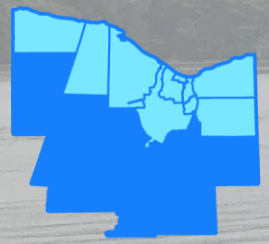


Coastal Lakeshore Economy and Resiliency (CLEAR) Plan

Monroe County

October 21, 2021

PUBLIC WORKSHOP #3

NEW YORK STATE OF OPPORTUNITY. Department of State

BERGMANN ARCHITECTS ENGINEERS PLANNERS

01 Monroe County's Journey through the CLEAR Initiative

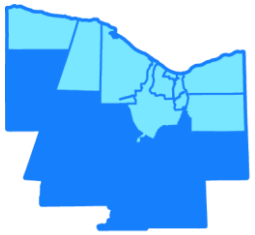
02 Community Engagement

03 Framework for Project Selection

04 Recommended Projects

05 Next Steps

Monroe County's Journey through the CLEAR Initiative



MONROE COUNTY'S CLEAR JOURNEY

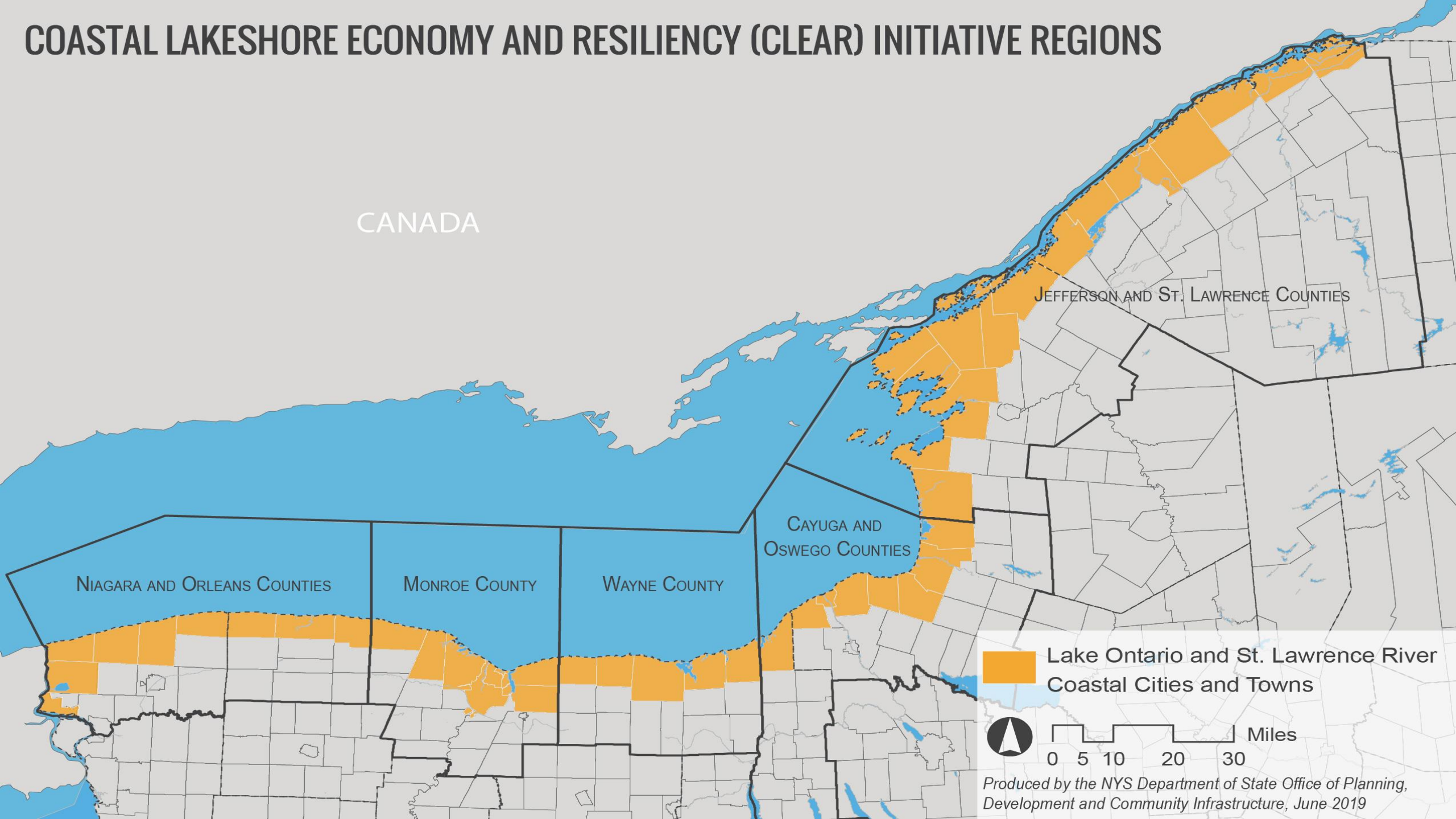
PROJECT CONTEXT

Lake Ontario experienced historic flooding in both 2017 and 2019

Resiliency and Economic Development Initiative (REDI) created in 2019 by Governor Cuomo introduced as a platform for engaging municipalities in identifying and addressing their priority infrastructure needs

CLEAR will compliment and reinforce resiliency efforts made to-date and focus on broader community engagement and long-term visioning for resilience

