



# Resilience and Plan Endorsement in the Borough of Atlantic Highlands

*Community Presentation and Discussion*

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# Meet the Team

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# Overview

1. Atlantic Highlands' Resilience Challenges
2. New Jersey's Plan Endorsement Process
3. Opportunities to Incorporate Resiliency in Atlantic Highlands
4. Constraints to Atlantic Highlands Resiliency Efforts
5. Starter Action Items

# Hazards in Atlantic Highlands

- Unique location
  - Coastal bluffs
  - Low-lying area between the creeks

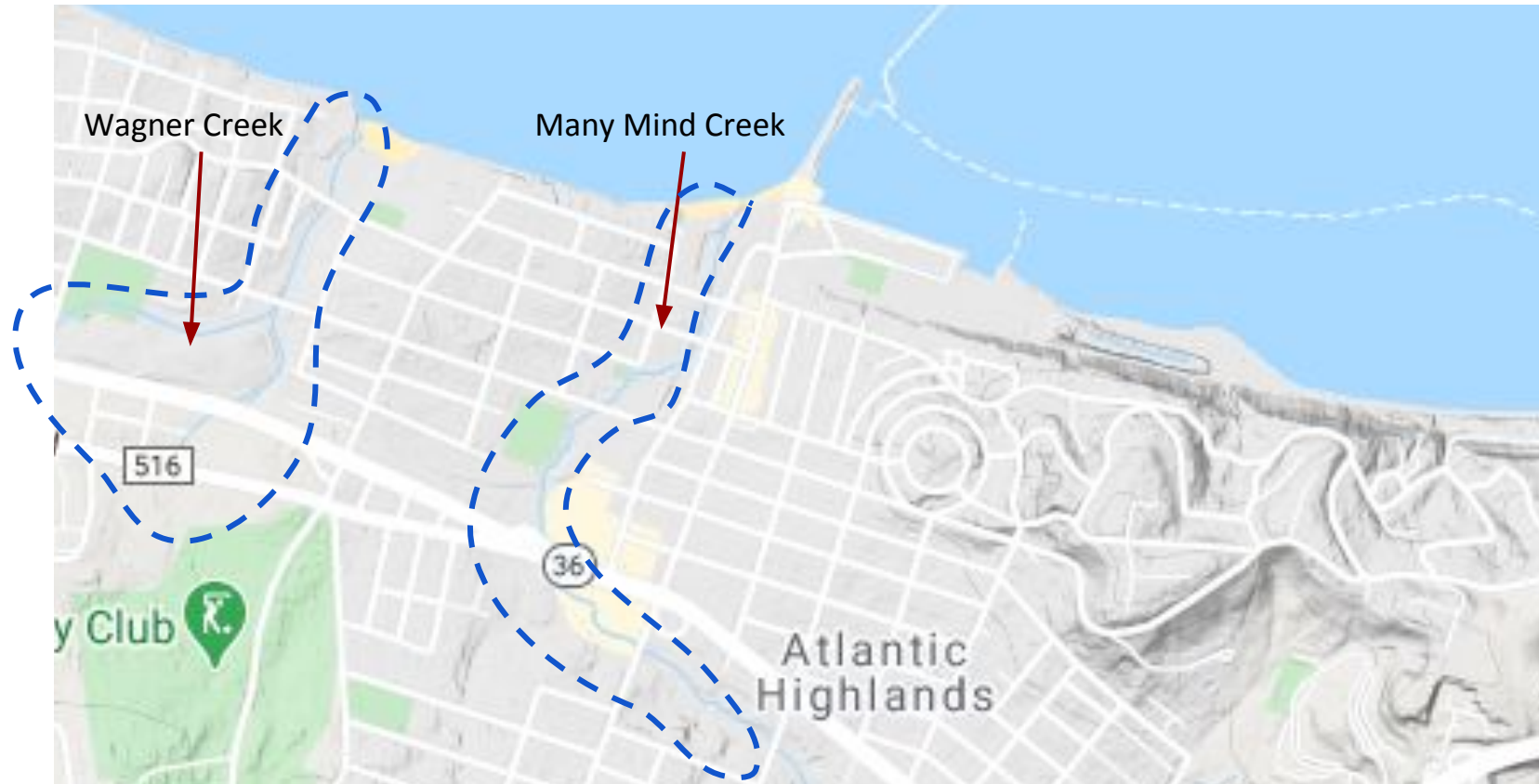


Figure 1. Map of Atlantic Highlands. (Source: Google Maps)

