flooding. Risk also increases as the number of people and their belongings situated in harm's way increases.

How will today's meeting work?

1

Short presentation (30 min) –

Please stay on mute, respond to and ask questions in the chat

2

Q&A (5 min) –

Feel free to ask questions by raising your hand or in the chat

3

Breakout Discussions (55 min) –

Please engage actively through voice and chat

We will not reconvene as a group after the breakout groups.

We are live streaming the meeting and will post on YouTube and Facebook.

We will record all breakouts for use by the project team.

What did we cover in January?

- What more have we learned about flood risk?
- How is flood risk likely to change over time due to climate change?
- What are different ways to reduce flood risk over the next 50 years?
- What have we heard from you about your priorities and how are we using that feedback?
- How will we continue to work with you?

If you are watching on Facebook Live and would like to join the Zoom meeting, you can join by going to tinyurl.com/RNJMay18. Meeting ID: 895 1249 0050

**What is the most
important action you
would you like to see
come out of this
plan?**



If you are watching on Facebook Live and would like to join the Zoom meeting, you can join by going to tinyurl.com/RNJMay18. Meeting ID: 895 1249 0050

What we're here to share today:

- Our preliminary **preferred scenario** based on our evaluation and stakeholder feedback
- What **actions** are needed to **implement** this preferred scenario in the **short and long-term**
- How you can get **involved & help shape** the plan

If you are watching on Facebook Live and would like to join the Zoom meeting, you can join by going to tinyurl.com/RNJMay18. Meeting ID: 895 1249 0050

What we want to hear from you:



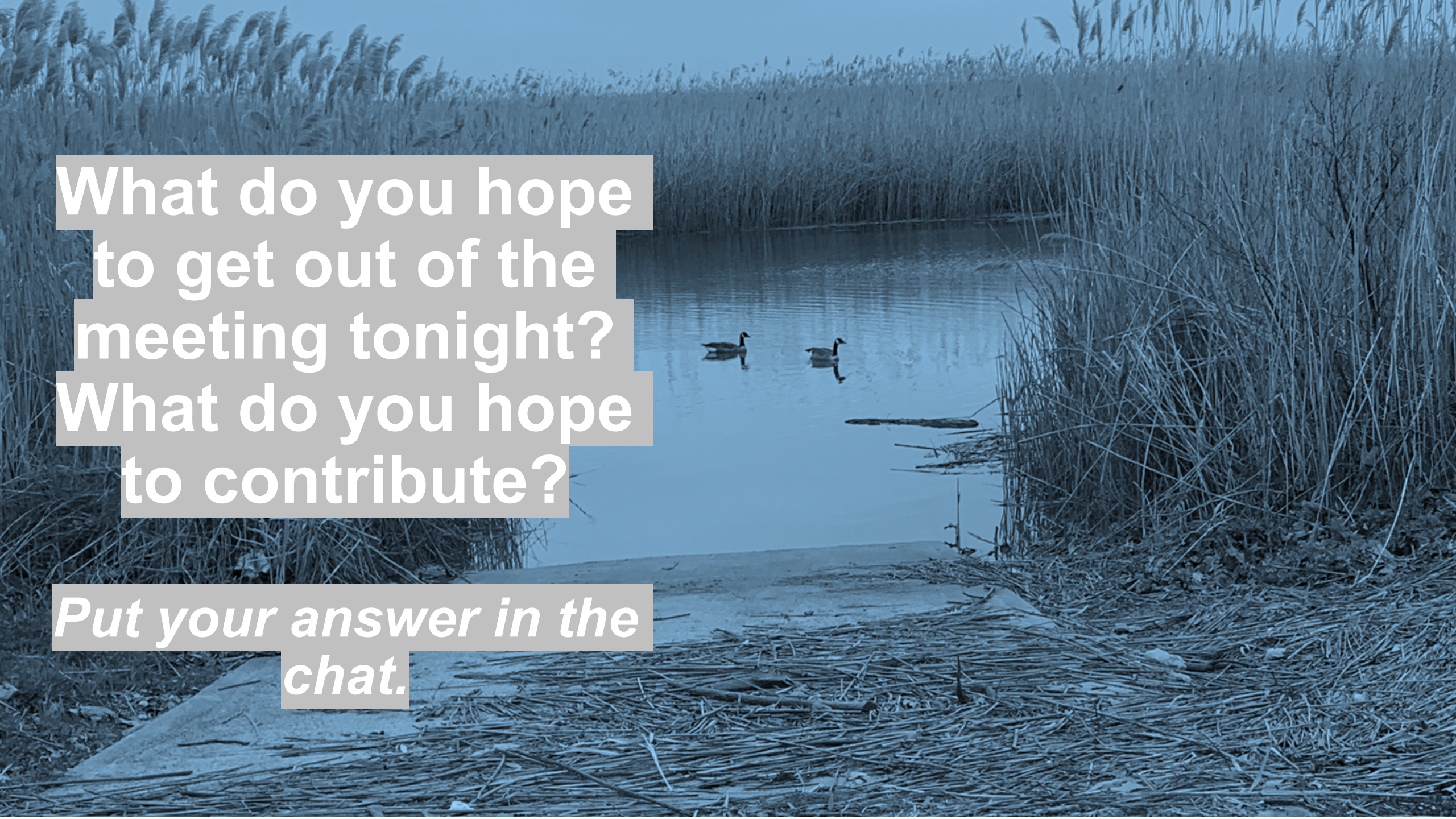
What are your thoughts on the selected actions?
Did we get it right?



What are your priorities for near-term actions?



What role do you want to play in seeing these actions get implemented?