COASTAL LAKESHORE ECONOMY AND RESILIENCY (CLEAR) INITIATIVE REGIONS

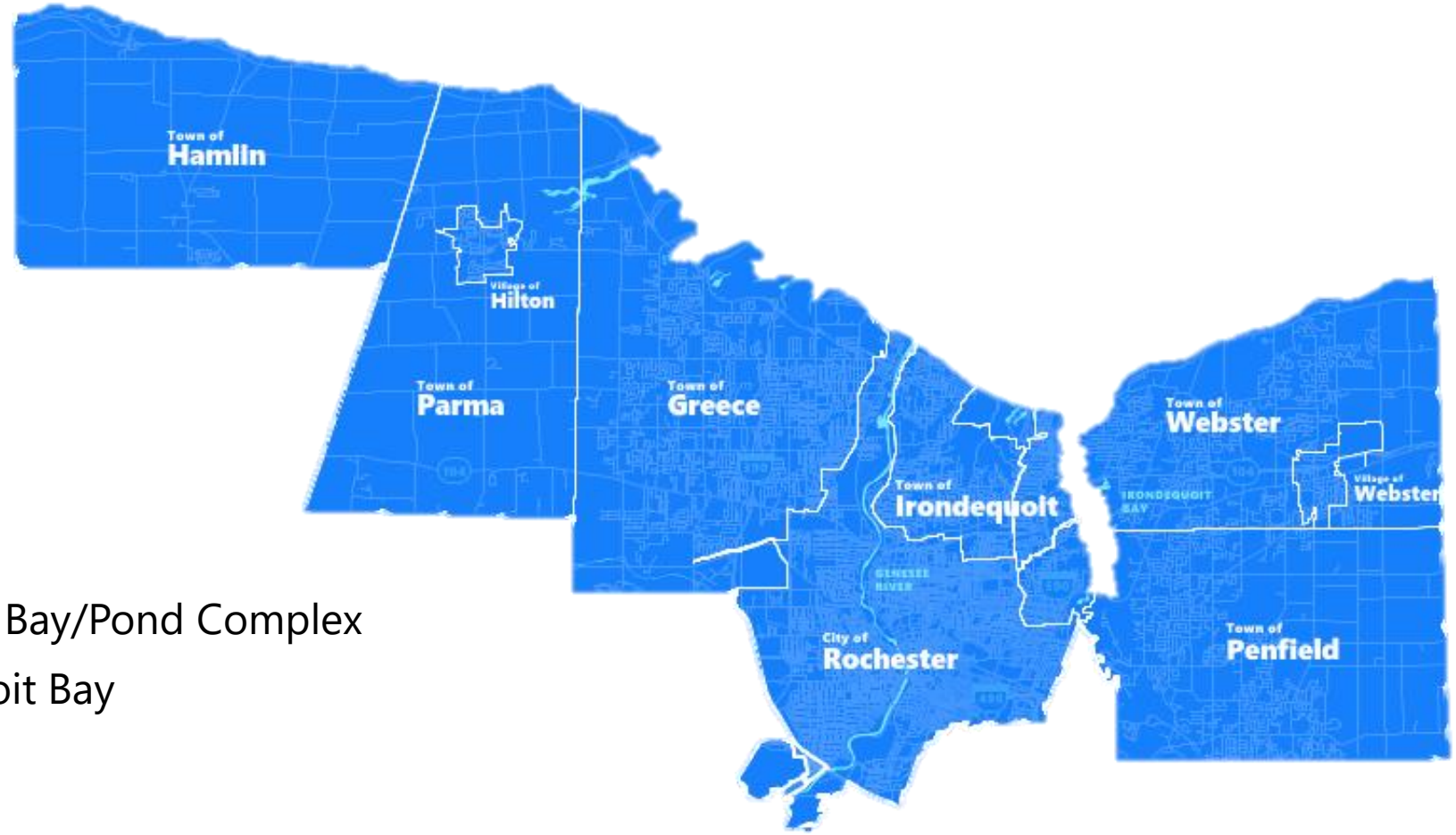


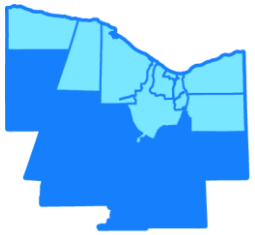
MONROE COUNTY'S CLEAR JOURNEY

MONROE COUNTY CLEAR COMMUNITIES

1. City of Rochester
2. Town of Hamlin
3. Town of Parma
4. Town of Greece
5. Town of Irondequoit
6. Town of Webster
7. Town of Penfield

- Community of Braddock Bay/Pond Complex
- Community of Irondequoit Bay





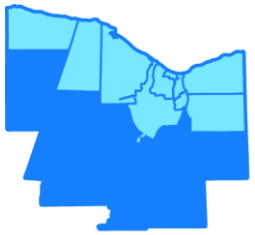
MONROE COUNTY'S CLEAR JOURNEY

KEY PROCESS MILESTONES

1. **Community Profile**
2. **Asset Inventory + Risk Assessment**
3. **Vision Statement**
4. **Needs + Opportunities**
5. **Strategies + Actions**
6. **Defining Local + Regional Projects**

COORDINATED APPROACH & STAKEHOLDER ENGAGEMENT

Community Engagement



COMMUNITY ENGAGEMENT

COORDINATED APPROACH

8
STEERING COMMITTEE MEETINGS

3
COMMUNITY WORKSHOPS

14 COMMITTEE MEMBERS

1 LOOK-AND-LISTEN TOUR

4 STATE AGENCIES/PLANNING PARTNERS

COMMUNITY ENGAGEMENT

SCENARIO PLANNING FOCUS GROUPS

CLEAR INITIATIVE: Monroe County Steering Committee

SCENARIO PLANNING EXERCISE

SCENARIO DEVELOPMENT: Please use the information below to develop a narrative scenario that explores and identifies a variety of adaptive actions that can be implemented over time to address future hazards and land development patterns.

EXTREME FLUCTUATING SCENARIO

HAZARDS

higher and lower water levels at 3-foot increments occurring every 2 to 3 years
increased storm surges, wave action, and drought
increased shoreline erosion

EXISTING CONDITIONS (2021)		ADAPTIVE ACTIONS		FUTURE CONDITIONS (2030)		ADAPTIVE ACTIONS		FUTURE CONDITIONS (2040)		ADAPTIVE ACTIONS		FUTURE CONDITIONS (2050)	
Land Use	Shoreline Condition	Policy / Education	Infrastructure / Natural Systems	Land Use	Shoreline Condition	Policy / Education	Infrastructure / Natural Systems	Land Use	Shoreline Condition	Policy / Education	Infrastructure / Natural Systems	Land Use	Shoreline Condition
High density residential	Hardened shoreline												
Low density residential	Coastal bluffs												
Open space / forest	Coastal wetlands												
Water-dependent uses (e.g., marina, fishing pier)	Mix of hard and natural shoreline												
Commercial district (e.g., restaurants, shops)	Mix of hard and natural shoreline												

COMMUNITY ENGAGEMENT

PUBLIC SURVEYS

MONROE COUNTY **COASTAL LAKESHORE ECONOMY AND RESILIENCY INITIATIVE**

WE WANT TO HEAR FROM YOU!

The New York State Coastal Lakeshore Economy and Resiliency (CLEAR) Initiative was created to support localities dealing with dynamic lake-level fluctuations along the Ontario Lake shoreline. A resiliency plan for lakeshore communities within Monroe County is being prepared and the project team is looking for your feedback!

Please take our online survey by *July 30th* to provide your input on this crucial planning initiative by visiting

www.monroecountyclear.com/online-survey

or using the QR code!

SCAN THIS CODE WITH YOUR PHONE!

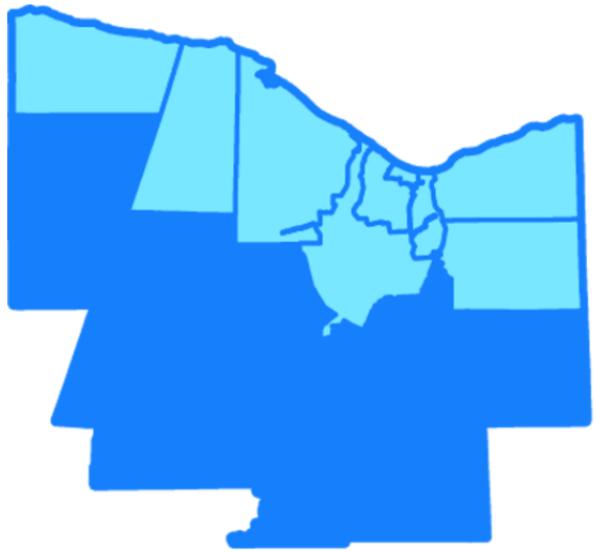
SAVE THE DATES!

Hold the following dates on your calendar to join us for our public workshops! Check www.monroecountyclear.com to stay up to date on project events and progress!