# Resilience challenges in Atlantic Highlands

- Flooding – coastal storms (hurricanes and Nor'easters)
  - Monmouth County has been involved in **11 New Jersey disaster declarations** since 1965 (FEMA)
  - Sea level has risen by **1.2 ft** along the coast of Atlantic Highlands since 1930
- Climate – extreme precipitation
  - Increased temperature by **4°F** since early 20<sup>th</sup> century in New Jersey
  - Increased **heavy rainfall** events
- Cascading effects
  - Landslides and structural damage (e.g., harbors, buildings, power outages)



Created by Robin Richards  
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Created by Hayaishi Fumihito  
from Noun Project

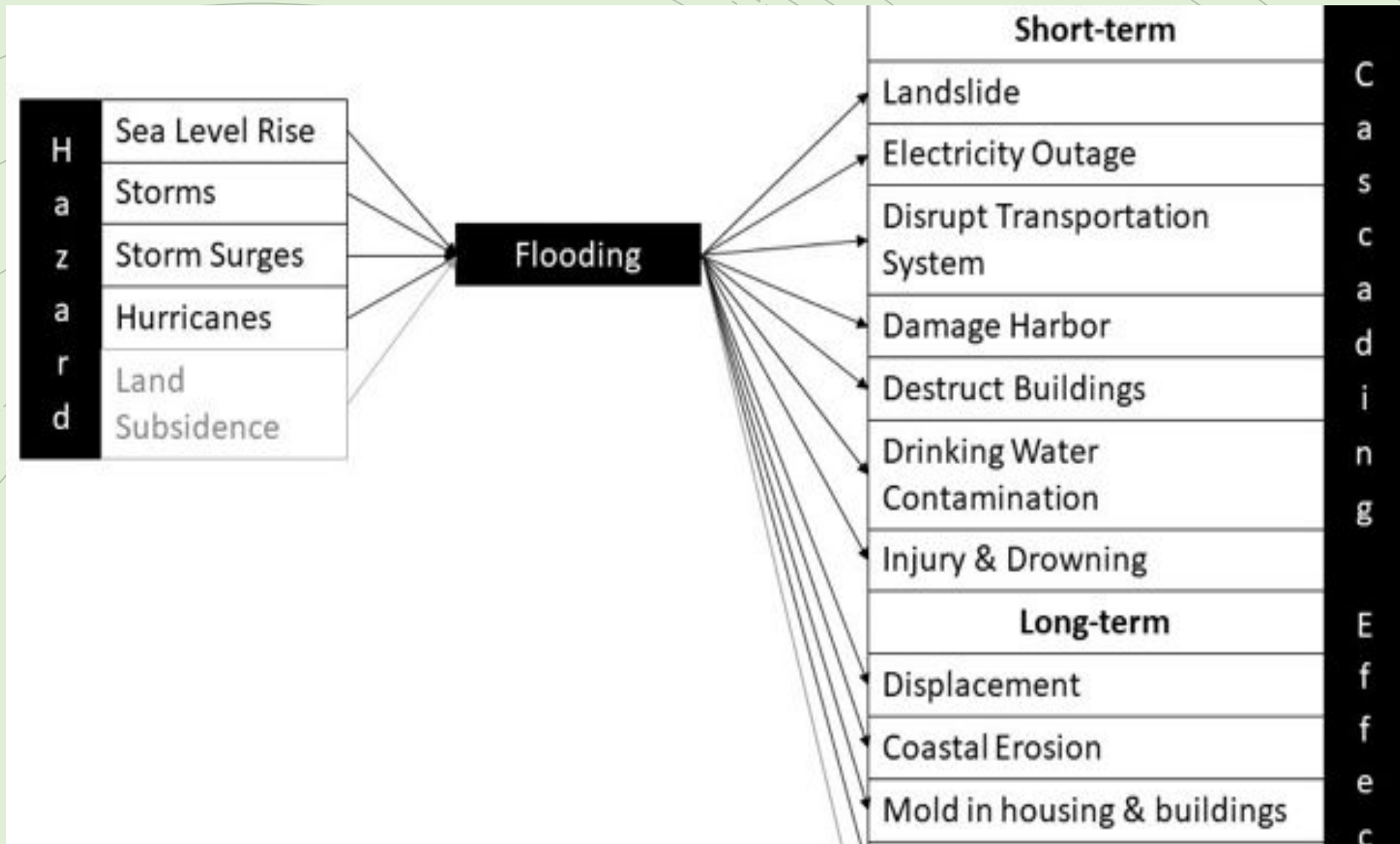


Figure 2. Cascading effects (secondary hazards) of flooding in Atlantic Highlands