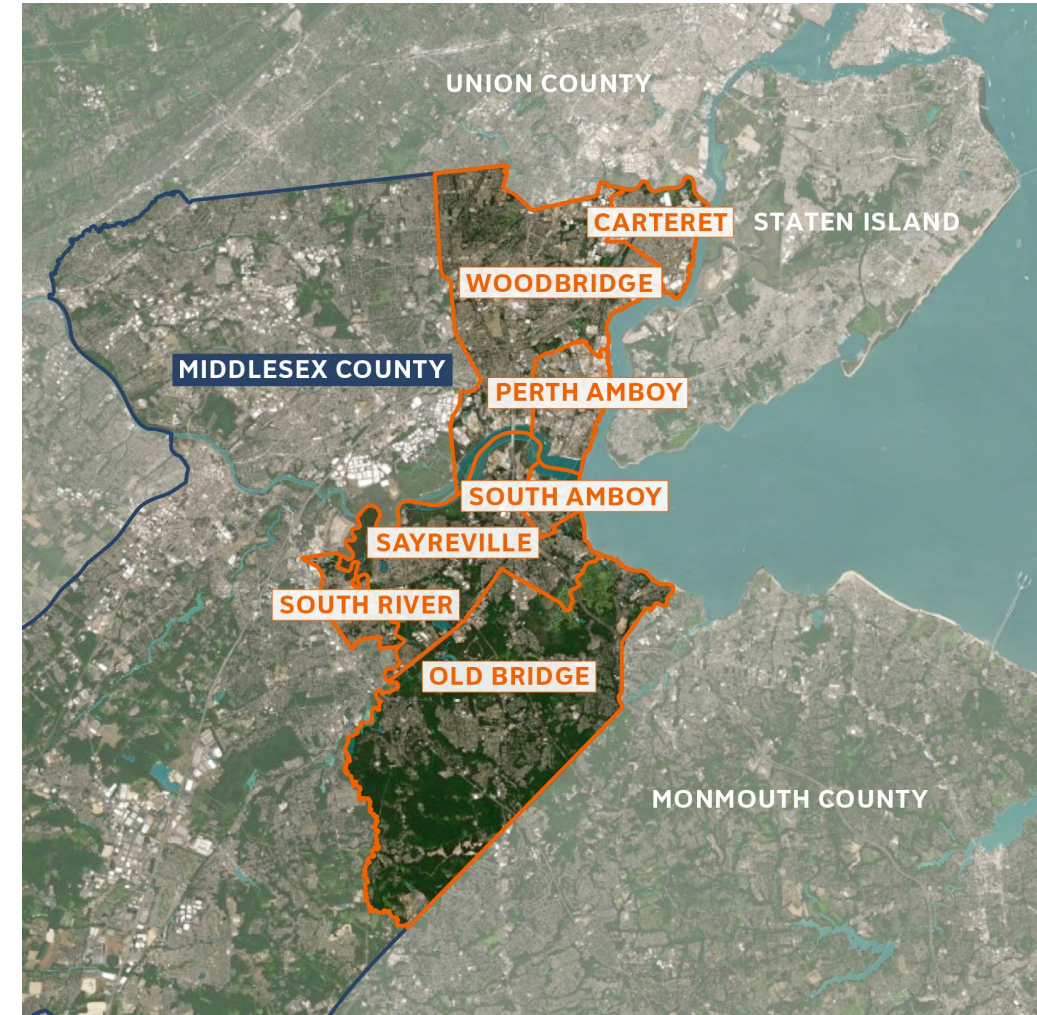
What do you hope
to get out of the
meeting tonight?
What do you hope
to contribute?

*Put your answer in the
chat.*

PROJECT TEAM

RESILIENT RARITAN RIVER AND BAY COMMUNITIES

- The Resilient NJ (RNJ) Program, administered through the New Jersey Department of Environmental Protection (**NJDEP**), includes initiatives in four regions of the state, including **Raritan River and Bay Communities**.
- **Resilient NJ – Raritan River and Bay Communities** is a partnership between **Middlesex County, Old Bridge, Woodbridge, Sayreville, South Amboy, South River, Carteret, Perth Amboy**, and the **YMCAs of Middlesex County**.
- The project is focused on developing a **regional resilience action plan** to address **flood-related hazards**.



Resilient Raritan River and Bay Communities
Project Area

INTRODUCTIONS



PROJECT GOALS



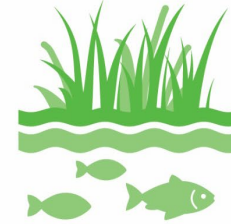
Build off ongoing
resilience planning
within the region



Ensure
**representation
and participation**
from the
communities that
could be affected



Develop
solutions that
increase resilience
in both the short-
and long-term



Enhance
**ecological,
recreational, and
economic
resources** in the
region



Ensure
collaboration
among a wide
variety of
stakeholders



WHAT WILL THIS PLAN INCLUDE?

PROPOSED PHYSICAL PROJECTS

Examples:

“Nature-based solutions” like wetland restoration



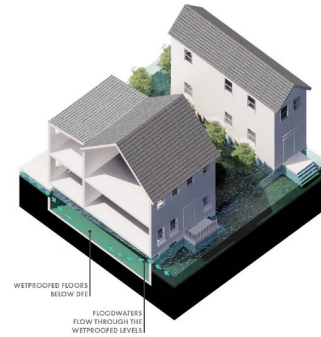
Flood protection of critical assets



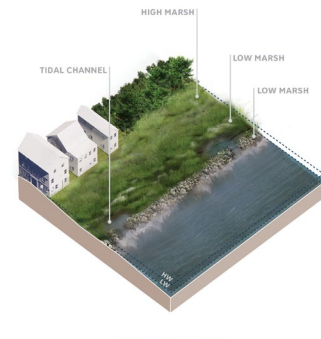
RECOMMENDED CHANGES TO POLICIES, ORDINANCES, AND GOVERNANCE

Examples:

Higher standards for new development



Changes to local land use policies



OUTREACH, EDUCATION, AND CAPACITY BUILDING OPPORTUNITIES

Examples:

Public outreach and educational campaigns

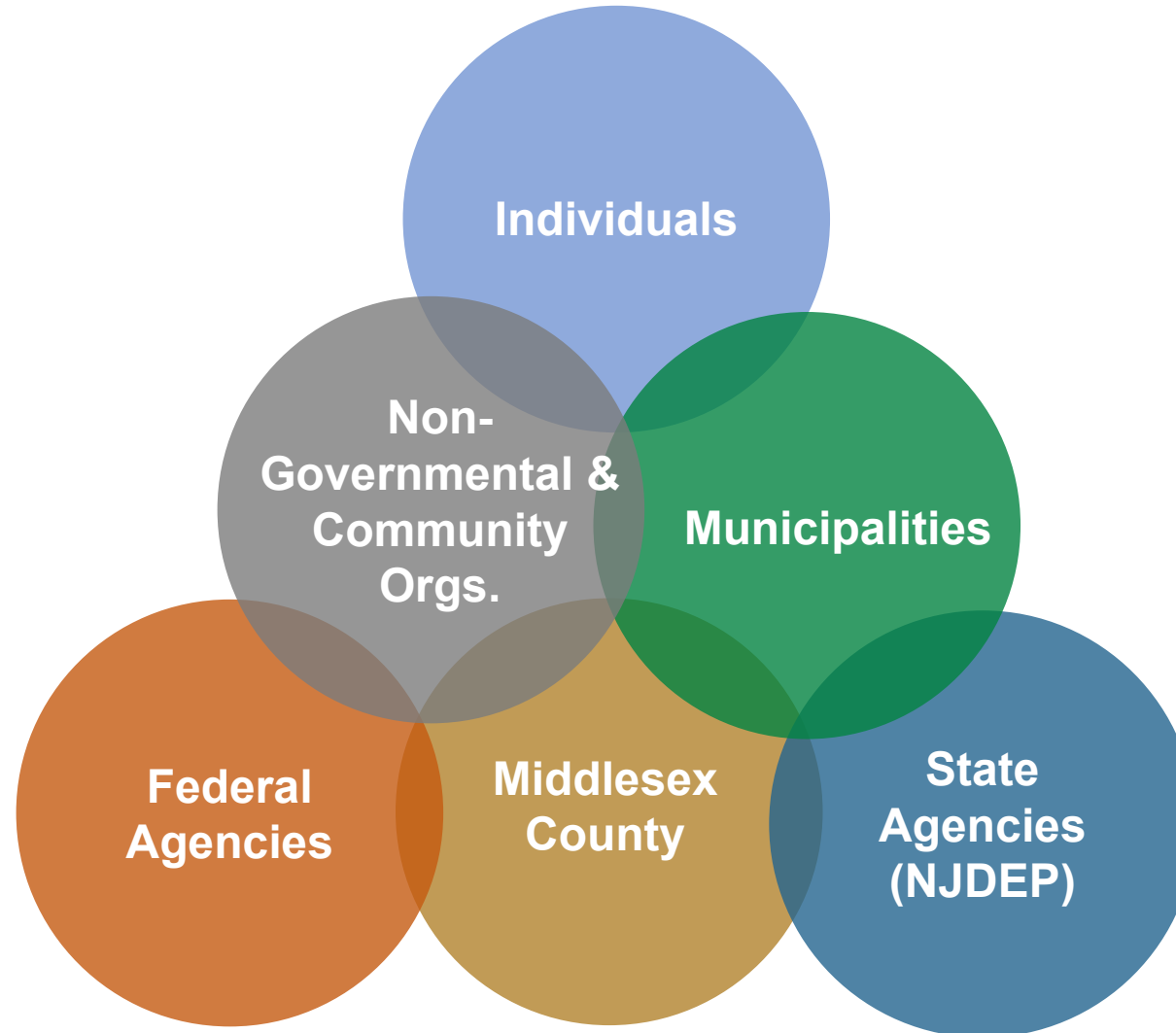


Funding for flood mitigation and green infrastructure



WHO WILL IMPLEMENT THIS PLAN?

IMPLEMENTATION REQUIRES COORDINATED ACTION AT MULTIPLE SCALES



OUR PROCESS



PROJECT SCHEDULE

Spring 2021

Summer 2021

Fall 2021

Winter 2021/22

Spring 2022

Develop a Regional **Vision** and Identify Shared **Priorities**

Analyze **Hazards** and **Risk** and Identify and Evaluate Relevant **Tools**

Develop Resilience **Scenarios** based on Vision, Risks, and Tools

Select a **Preferred Scenario** and Develop and Action Plan

Publish the **Final Action Plan**

OCT.
MEETING

JAN.
MEETING

WE ARE
HERE

← ADDITIONAL SMALL-GROUP MEETINGS AND WORKSHOPS →



RARITAN RIVER AND
BAY COMMUNITIES

COMMUNITY ENGAGEMENT PROCESS

ADDITIONAL ENGAGEMENT TOOLS



**ENGAGEMENT APP
IRYS**
Project updates and
surveys



**INTERACTIVE
WEBSITE / SURVEYS**
www.resilient.nj.gov/rrbc



TABLING
Tabling at community
events and physical
flyering



POSTERS
Displayed at YMCA
lobbies

ABOUT OUR REGION

AUGUST 2021

- Region's history and interconnected systems
- Profiles of individual municipalities
- Ongoing and recent resilience initiatives and projects

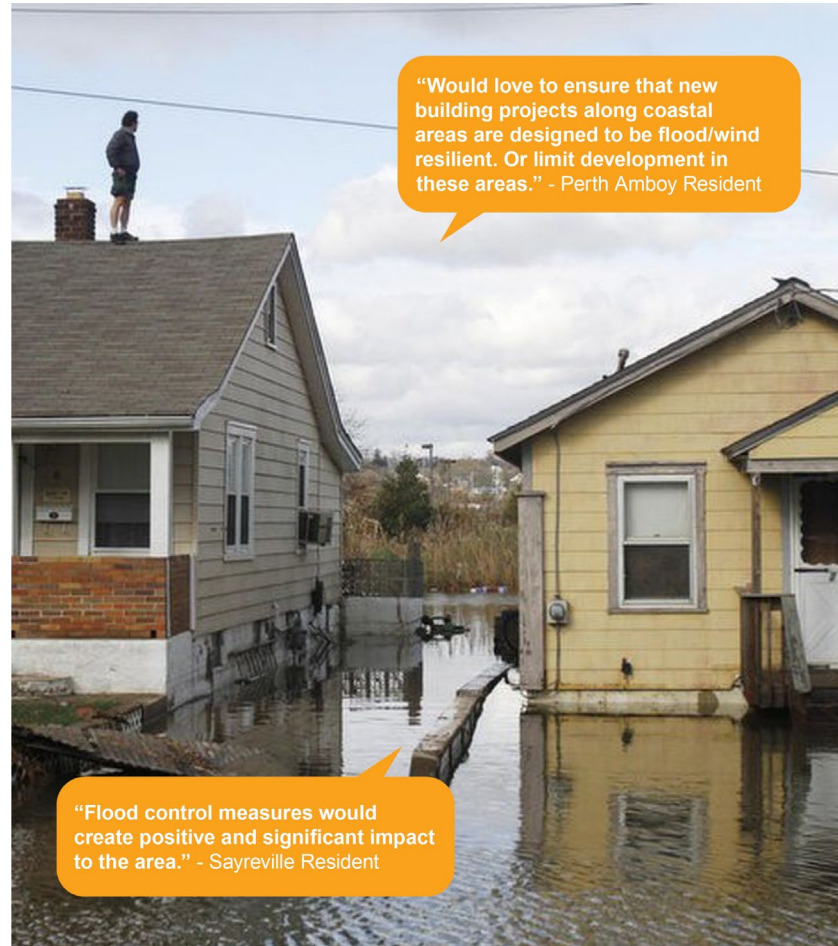


resilientnewjersey.com/about-the-region

VISIONING REPORT

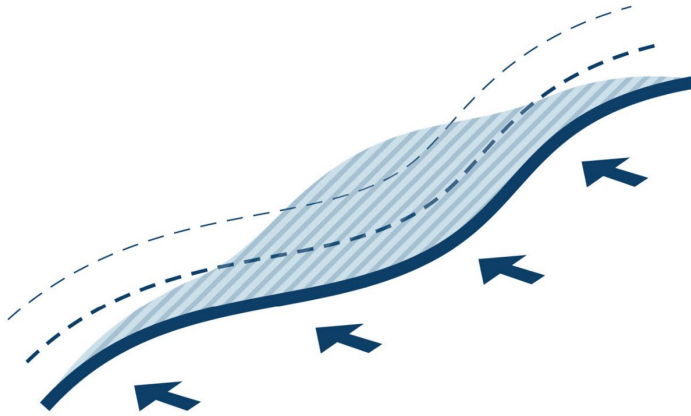
MARCH 2022

- Feedback received through community engagement process
- Flood related challenges
- Community values and priorities