SEPTEMBER 9, 2021

OCTOBER 21, 2021

Mentimeter

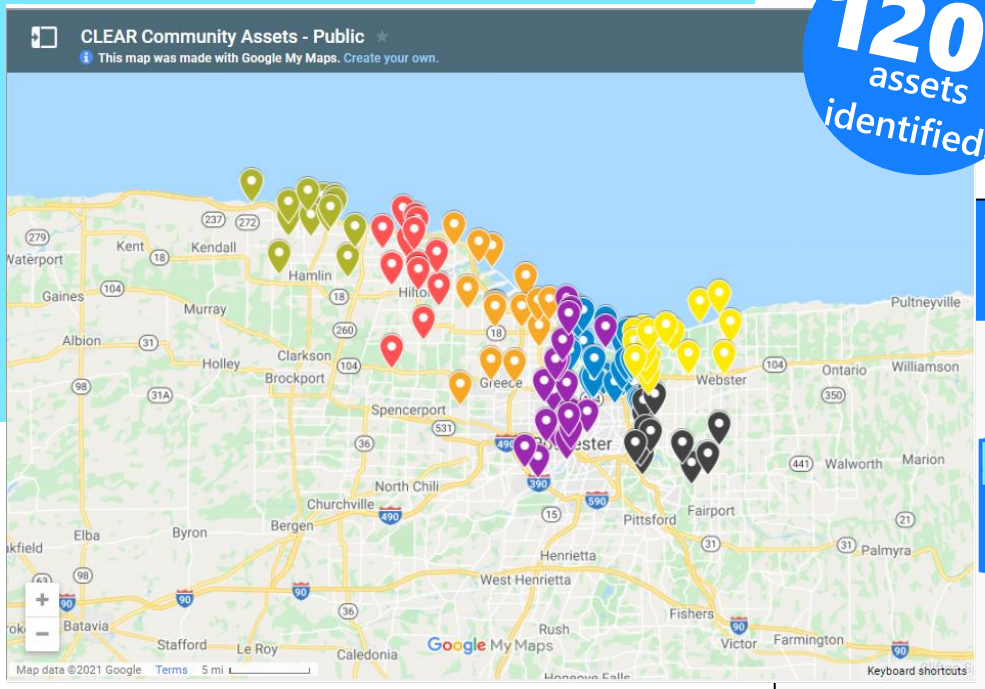


Asset Inventory

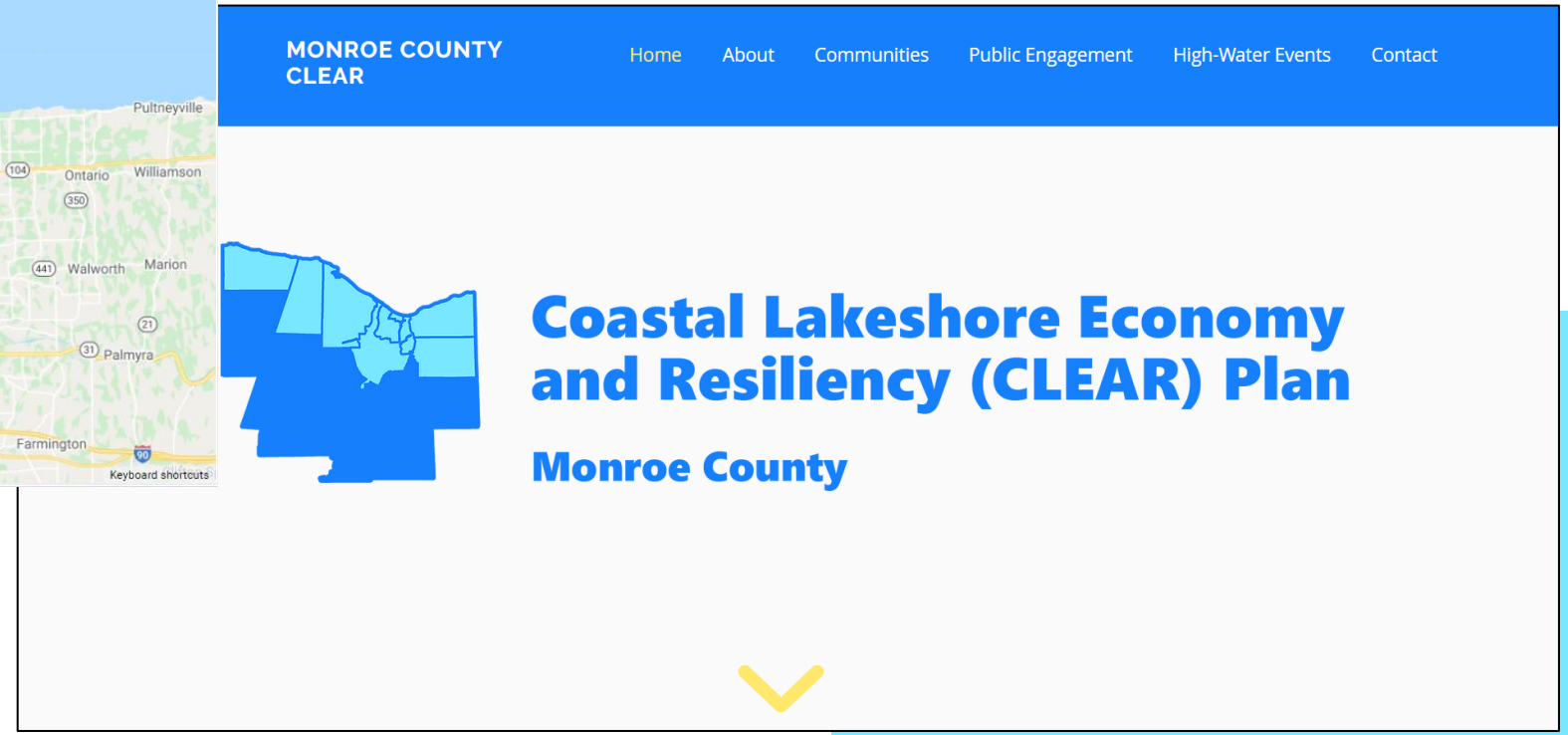
Survey Questions

COMMUNITY ENGAGEMENT

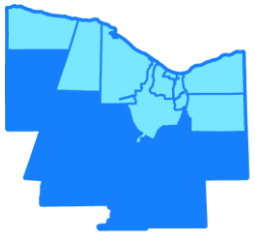
ONLINE PUBLIC ENGAGEMENT TOOLS



120+ assets identified!



Framework for Project Selection



FRAMEWORK FOR PROJECT SELECTION

VISIONING PROCESS

COMMUNITY VISION
Guiding principles

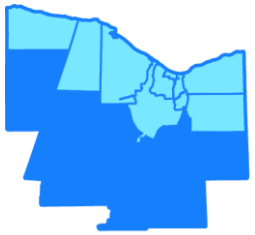
GOALS
Conceptual ideas that the Plan seeks to achieve

ACTIONS
Specific outcomes desired for each goal

9
PRINCIPLES

5
GOALS

25
ACTIONS



FRAMEWORK FOR PROJECT SELECTION

MITIGATION ACTIONS

Local Plans + Regulations

- Comprehensive plans
- Hazard mitigation plans
- Watershed management plans
- Land use ordinances
- Subdivision regulations
- Development review
- Building codes and enforcement

Structural Projects

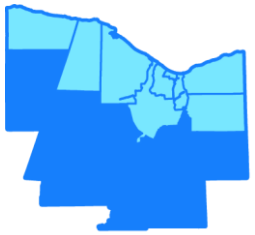
- Elevations of structures in flood prone areas
- Utility undergrounding
- Structural retrofits
- Floodwalls and retaining walls
- Detention and retention structures

Natural Systems Protection

- Sediment and erosion control
- Stream corridor restoration
- Conservation easements
- Wetland/dune restoration and preservation

Public Awareness + Preparedness

- Websites with maps and information
- Real estate disclosure
- Mailings to residents in hazard-prone areas
- Community participation in programs such as StormReady



FRAMEWORK FOR PROJECT SELECTION

EVALUATION CRITERIA

Anticipated resiliency benefit over the long-term and risks addressed by project

Potential resilience relative to scenarios

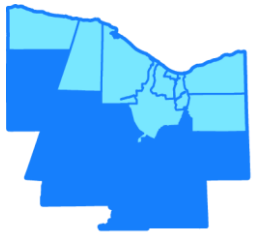
Potential financial resources (local, state, federal, private, non-profit, etc.) available to implement the program

Community support for the project and potential project partners

Identification of community benefits including broader resilience and economic development

Connection to community strategies and vision

Recommended Projects



RECOMMENDED PROJECTS

PROJECT PROFILES

20

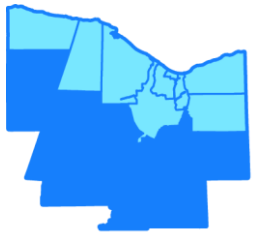
PROJECTS

8 PUBLIC AWARENESS + PREPAREDNESS

5 LOCAL PLANS + REGULATIONS

5 NATURAL SYSTEMS PROTECTION

2 STRUCTURAL PROJECTS



RECOMMENDED PROJECTS

MARKET ANALYSIS + ECONOMIC DEVELOPMENT

Lakeshore Business Retention + Resiliency Program

- Countywide program to connect with businesses, understand needs, identify pervasive problems and trends in the lakeshore business community
- Builds economic resiliency through proactive, ongoing engagement and action to support lakeshore businesses
- Requires staff time and possible CRM to track business visits and hold data
- Database is created can be used during future impact-events to connect with businesses quickly and provide relief efficiently