# 5-foot Total Water Level (2070, Annual Flood) in Atlantic Highlands



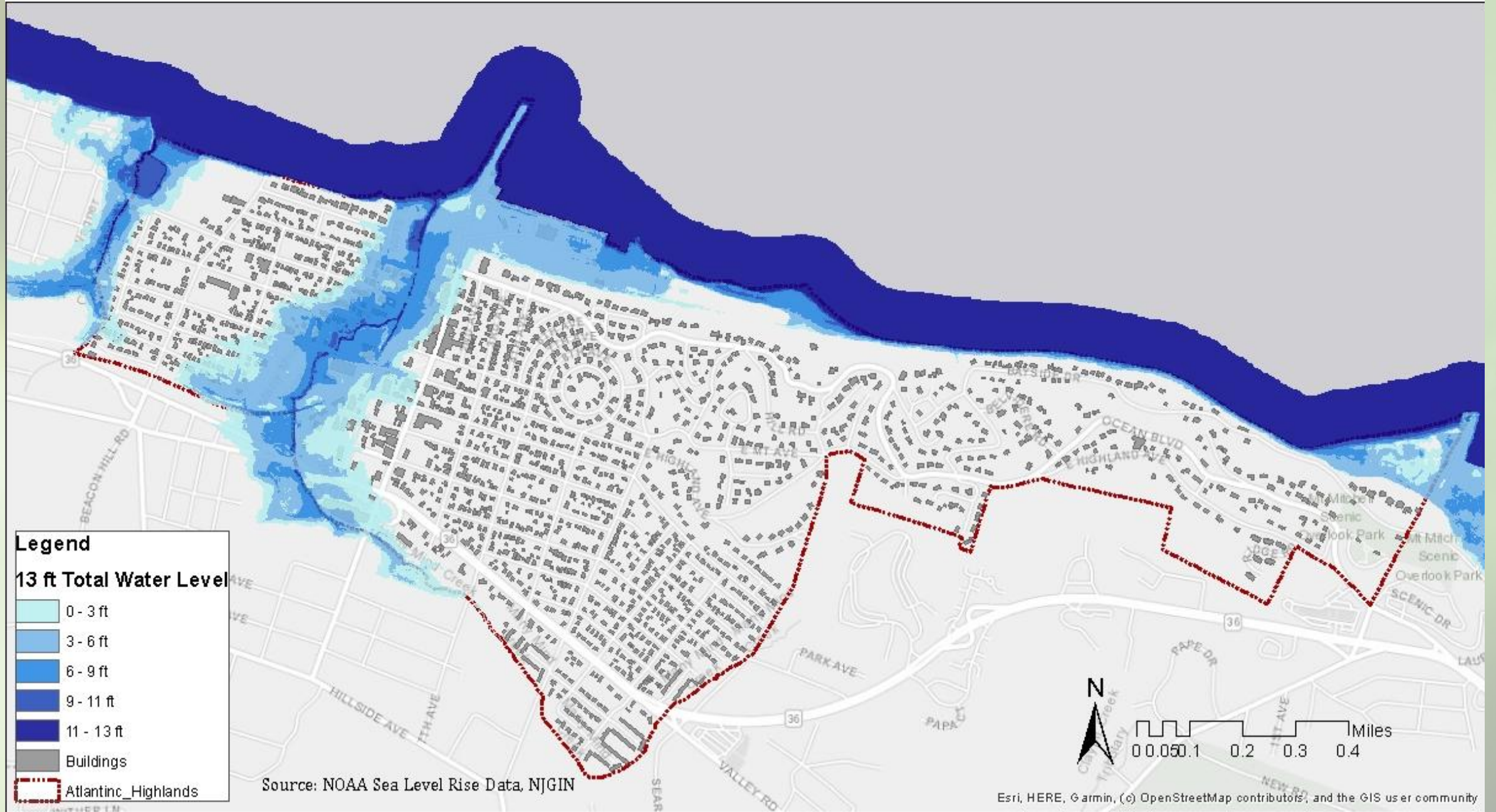


# 5-foot Total Water Level (2070, Annual Flood) in Atlantic Highlands





# 13-foot Total Water Level (2100, Hurricane Sandy storm surge extent) in Atlantic Highlands





# 13-foot Total Water Level (2100, Hurricane Sandy storm surge extent) in Atlantic Highlands



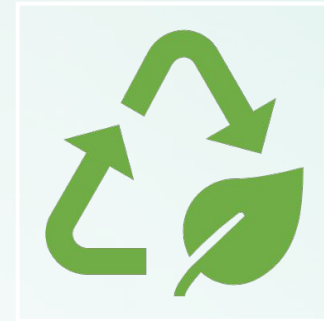


# Plan Endorsement



## What is it?

- Two-way process between municipality and state
- Center designation and incentives