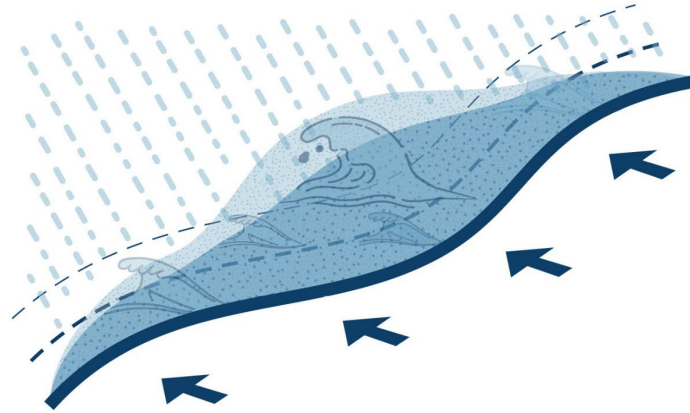
www.resilient.nj.gov/rrbc

FUTURE FLOOD HAZARDS



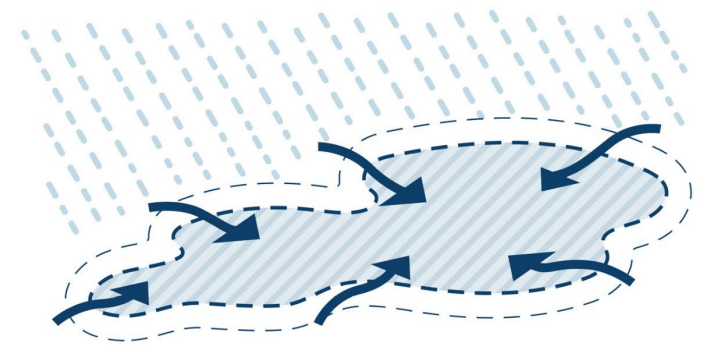
TIDAL FLOODING

Low-lying coastal areas flood when water levels rise above ground elevation due to high tides.



COASTAL STORMS

Coastal storms create flooding due to waves and storm surge—a rise in water levels due to storm pressure and winds—which can also lead to coastal erosion. Coastal storms can also bring high winds and heavy rains.



RAINFALL FLOODING

Lower lying areas along waterways and inland can flood due to heavy rain events overwhelming drainage infrastructure. Rainfall flooding, including urban stormwater flooding and riverine flooding, is an issue across the region today.

FLOOD IMPACT ASSESSMENT

TYPES OF IMPACTS ANALYZED



DIRECT PHYSICAL DAMAGE

Damage to Structures
Contents and Inventory Loss



HUMAN IMPACTS

Residential Displacement
Mental Stress and Anxiety
Injuries Lost Productivity



BUSINESS IMPACTS

Business Relocation
Loss of Employment
Economic Output Loss
Tax Revenue Impacts



PUBLIC AND ESSENTIAL SERVICES

Loss of Function



REGIONAL IMPACTS

Indirect Economic Loss
Induced Economic Loss



OTHER ASSETS

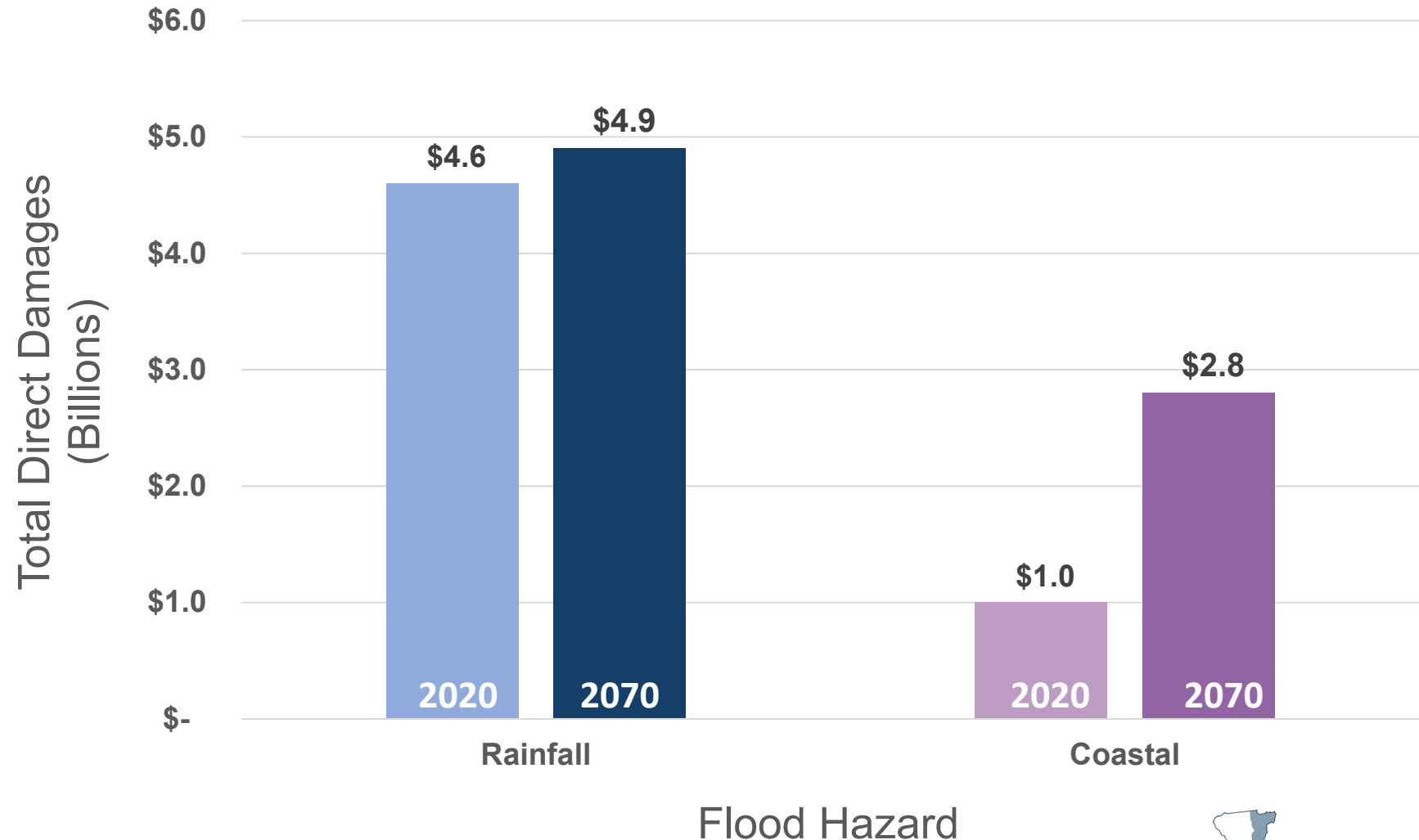
Transportation
Ecological
Recreation
Community Services



FLOOD IMPACT ASSESSMENT

MAY 2022

- By 2070, a heavy rainfall event could **cause \$4.9 billion in losses.**
- By 2070, a coastal storm like Sandy could cause **\$2.8 billion in losses.**
- Without action, 32 structures housing 44 residents flooded **on a daily basis** by 2070 .