Business Engagement Process

1. Develop survey tool
2. Identify staff and recruit volunteers to conduct business visits or calls
3. Train volunteers on outreach process, organize outreach
4. Volunteers conduct outreach and submit information
5. Analyze information from businesses using database
6. Provide resources, connections, and information
7. Develop strategies for collection action in response to identified needs

RECOMMENDED PROJECTS

MARKET ANALYSIS + ECONOMIC DEVELOPMENT

Cost-Conscious Communities Program

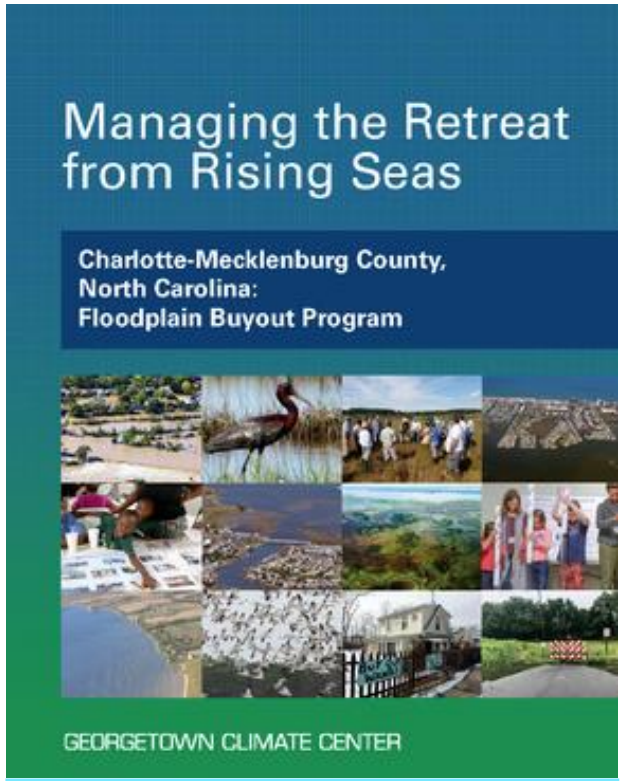
- Each community commits to tracking all costs associated with recovering and mitigation from flooding events, including local, state, and federal costs
- Allows for better-informed decision making in the future about the actual cost of events
- Use data for public education and engagement
- Recommended regional aggregation of data

RECOMMENDED PROJECTS

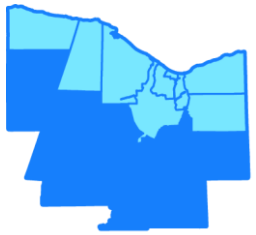
MARKET ANALYSIS + ECONOMIC DEVELOPMENT

Regional Buyout Lease-Back Housing Program

- Seek federal funding for a managed retreat program for vulnerable residents of high-risk properties
- Optional risk-reduction program that gives owners of at-risk properties that are highly-likely to be damaged during future flood events an opportunity to sell properties to public-entity
- Property owners, or others, can rent the home for a short duration, until it is no longer safe to reside in, giving property owners time to secure alternative housing
- Considered an equitable, flexible option because it meets landowners' current needs before future impacts occur
- Revenue from leasing properties helps to cover cost of program



"CMSS has invested more than $67 million to acquire flooded properties. As a result, the county estimates it has avoided an estimated $25 million in property damage and related losses to date, and prevented $300 million in future losses."

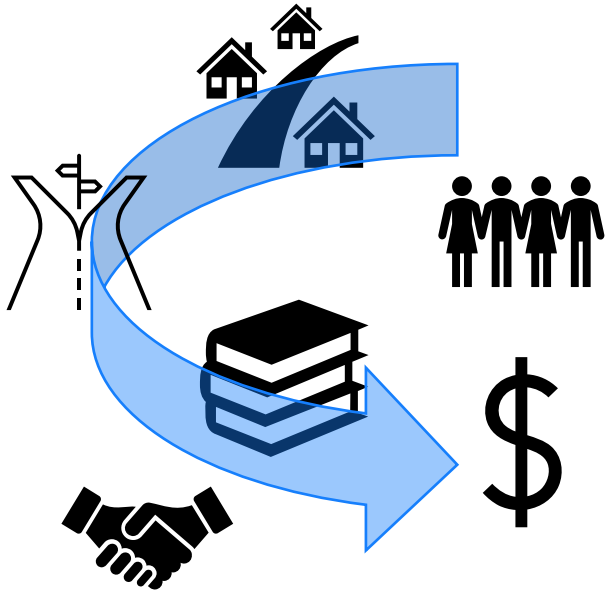


RECOMMENDED PROJECTS

MARKET ANALYSIS + ECONOMIC DEVELOPMENT

Fiscal Impact Analysis

- Public costs and revenues to municipalities associated with flood-prone districts
- Comprehensively weigh municipal revenues and costs – net fiscal cost or benefit
- Quantify total assessed value and property tax revenue generation
- Begin to collect and aggregate flood costs that have been incurred by different public entities
- Provides a fiscal baseline for comparing future adaptation and mitigation costs



RECOMMENDED PROJECTS

COASTAL RESILIENCY

Lake Bluff Rd, Irondequoit, NY (2021)

#1: Acquire and Demolish Residences on Lake Bluff Road in the Town of Irondequoit

- Support property acquisition efforts
- Work with homeowners to mitigate vulnerability
- Protection of private single-family residences with frontage on Lake Ontario from flooding, northeast winds, and erosion

RECOMMENDED PROJECTS

COASTAL RESILIENCY

#2: Sediment Bypassing and Beach Restoration in the Town of Irondequoit

- Place a wedge of sand along the bluff to the west of the inlet jetty at Irondequoit Bay Beach to foster sediment accumulation down the beach
- Restore Irondequoit Bay Beach to buffer from wave attack

RECOMMENDED PROJECTS

COASTAL RESILIENCY

Braddock Bay, Greece, NY (2021)

Braddock Bay Navigation Channel, Greece, NY (2021)