## 2020 state update to guidelines

- Resiliency, equity, and environmental justice



# Plan Endorsement Steps

1. Pre-Petition Meeting

2. Municipal Advisory Committee

3. Municipal Self Assessment

4. State Opportunities and Constraints Analysis

5. Community Visioning  
\*waiver possible

6. Consistency Review

7. Action Plan Implementation

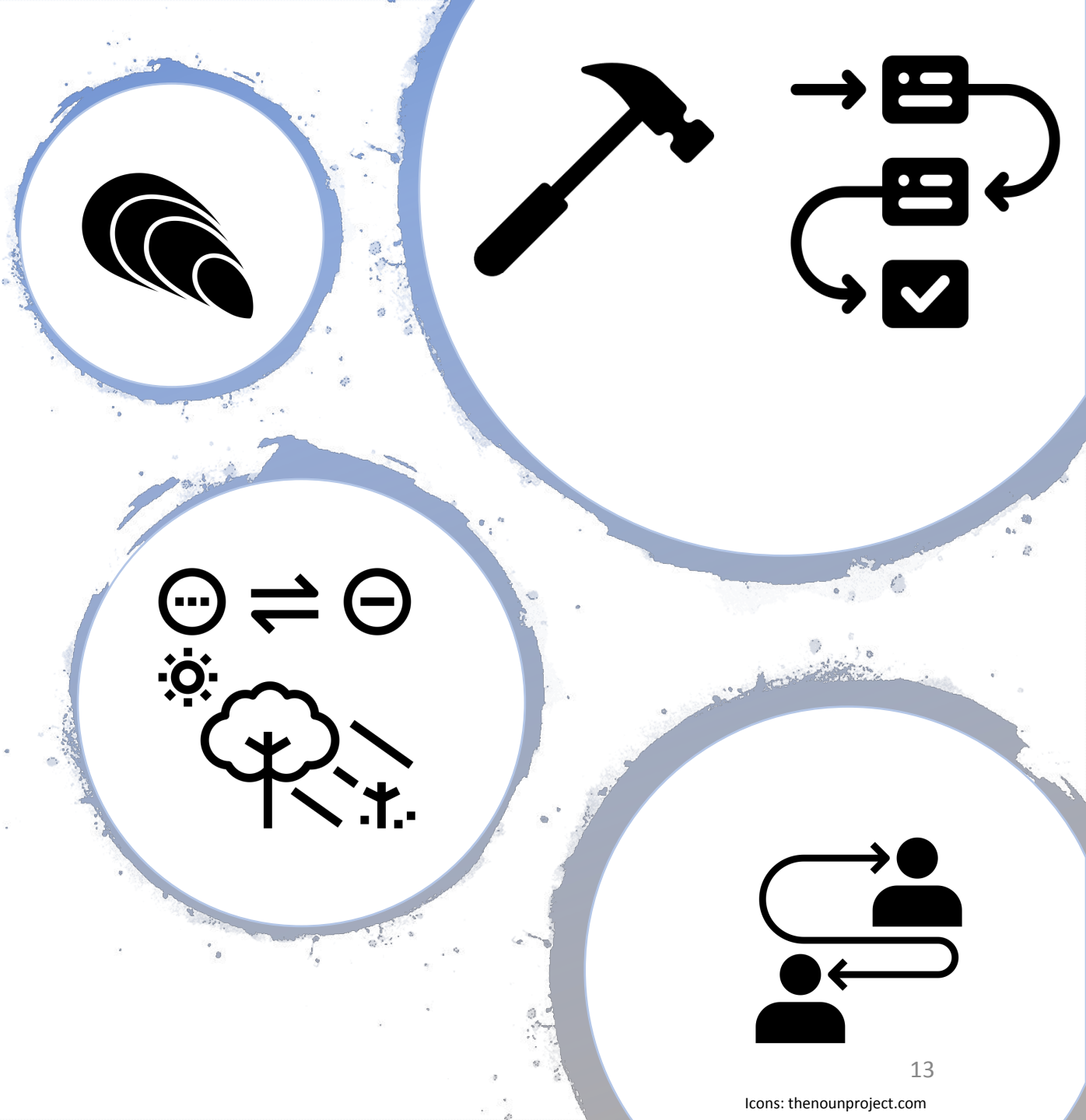
8. Recommendation Report and Plan Implementation Agreement