ADDITIONAL CLIMATE HAZARDS

Additional Climate Hazards

Extreme Heat

Drought & Water Supply Shortages

Poor Air Quality

Groundwater Rise & Saltwater Intrusion

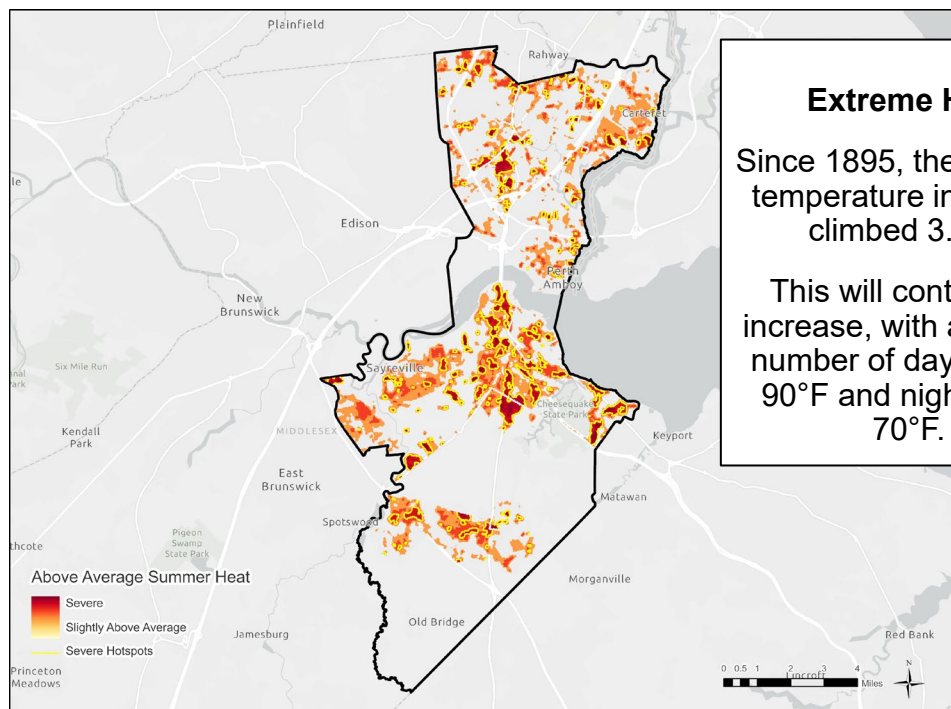
Invasive Species & Vector-Borne Diseases

Tropical Weather

Severe Weather

Ocean Acidification

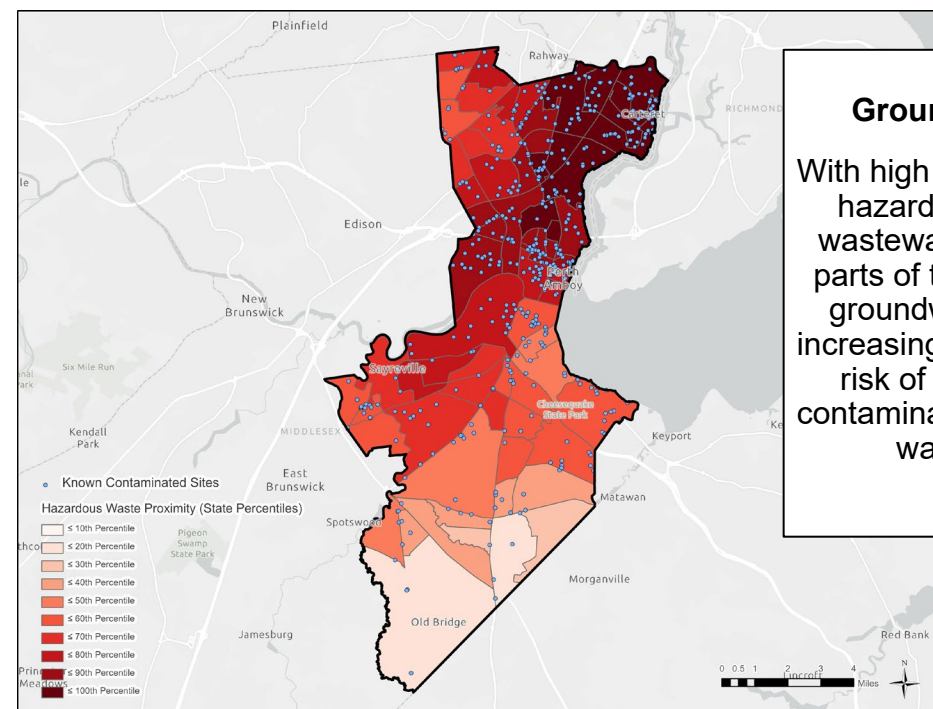
Wildfires



Extreme Heat

Since 1895, the average temperature in NJ has climbed 3.5°F.

This will continue to increase, with a greater number of days above 90°F and nights over 70°F.



Groundwater Rise

With high concentrations of hazardous waste and wastewater discharge in parts of the region, rising groundwater levels will increasingly pose a serious risk of mobilization of contaminants into soils and water supply.



RARITAN RIVER AND
BAY COMMUNITIES

ADDITIONAL CLIMATE HAZARDS

TOOLKIT

Includes hazard-specific tools for each of the following identified actions:

PROPOSED PHYSICAL PROJECTS

1. Invest in ecosystem-based adaptation projects to address multiple climate hazards
2. Develop site-specific plans for prioritized aging infrastructure and contaminated sites

RECOMMENDED CHANGES TO POLICIES, ORDINANCES, AND GOVERNANCE

3. Enforce existing regulations and pursue higher standards
4. Enhance regional planning and coordination
5. Incentivize private actors to implement retrofits and sustainable practices
6. Undertake robust monitoring and modeling efforts using industry-standard technology
7. Prioritize equitable investments in public programs to reach and assist under-resourced populations

OUTREACH, EDUCATION, AND CAPACITY BUILDING OPPORTUNITIES

8. Develop and distribute accessible information and educational materials
9. Invest in community engagement to understand local needs
10. Build partnerships and establish working groups for collective action
11. Develop hazard-specific emergency response plans using national best practices
12. Invest in accessible shelters, cooling stations, and resilience hubs