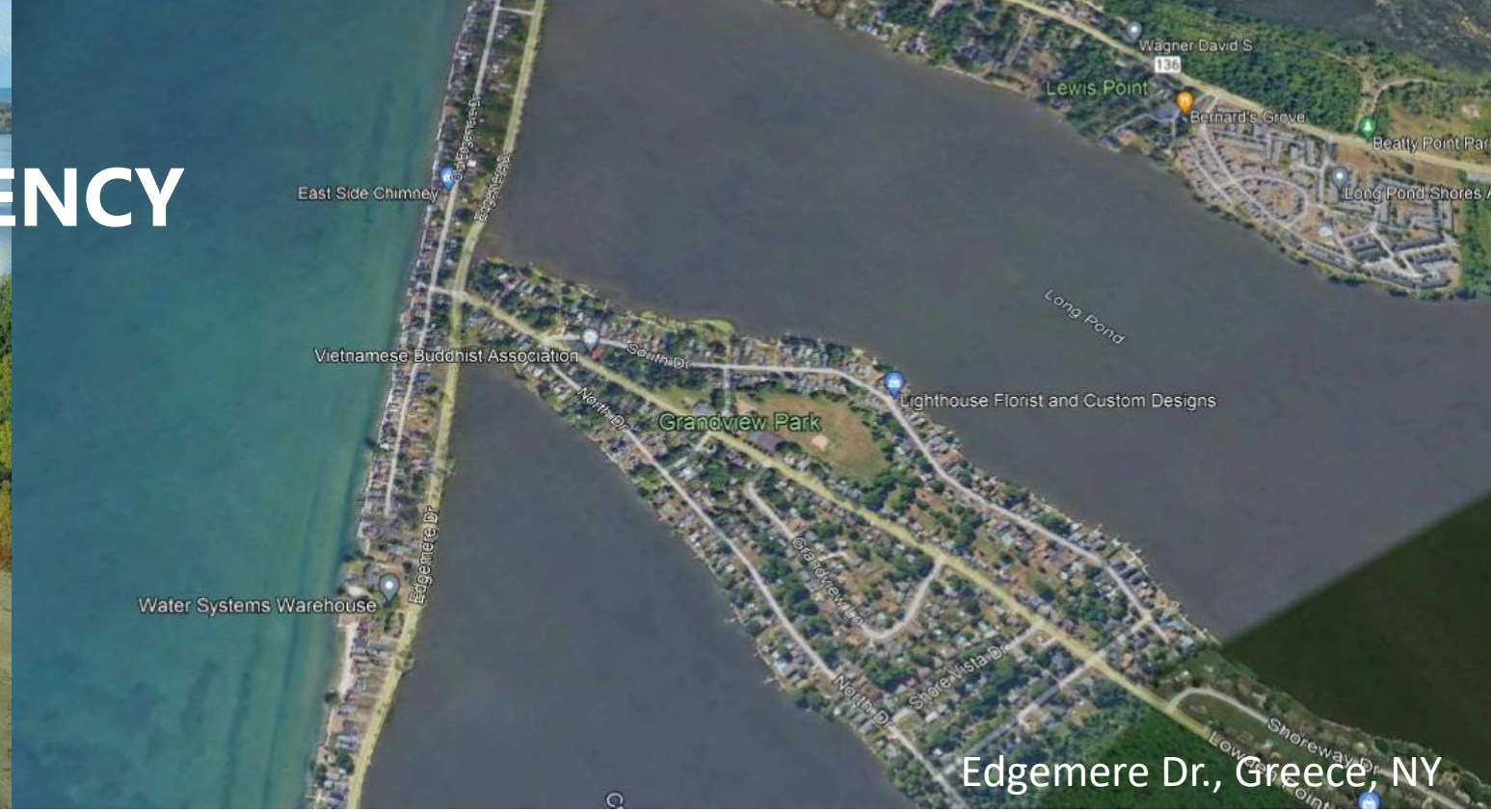
#3: Sediment Control Feasibility Studies in the Town of Greece

- Study sediment transport in the area of the Braddock Bay navigation channel and identify physical improvements and possible offshore structures to minimize sedimentation
- Allow for the continued use of community amenities in Braddock Bay
- Protect residential structures along Edgemere Drive

RECOMMENDED PROJECTS

COASTAL RESILIENCY

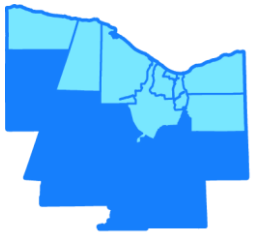
Presque Isle, Erie, PA



Edgemere Dr., Greece, NY

#3: Sediment Control Feasibility Studies in the Town of Greece

- **Community Benefits**: Recreational boating in Braddock Bay and Braddock Bay Wildlife Management Area support tourism. Improves the safety of residents living on Edgemere Drive.
- **Community Goals**: Safe and Healthy Communities – Preserve high-value natural areas, effectively regulate hazard areas



RECOMMENDED PROJECTS

GIS + DATA VISUALIZATION

Impervious Surface Reduction (ISR): Replacing Parking areas with permeable pavement

CLEAR Asset Inventory

- 71 of 122 have Parking
  - 34 are Public
  - 37 are Private
- 22 are Housing related
- Partnerships and Community Engagement

Strategic Alignment

- CLEAR Vision
- ***CLEAR N&O Assessment***
- DOS Strategic Priority
- FEMA RiskMAP Priority
- Compliment REDI and CLEAR projects
- Template adaptable to multiple locations

Return on Investment

- Lowest per/volume costs of alternative BMP options
- Green vs Gray
- Porous asphalt has lowest lifecycle costs
- Long term investment in industry and private sector adoption

RECOMMENDED PROJECTS

GIS + DATA VISUALIZATION

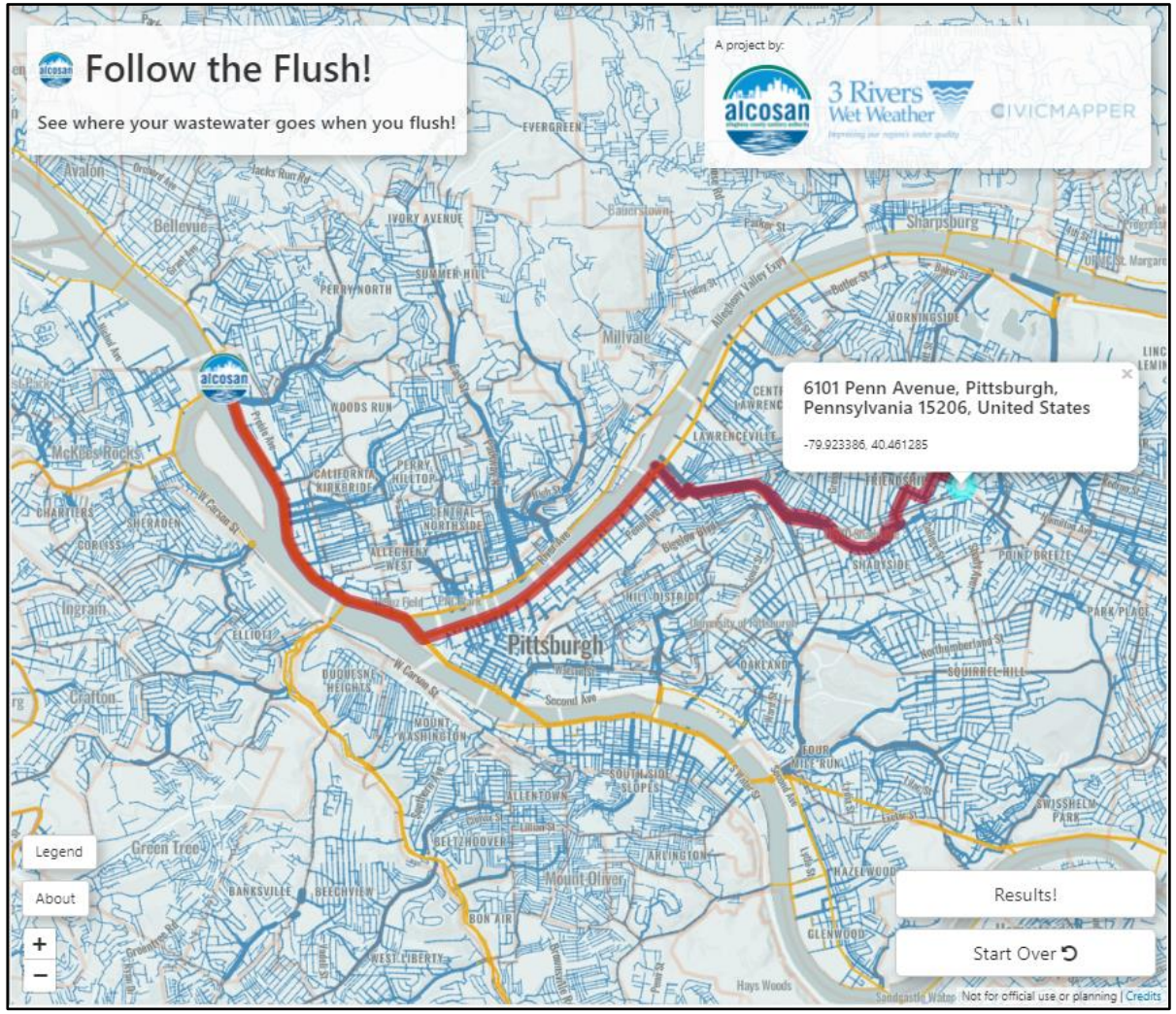
Infrastructure Vulnerability Application (IVA):
Demonstrating BOTH the vulnerability and resiliency of sewer infrastructure