9. State Planning Commission Endorsement

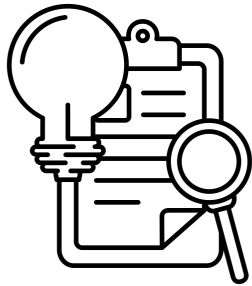
10. Monitoring and Benefits

# Opportunities to enhance resilience

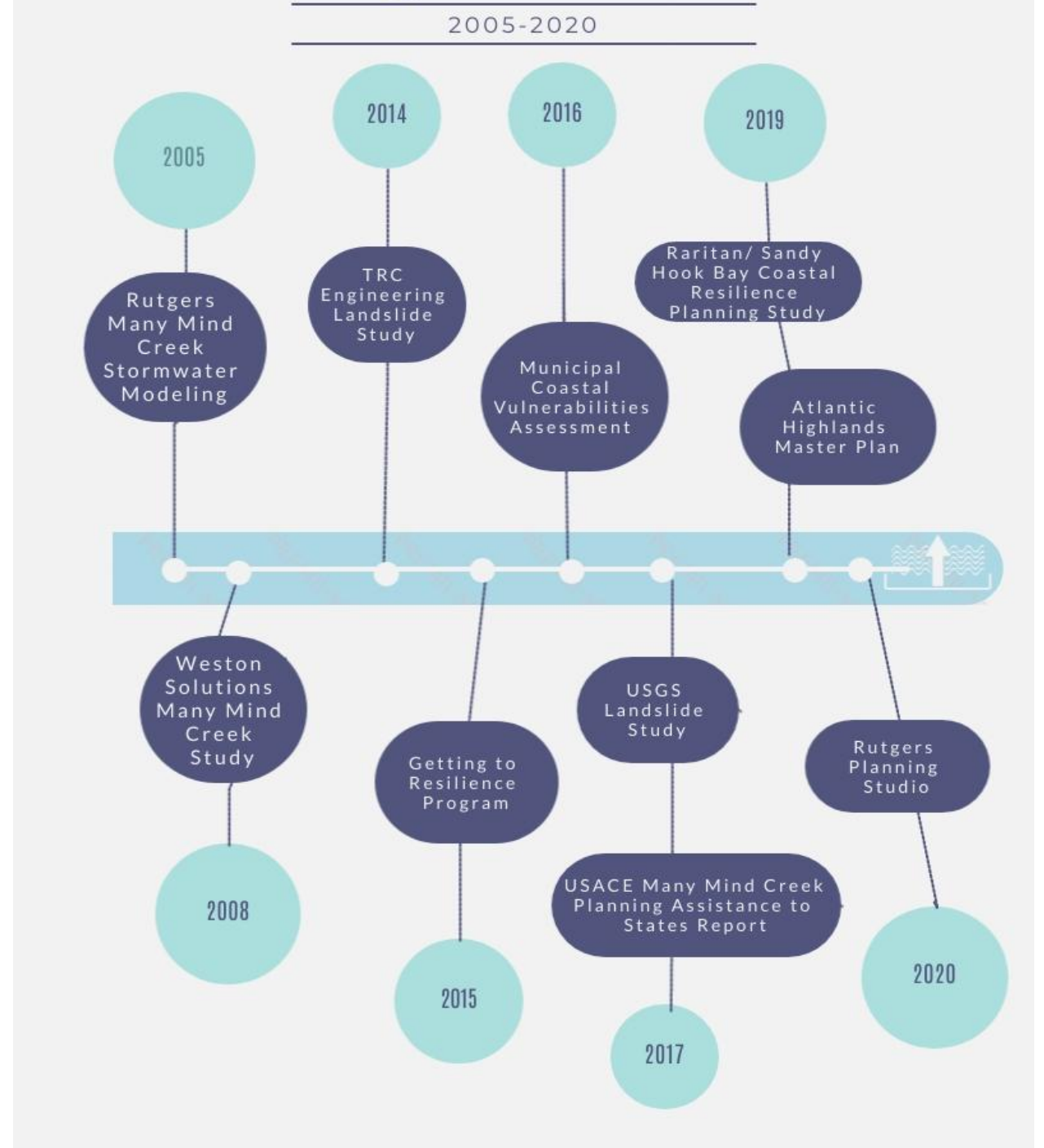
1. Build off **existing plans**, studies and projects
2. Employ **nature-based solutions** as a low-cost alternative
3. Expand **coordination and communication** at all levels