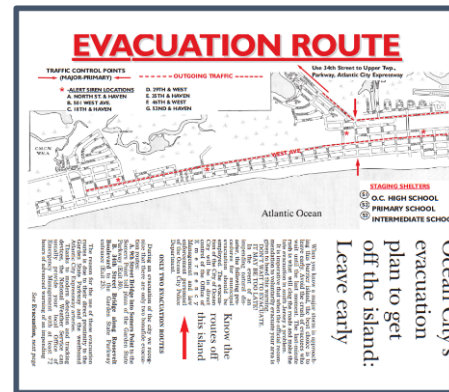
IMPLEMENTATION TASKS UNDERWAY

IDENTIFIED FROM COMMUNITY OUTREACH

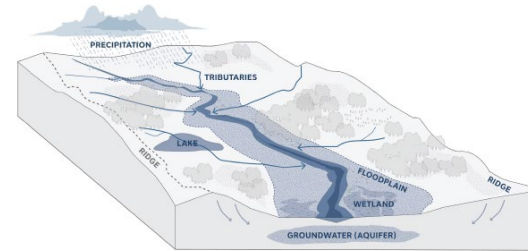


FEMA

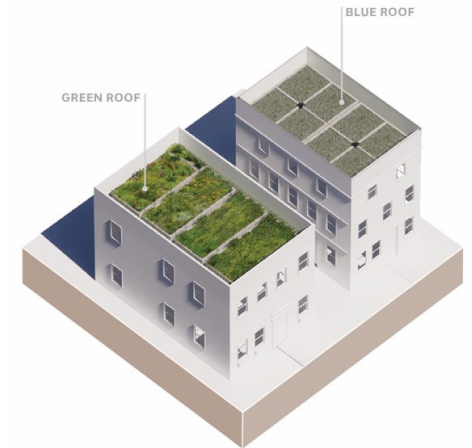
**RISK RATING 2.0
OUTREACH
CAMPAIGN**



**REGIONAL
EVACUATION
PLANNING**



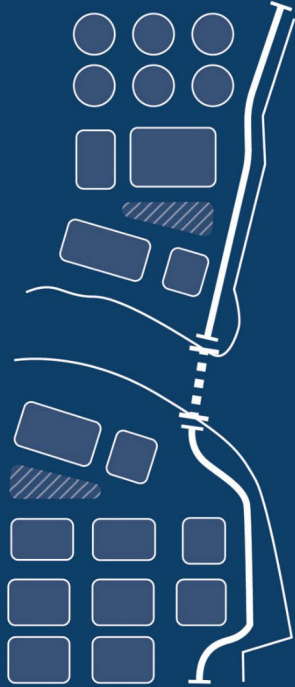
**WATERSHED
PLANNING AND
GOVERNANCE**



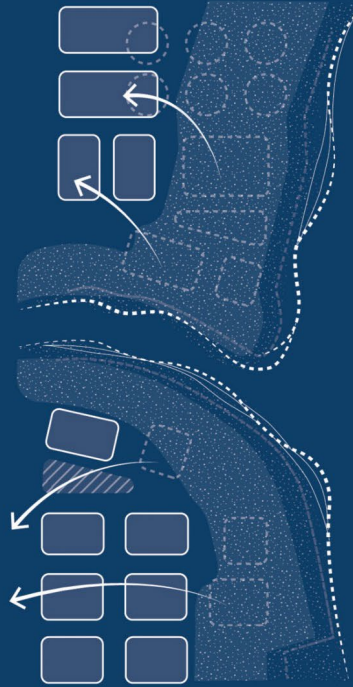
**GREEN
INFRASTRUCTURE
FOR STORMWATER
MANAGEMENT**

AND MORE...

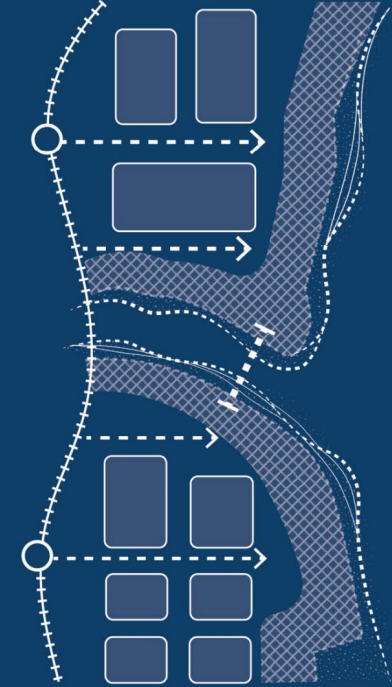
SCENARIOS



PROTECT Critical
Assets & Economic
Centers



RESTORE Natural
Systems & Minimize
Exposure



TRANSITION to
Smart Growth for a
New Economy

EVALUATION CRITERIA



How adaptable is the design?

Is it possible to change as hazards and community preferences evolve?

Is the project low-maintenance?

Is the project cost justified?

Are there permitting/regulatory or other feasibility concerns (community buy-in, lapse in service, easements, etc.)?

Will the project mitigate 2070 flood conditions?

Does the scenario consider all flood pathways?

Are community assets protected?

Are natural systems being improved or expanded?

Are there environmental impacts within the focus area?

Are community spaces are created/preserved?

Does the scenario improve access to and between community assets?

Is there potential for creating co-benefits?

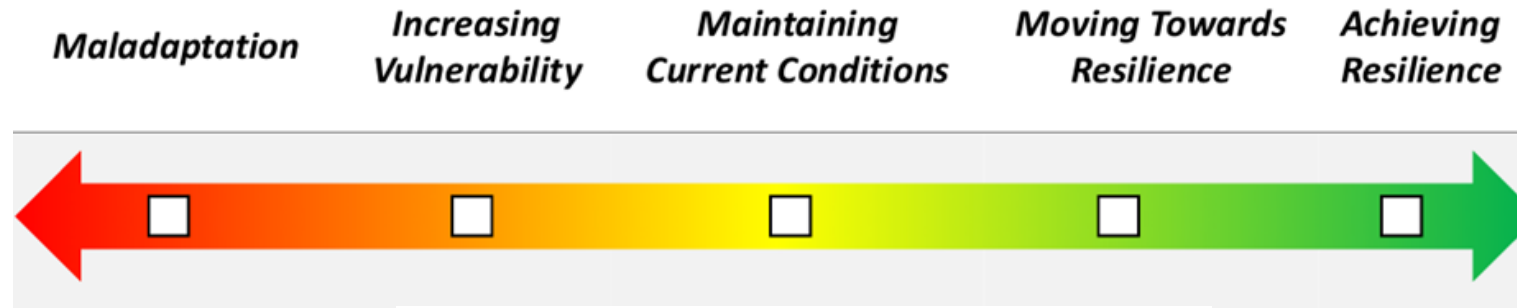
Are SV* populations considered in design and protected?

Does the project include community organizations/leaders in decisions?

Are the inequities in the area considered in planning?

*Socially Vulnerable

SCENARIO EVALUATION



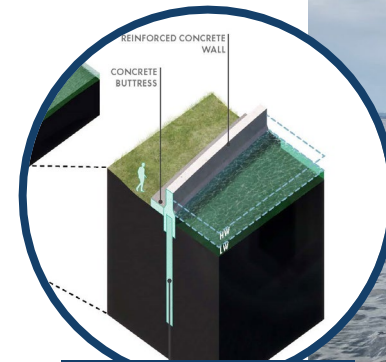
PREFERRED SCENARIO

PROTECT, RESTORE, AND TRANSITION

Combines elements of all three scenarios to create a long-term plan for more **resilient development** patterns, feasible **flood mitigation** projects, and transformational **open space/ecological improvements**.