CLEAR/REDI Asset Inventory

- 122 CLEAR Assets
  - 5 Community/Churches
  - 15 Sewer Infrastructure
  - 21 Housing
  - 30 Commercial

  ~ 60% of CLEAR assets have sewer risks
- 31 REDI Projects are
  - 14 Sanitary Sewer projects

  ~ 45% of REDI Projects are improving sewer resiliency



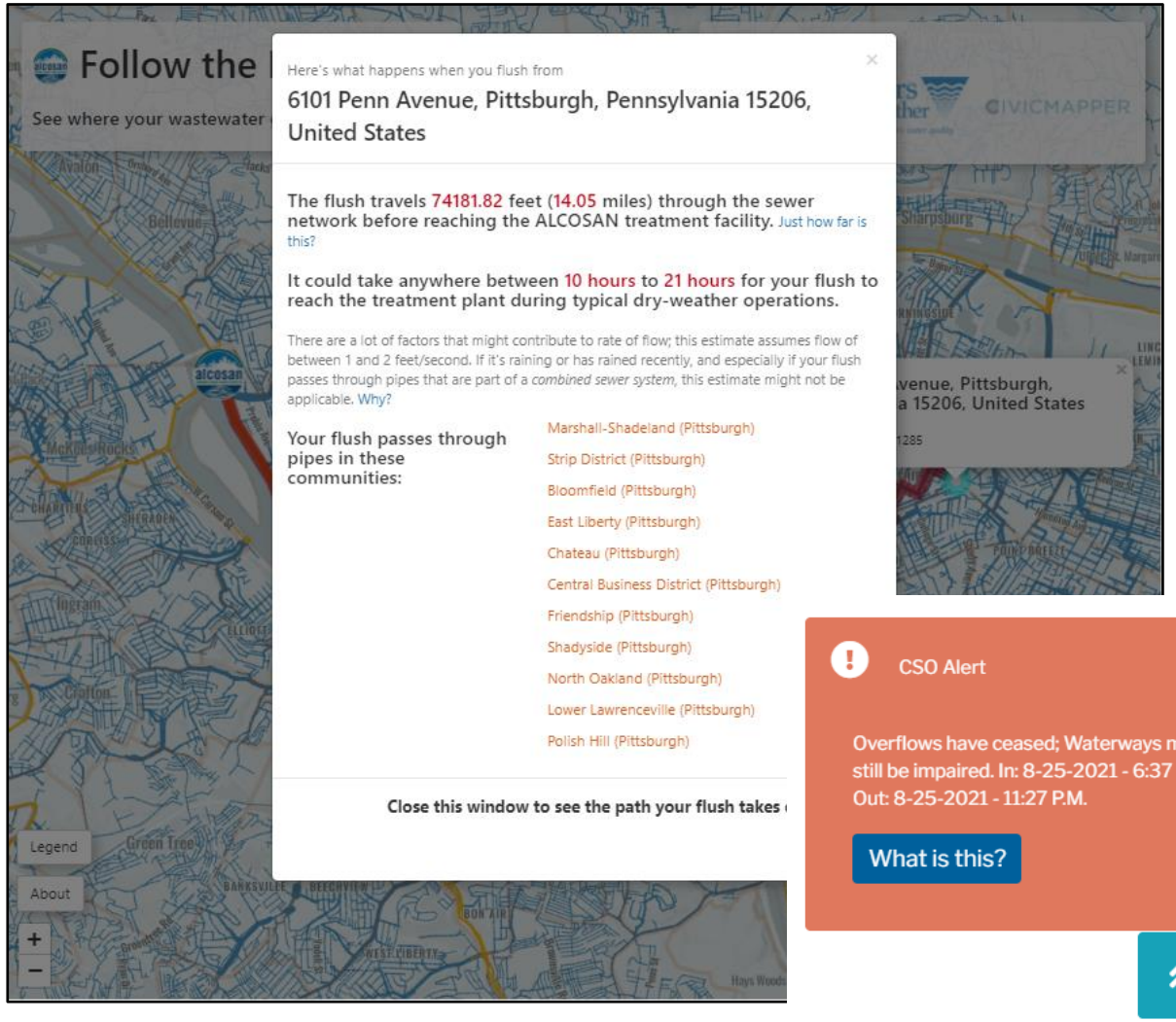
RECOMMENDED PROJECTS

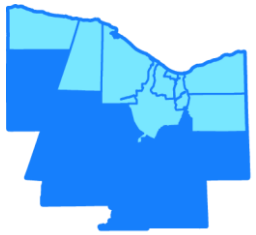
GIS + DATA VISUALIZATION

“Flush It” Web Tool

- Much of City of Rochester is Combined Sewer
- Increase public awareness of where water goes
- Highlight areas where risks to the system exist (FEMA zones, Critical Infrastructure, shoreline, etc.)
- Highlight areas where IMPROVEMENTS to the sewer system are underway (e.g., REDI projects)
- Monroe County DES data is shovel ready for adapting a similar tool implemented in Allegheny County, PA
- Info boxes, graphics, and near real time system updates

Infrastructure Vulnerability Application (IVA):
Demonstrating BOTH the vulnerability and resiliency of sewer infrastructure