# 1. Build off existing plans, studies, and projects



Created by Dev Patel  
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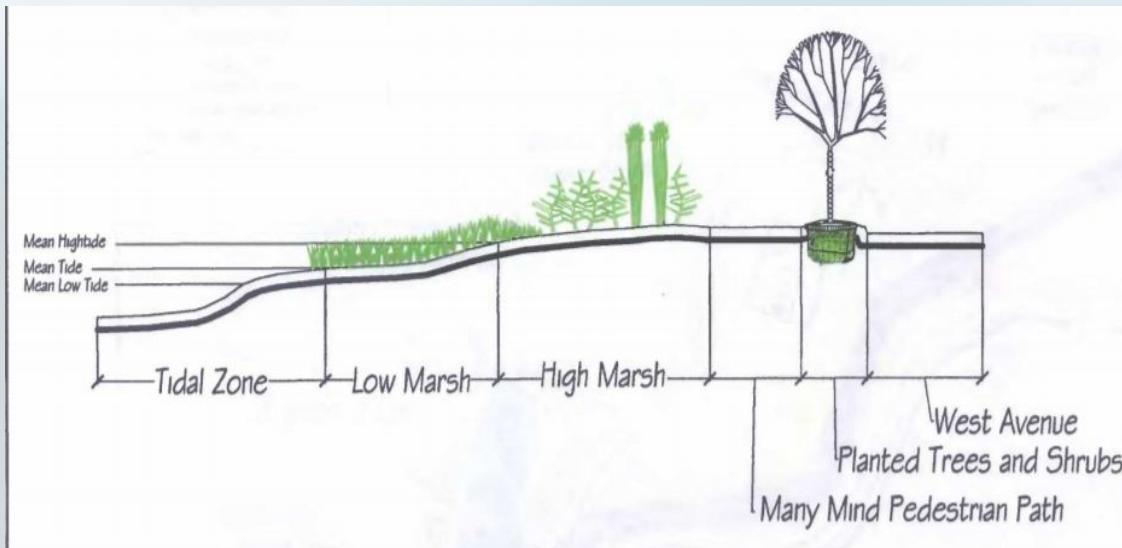




# 1. Build off existing plans, studies, and projects

For example:

- Many Mind Creek Greenway
- Improving the “gateway-like” atmosphere at the harbor
- Open space acquisition





# 2. Employ nature-based solutions as a low-cost option

“Stabilize our slopes and our climate”