Includes:

- Implementable **physical and nature-based infrastructure strategies** such as flood barriers, stormwater infrastructure, and wetland restoration
- **Policy and governance** actions to promote more resilient development and improve coordination across levels of government
- **Outreach, education and capacity building programs** to improve flood risk awareness and promote community adaptation



FLOOD BARRIERS



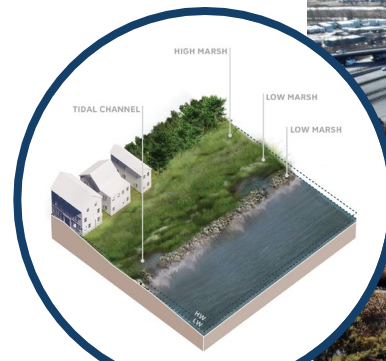
Perth Amboy Waterfront Bulkhead Repair



RESILIENT REDEVELOPMENT



Future Ferry Terminal. South Amboy, NJ



ACQUISITION & RESTORATION

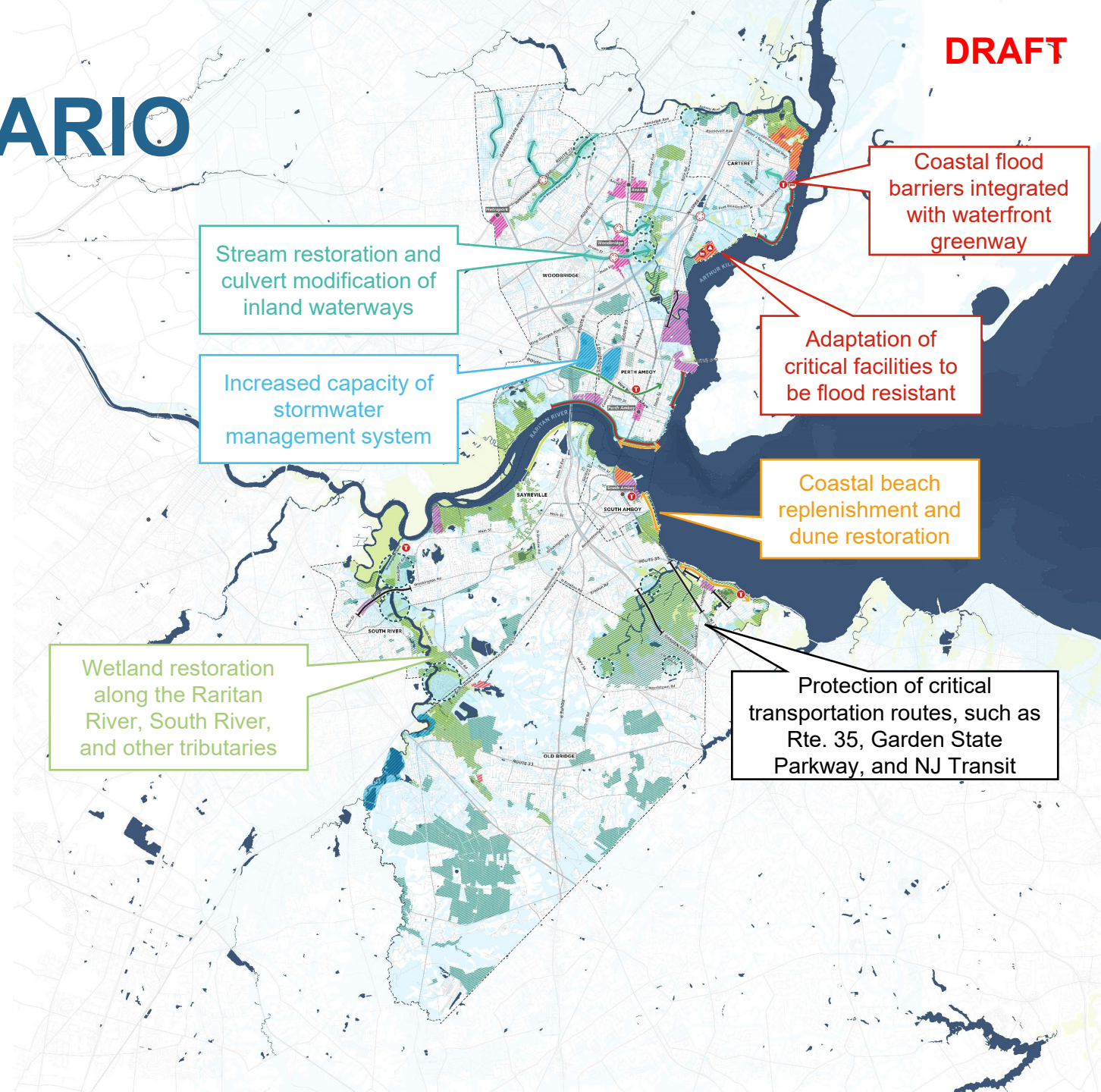


Watson Crampton Buyout and Restoration Project. Woodbridge, NJ

PREFERRED SCENARIO

PHYSICAL AND NATURE BASED INFRASTRUCTURE STRATEGIES

-  Site or building level adaptation of critical facilities
-  Restore wetlands and riparian zones
-  Create floodable spaces on publicly owned lands
-  Increase stormwater system capacity or diversion upstream
-  Restore or daylight riparian zones
-  Replenish and restore beaches
-  Multi-purpose coastal flood barrier with bike & pedestrian paths
-  Enhance resiliency of mobility systems
-  Tide/Surge Gate
-  Construct new pump station / retrofit existing pump station
-  Culvert modification








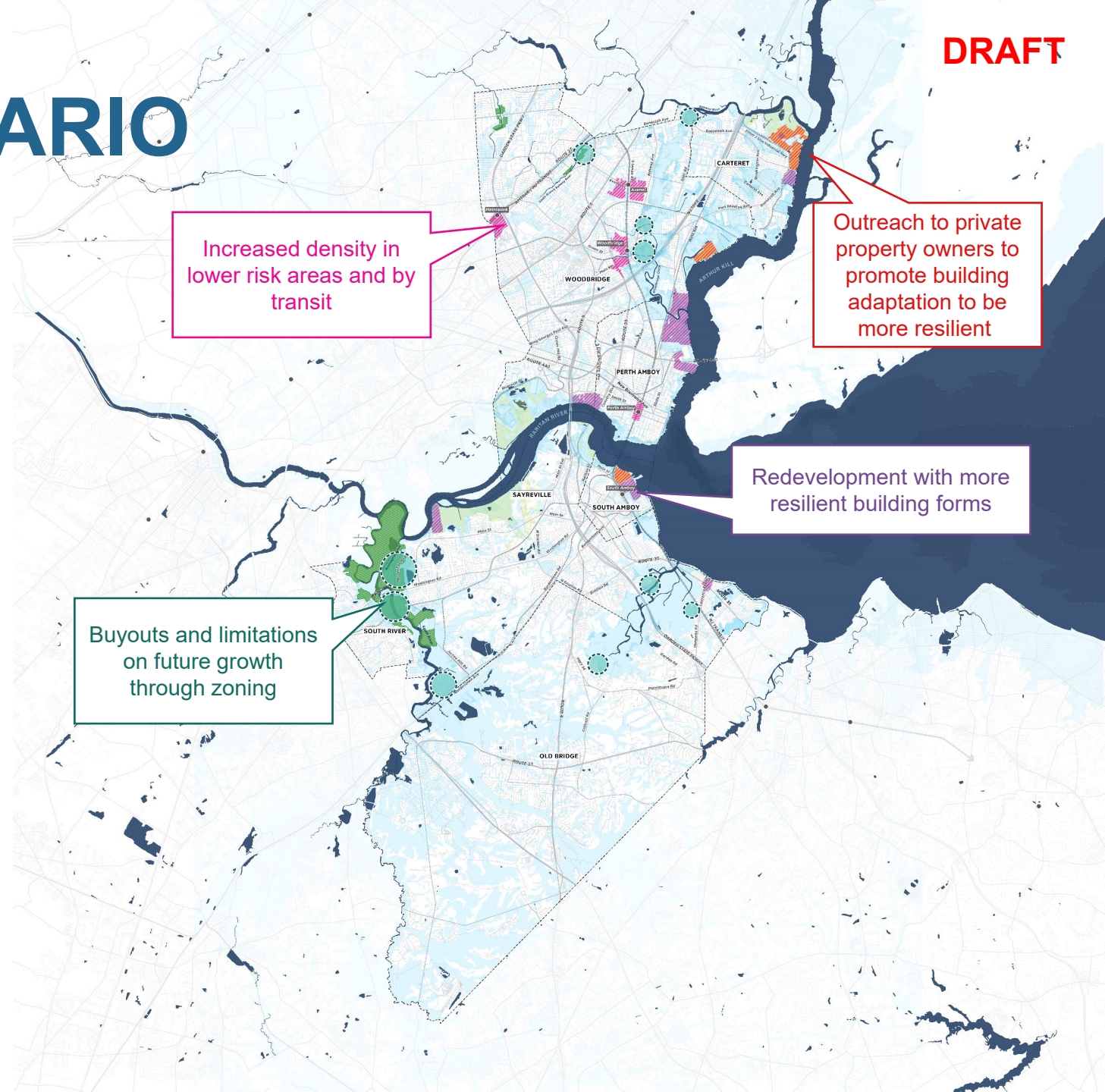
PREFERRED SCENARIO

POLICY AND GOVERNANCE ACTIONS

- **Manage growth** by reducing density in highly at-risk areas through strategic buyouts and zoning changes, and increasing density in lower risk areas
- Promote **resilient development** through updating codes and policies
- Provide technical assistance and targeted outreach to property owners to **promote building mitigation and flood insurance**
- Promote regional, **watershed coordination** among municipalities and county

POLICY AND GOVERNANCE ACTIONS

-  Strengthen lower-risk developed areas near transit
-  Resilient Redevelopment
-  Proposed Conservation Zoning (OSCR, OS-C/OS-R, PR)
-  Acquire land through strategic buyouts for flood management
-  Site or building level adaptation of critical facilities



PREFERRED SCENARIO

OUTREACH, EDUCATION, AND CAPACITY BUILDING

- Increase **awareness of flood risk** through public outreach
- Develop **funding program** for flood mitigation and green infrastructure for private property owners
- Conduct targeted outreach to **incentivize relocation** of residences and businesses away from most flood-prone areas

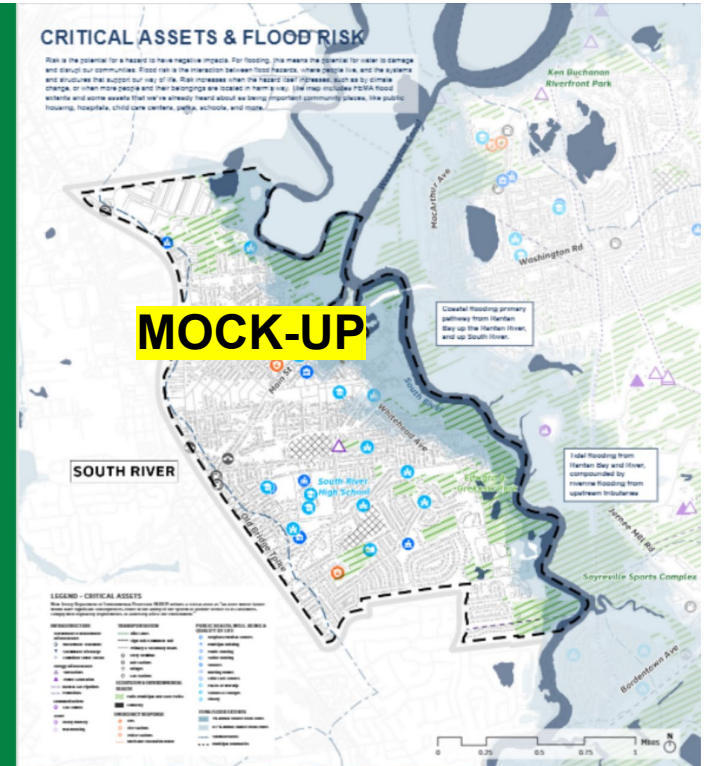


Raritan River & Bay Communities Region

By the year
2070

A heavy rainfall event could cause \$380 million in losses in South River.

A coastal storm like Sandy could cause \$740 million in losses in South River.



BREAK-OUT GROUPS

Groupings



**Regional Strategies,
with focus on policy
and programs
(w/ ASL and Spanish
Translation)**



**Physical and Nature-
Based Strategies
NORTH OF RARITAN
RIVER
(Carteret, Woodbridge,
Perth Amboy)**



**Physical and Nature-
Based Strategies
SOUTH OF RARITAN
RIVER
(South Amboy, South
River, Sayreville, Old
Bridge)**

BREAKOUT GROUP DISCUSSION TOPICS

Do these actions address your community's flood risk and other needs?

Is there anything we're missing that you want to see included in this plan?

What actions do you think are the most important to prioritize? Why?

Other areas you're concerned about we haven't covered?



Q & A

ENGAGEMENT OPPORTUNITIES

1. Visit our website for more information and updates
www.resilient.nj.gov/rrbc
2. Sign up for [Resilient NJ emails](#)
3. Keep an eye out for release of draft master plan
4. Follow us on social media
[@resilientrrbc](#)