RECOMMENDED PROJECTS

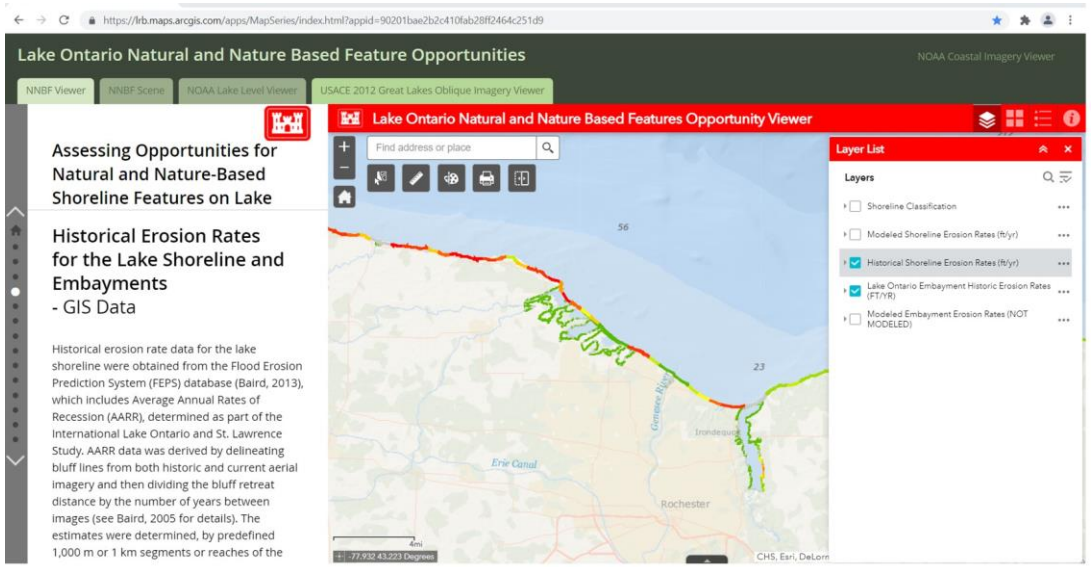
SITE/CIVIL ENGINEERING

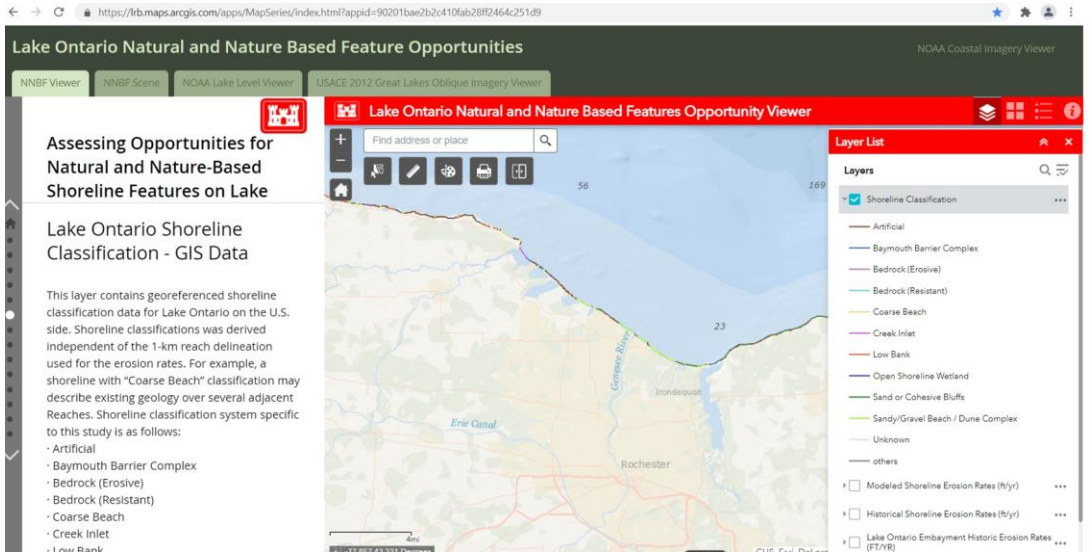
Shoreline Management Strategy Project

- Development of Near-Shore Wave Energy Attenuation System
- Benefit to at-risk neighborhoods by reducing property exposure to wave energy

Data Needs

- Detailed inventory of shoreline characteristics
- For use by communities for planning purposes





RECOMMENDED PROJECTS

SITE/CIVIL ENGINEERING

Lake Shore Fire Station

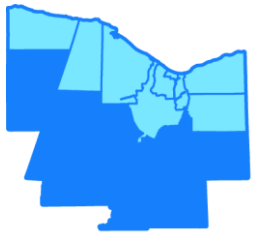
N. Hamlin Rd. bridge over Sandy Creek

Making Great Lakes Coastal Structures Greener

- Projects to improve pier, jetty and erosion protection structures
- Provide environmental benefits and recreational access

Countywide Emergency Services Study

- Planning study to focus on the CLEAR region facilities and infrastructure that support emergency response activity to high Lake Ontario level events



RECOMMENDED PROJECTS

NATURAL RESOURCE PLANNING + DESIGN

Resiliency Project Strategies Public Recreational & Cultural Resources

- Infrastructure Relocation
- Preservation of Open Space
- Wetland Creation
- Storm water Green Infrastructure
- Living Shorelines
- Infrastructure Elevation

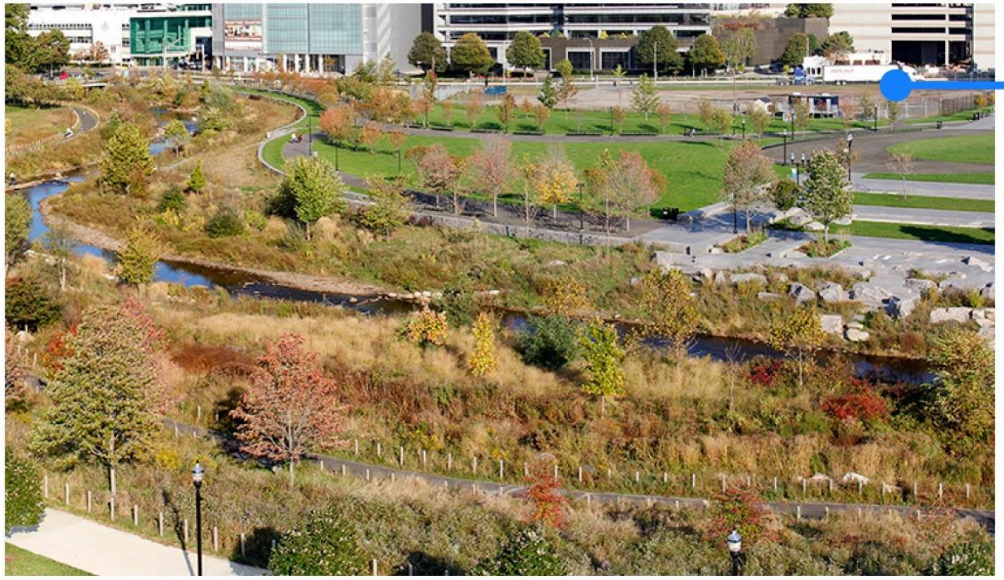
Potential CLEAR Projects

Long-term ***master planning and site intervention projects*** using a natural process '***systems approach***' to design, integrating resilient landscape planning strategies.

Example: Mill River Greenway, CT (Olin)

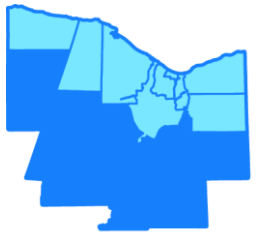
BEFORE

Designing ***with*** natural process for flood resilience.



AFTER

Resiliency Co-benefits = Biodiversity, ecosystem services, public health, new recreational opportunities, shoreline accessibility...

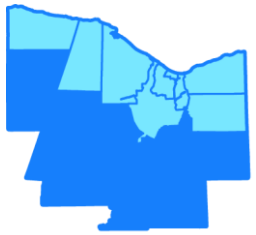


RECOMMENDED PROJECTS

NATURAL RESOURCE PLANNING + DESIGN

Potential Projects
Public Recreational & Cultural Resources

- DEC Fishing Access at St. Paul Blvd Terminus
- Durand Eastman Beach
- Turning Point Park, Hand-carry Boat Launch, and Boardwalk
- Genesee Riverway Trail (GRT) Green Infrastructure / Resiliency
- Ellison Park
- Hamlin Beach State Park
- Salmon Creek Park (Hilton)



RECOMMENDED PROJECTS

NATURAL RESOURCE PLANNING + DESIGN

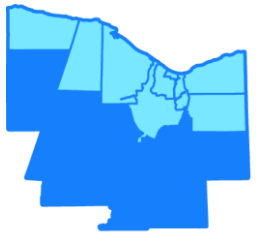
Existing Photos

DEC Fishing Access at St. Paul Blvd Terminus

- Ongoing REDI project, mitigates flooding road and parking, storm sewer retrofits
- REDI funding did not address riverfront walkway and fishing area portion
- DEC / City of Rochester priority, high use by vulnerable population

Proposed Project

- Elevated riverfront fishing area
- Fishing amenities, public space and accessibility improvements
- Flood resiliency education and public art
- In-water habitat bench creation, algae and aquatics (feeding grounds)



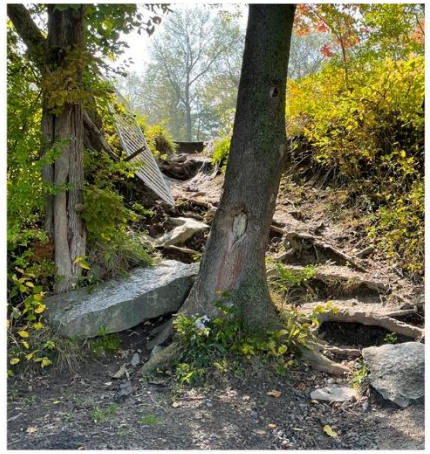
RECOMMENDED PROJECTS

NATURAL RESOURCE PLANNING + DESIGN

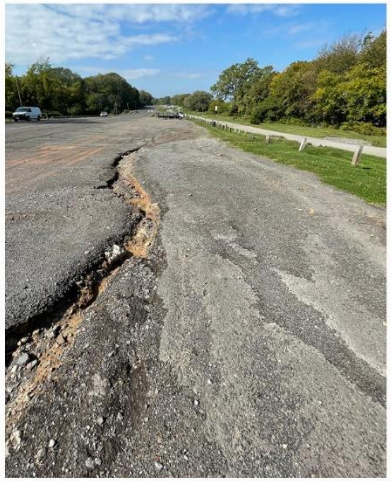
Existing Photos

Beach in 2019

Trail pavement undermining



Poor access & erosion



Parking lot erosion

Beach in dry season (2021)