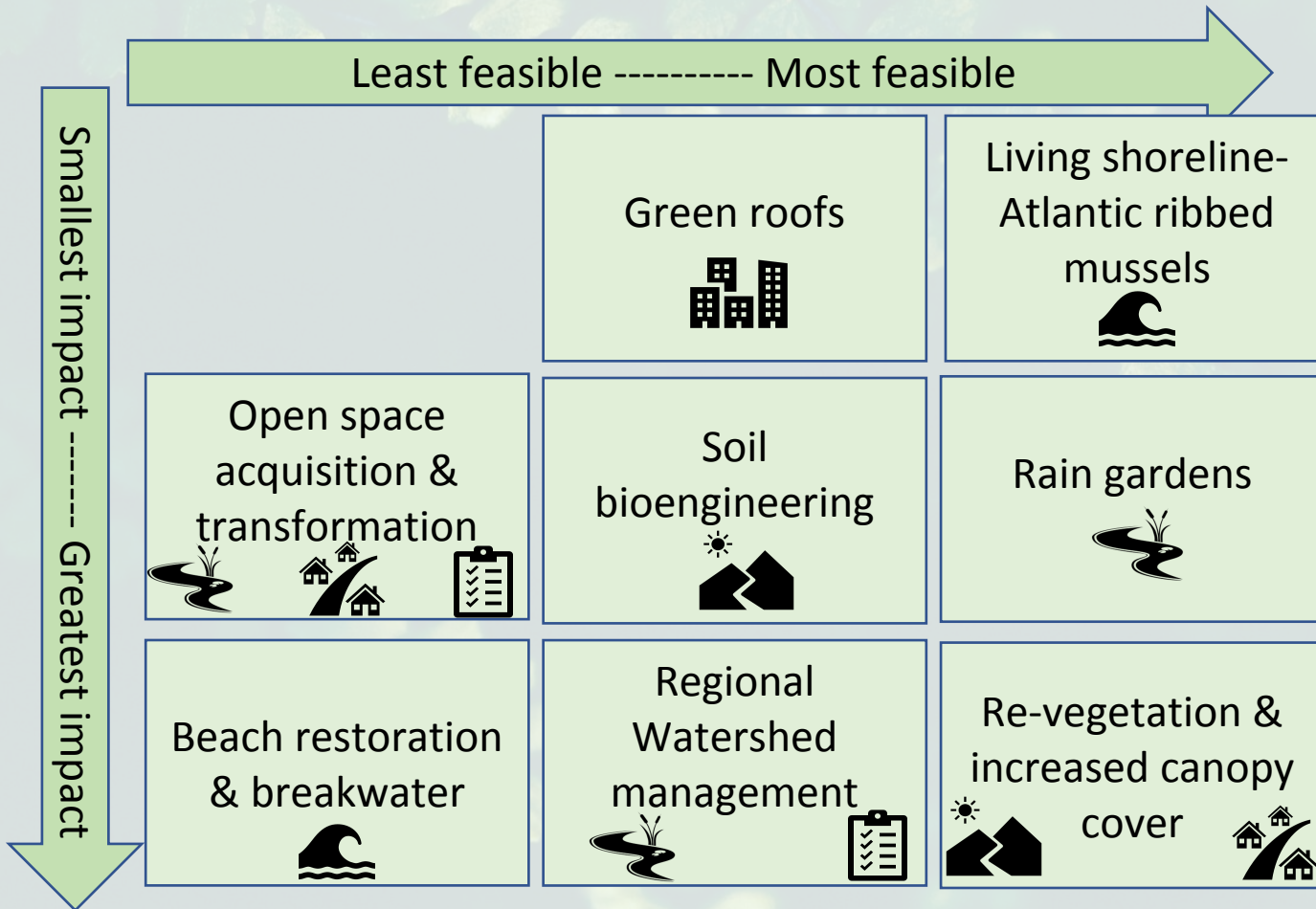






Image source (top): <https://www.marylandbiodiversity.com>  
and (bottom): <https://images.squarespace-cdn.com/>



Image source: <https://www.fisheries.noaa.gov>

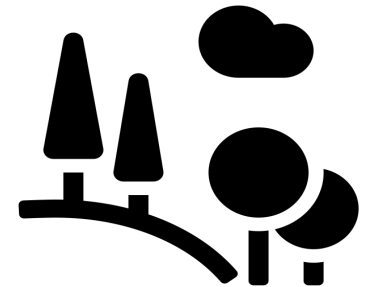


### 3. Expand coordination and communication

- Residents
  - Workshops, educational signs, videos, a town “Harbor Day”
  - Increase outreach to connect residents with town social media and website
- Within Municipality
  - Collaborations between Shade Tree Commission, Environmental Commission, and Recreation Committee
- County and State
  - Capacity and resource-sharing; assistance coordinating regional opportunities



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# Constraints related to resilience

1. Limited resources
2. Decision making challenges
3. Planned development and redevelopment



# 1. Limited Resources



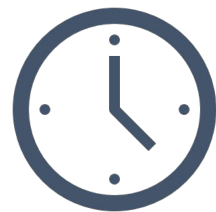
- Limited Resources for Existing Resilience Plans:
  - Environmental funding
  - Designated staff
- Possible Solutions:
  - Prioritize project proposals
  - Divide projects into phases to execute
  - Secure more funding (e.g., grants)

NOTE: COVID-19 impact on environmental funding

# 2. Decision Making



- Flooding and Other Hazards:
  - Not immediate threat → might postpone action
  - Existing proposals → reallocate funds towards environmental risks
  - **Addressing sooner greatly reduces losses** and impacts of future
- Possible Solutions:
  - Staff training on resilience
  - Offer educational opportunities to public







### 3. Planned Development and Redevelopment

- Limited Land:
  - Limited undeveloped land = minimal open space options
  - Narrow streets limit space for nature-based solutions
    - Tree installations
    - Rain gardens
  - Steep slopes limit development allowed
- Possible Solutions:
  - Resilient development planning



# Starter Action Items



1. Incorporate natural infrastructure into improvement plan for harbor gateway project



2. Capitalize on momentum provided by the excavation and restoration of Many Mind Creek



3. Seek funding sources to address hazards beyond sea level rise



4. Incorporate resiliency in all decision making





Rain garden images source: Jersey-Friendly Yards

Image source: Lake Superior Streams

# 1. Incorporate natural infrastructure into improvement plan for harbor gateway project

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Any new construction project is a great opportunity to introduce natural infrastructure!



## 2. Capitalize on momentum of Many Mind Creek projects

- Continue improvement of water quality for multi-functional use
  - Recreation, flood mitigation, biodiversity restoration
- Activities promoting resilience within the community
  - Events and campaigns facilitated by the Borough's recreation committee
    - Celebrate Many Mind Creek and the bay during a "Harbor Day"
    - Signage at the Many Mind Creek Greenway
  - Engagement of residents (e.g., workshops)



### 3. Seek funding sources to address hazards beyond sea level rise

- Incorporate potential risks and opportunities
  - Flooding, wind, heat, etc.
  - Conservation in water, green spaces and trees on land
- Funding opportunities:
  - New Jersey Community Forestry Program Green Communities Grant
  - New Jersey Department of Environmental Protection Water Quality Restoration Grants
  - The Nature Conservancy (TNC) Small Grants for Living Shorelines

# 4. Incorporate resiliency in all decision making

- Incorporate potential risks
  - Flooding, wind, heat, etc.
- Expand on existing building code and Municipal Land Use Law
- Stormwater management ordinance draft - in the process
- State forthcoming new guidelines
  - Prompted by Executive Order 89
  - Guidance for making decisions about developing and redeveloping with resilience and sustainability in mind





# Long-term Action Item

Begin long-term effort to establishing a **standard process** to incorporate resiliency into decision making



# If you'd like to learn more...

Our team will be publishing an ArcGIS Story Map online that summarizes our findings.

Please visit the following link starting January 1, 2021:

<https://storymaps.arcgis.com/stories/b631b0ef0b7147a0914df015272bf664>





# Thank you!

Thank you to Adam Hubeny and his team, and all of the Atlantic Highlands community members who were kind enough to give us their time and knowledge.

Thank you to the kind folks in Monmouth County, OPA, NJ DEP, and beyond who provided invaluable information.

Thank you to Jeanne Herb, our studio professor, for her wisdom and guidance throughout this process.

**Q & A Slides Follow**



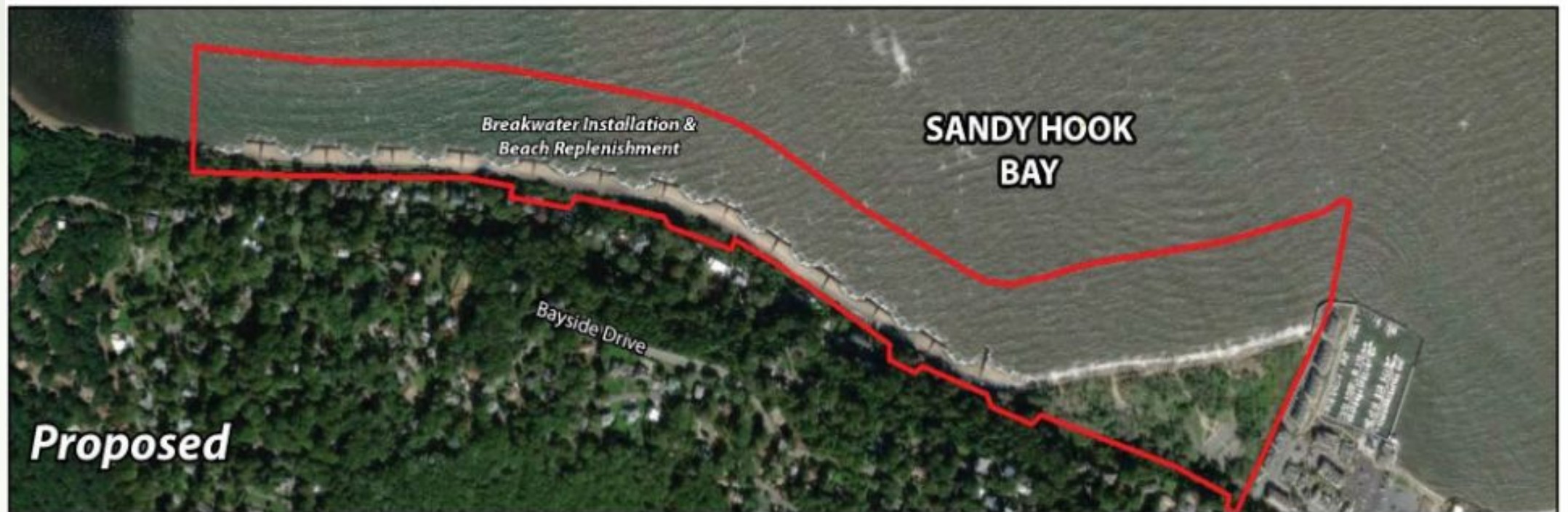
# Harbor

- Access to harbor is a top resiliency priority for the town
- Economically resilient, but a high maintenance area
  - Lease with Seastreak renewed (10 years), fuel sales, fishing fleet (head and charter boats)
  - Marina requires fairly constant maintenance because of corrosive nature of salt water and regular use of facilities
- Shifts in fishing regulations and climate pose potential long-term threat to fishing fleet



Image source: <https://img.marinas.com/>

# Proposed Resiliency Project Near Harbor (2019)



## LEGEND

— Project Location