Parking lot drainage to lake

Durand Eastman Beach

- Loss of beach in high water events combined with beach and bluff erosion from land-side storm water runoff, most storm water drains to lake
- Very difficult user access at popular site
- City of Rochester planned public beach / bathhouse (currently in design phase)

Proposed Project

- Update / revise existing 2007 Durand Eastman Park Beach Master Plan with focus on access, resiliency, green infrastructure, as well as long-term beach replenishment
- Green infrastructure, porous paving, living shoreline, and beach access improvements aligned with proposed bathhouse

RECOMMENDED PROJECTS

NATURAL RESOURCE PLANNING + DESIGN

Turning Point Park, Hand-carry Boat Launch, and Boardwalk

Existing Photos

Existing hand-carry boat launch

Upland trails and recreational assets

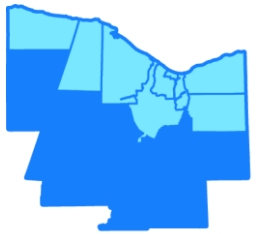
Boat launch area (2008)

Steps to existing boat launch

- Valued recreational and river access point, with high ecological benefit, but steep grades from parking to river
- Sedimentation and invasive species choking river access point / boat launch
- Shoreline within park is DOS High Risk area, however boardwalk not impacted by prior flooding

Proposed Project

- Hand-carry boat launch relocation and alternative with better access / ADA, potential 'kayak' vending machines to increase / promote boat use
- Prepare Turning Point Park Master Plan with focus on access, resiliency, and green infrastructure



RECOMMENDED PROJECTS

NATURAL RESOURCE PLANNING + DESIGN

Existing Photos

Rip-rap with some invasive species

Mowing to edge of river

Riverside parking with run-off

Marina parking near old train station

Boardwalk impacted by splashing / wind, REDI wall height project on parking side

Genesee Riverway Trail (GRT) Green Infrastructure / Resiliency

- Linear ped/bike transportation asset, opportunity to provide ecosystem services (water quality treatment) in some areas
- REDI projects planned to armor and stabilize trailside, river wall height increases (Petten St and north, marina parking area)

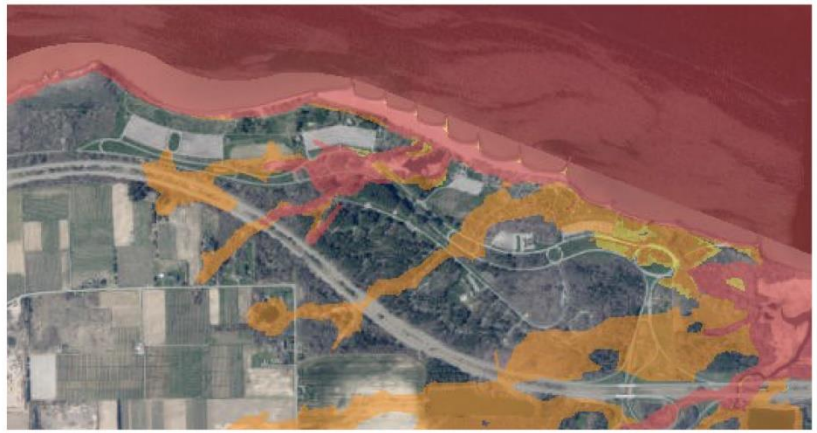
Proposed Project

- Generally expand GRT community role from recreation and transportation to also provide ecosystem services, implement with new / rehabilitated trail segments over time
- Provide living shorelines and/or linear green infrastructure for storm water management in future trail work, explore options in CLEAR areas

RECOMMENDED PROJECTS

NATURAL RESOURCE PLANNING + DESIGN

Existing Photos



Flood / Climate Risk Areas

Relationship with Lake Ontario

+20 acres parking, paving failures

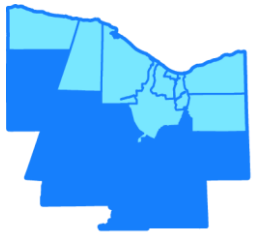
Temporary wall, pavement undermining

Hamlin Beach State Park

- Popular beach-front recreational park with complex hydrology, wave erosion, undermined pavement
- Significant historic and cultural resources need special planning attention regarding resiliency (CCC-era structures)
- Extensive impervious surface (20+ acres of asphalt parking lots)

Proposed Project

- Prepare long-term Master Plan with focus on recreational access, resiliency, green infrastructure, historic preservation, and climate adaptation
- Data collection, community engagement, incorporation of green infrastructure, and educational programs / opportunities



RECOMMENDED PROJECTS

NATURAL RESOURCE PLANNING + DESIGN

Existing Photos

Narrow riparian buffers along creek

Lawn fields frequently unusable due to wet conditions

Facilities remain impacted days after rain events

Flood events

Ellison Park

- Park is a major creek flood plain, with frequent flooding in minor storm events resulting in closure of facilities / cleanup
- Expansive lawn fields in some areas not able to be used for recreation (wet for long periods after rain, even in dry season)
- Cannot raise all infrastructure - water needs somewhere to go. Safer for park to flood than homes!

Proposed Project

- Prepare long-term Master Plan with focus on resilient landscape planning strategies for the flood plain that provide new recreational opportunity and re-imagine the relationship with the park (design with nature), created wetlands, stormwater gardens, ecology-based planning, etc.

RECOMMENDED PROJECTS

NATURAL RESOURCE PLANNING + DESIGN

Existing Photos

High water event along creek (2019)

Hand-carry boat launch

View from former railroad bridge

Salmon Creek Park

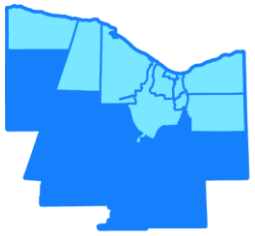
- Small park with flood risks along creek during high precipitation events, though risk to other community assets along creek more extensive than park - more comprehensive flood risk / mitigation analysis in Village is needed

- Salmon Creek Park facilities need improvement in general, no riparian buffer. Potential utility conflicts limit feasibility of alternations in some areas

Proposed Project

- Park redesign with focus on resiliency, living shorelines, enhanced riparian buffers, using the creek as a recreational focal point. Strong candidate for proof of concept resiliency project along creek.

Next Steps



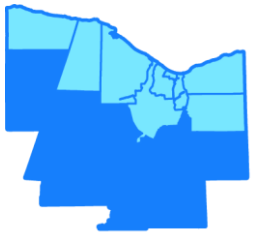
NEXT STEPS

DEVELOPMENT OF THE CLEAR PLAN

- ✓ Final Steering Committee Meeting – **November**
- ✓ Submission of CLEAR Plan to DOS – **Year End**

What can my community do with the CLEAR Plan?

- Adopt the plan
- Integrate with other planning initiatives, such as Comprehensive Plan updates
- Apply to grants for project implementation



NEXT STEPS

COMMENTS OR QUESTIONS

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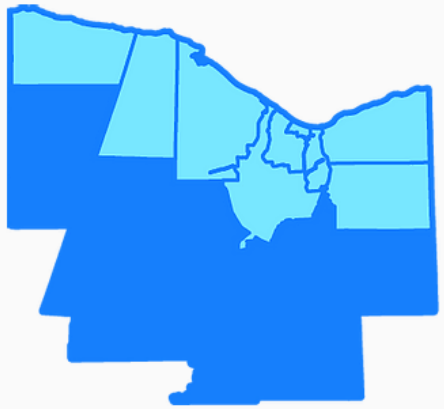

Coastal Lakeshore Economy and Resiliency (CLEAR) Plan

Monroe County

https://www.monroecountyclear.com/

Interactive Exercise

READY TO SHARE SOME FEEDBACK?

1 Grab your phone

2 Go to www.menti.com

3 Enter Code: