

# A Bay State Without Beaches?

Adapting and Enhancing our Coast in the Face of Climate
Change and Sea Level Rise
March 14, 2024









38 Years of Success!





# **Metropolitan Beaches Commission**

- Improving the Boston Harbor Region's public beaches from Nahant on the North Shore to Nantasket on the South Shore.
- Strengthen Greater Boston's waterfront neighborhoods and beachfront communities









# Describe your ideal beach day!



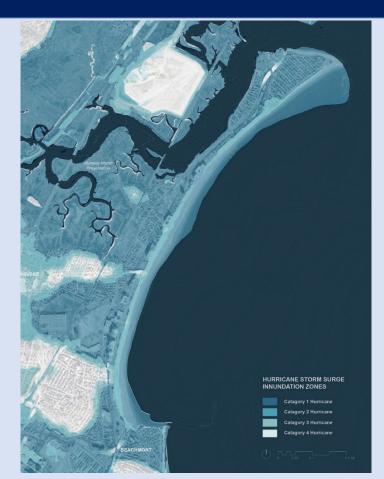
## **Revere Coastal Infrastructure**







# **Potential Hurricane Inundation Zones**







#### **Revere Coastal Infrastructure**



#### **Potential Hurricane Inundation Zones**





## **Breakout Groups Instructions**

- Choose a notetaker and a presenter
- Answer the following questions
  - What aspects of the beach do you want to see prioritized as we adapt to a changing coast?
- **Presenter Report Back Highlights to Full Group**

**QR Code to Google Form:** 



# **Next Steps**

As we do more conversations with people in Revere...

- 1. Who isn't here that we should talk to?
- 2. Where should we go to meet people in Revere?



#### **Possible Ideas:**

- **Swimming/Water Sports**
- Walking the sand/boardwalk
- Wildlife
- Land Protection/Flood reduction
- 5. Views/Photography
- **Green Space/Open Space**
- **Stormwater management**

**QR Code to Google Form:** 





# Thank You!





#### **State Level Efforts**

#### New 'ResilientCoasts' initiative

- Coastal Resilient Districts
- Will be led by Chief Coastal Resilience Officer in Department of Coastal Zone Management
- Goal is to address climate change along the coast of MA
- MBC Process (what we do today) will help inform this effort

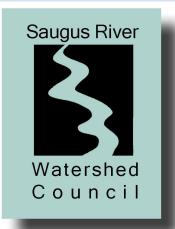




#### **Revere City Level Efforts**

- Route 1A South Bound Roadway Infrastructure
   Improvement Project
- The Saugus Pines River Advocacy for Regional Resilience (SPRARR) was established in 2021 to develop a regional plan for future coastal conditions and to build resilience in the area's most vulnerable locations.





For more information about the RT 1A South Bound Roadway Infrastructure Improvement Project and RiverFront Master Plan visit the City of Rever's Department of Planning and Community Development at www.rever.org/business-development/planning-initiatives-



#### **Revere City Level Efforts**

- Plans addressing climate change:
  - Gibson Park Resiliency and RecreationProject
  - Resilient Bennington St & Fredericks Park,
     Boston/Revere
  - Saugus River Watershed Regional
     Adaptation Planning
  - Coastal Resilience Feasibility Study for Riverside and Point of Pines - MVP Action Grant



**Gibson Park Resiliency and Recreation Project** 



#### **Cobble Berms**



A mound of cobble-sized sediment typically constructed at the base of a coastal bank or to enhance a coastal dune to reinforce and protect it from erosion caused by waves and storms.

#### **Benefits:**

- Dissipates wave energy
- Reduces or stops dune erosion
- **Additional defense layer**
- **Shore stability**
- **Current berms in Winthrop, Duxbury, Falmouth** and others



#### **Sea Walls**



Built parallel to the shore to protect inland area from wave action and coastal erosion

- Hardscape
- Protects against high storm surge, incremental sea level rise
- Limits distance inland water and beach can move
- Can cause increased erosion to beach in front of sea wall

Source: The Sea Wall in Revere (RogerH4, Nov 2009, Trip Advisor)





## **Living Sea Walls**



Source: https://earthshotprize.org/winners-finalists/living-seawalls/

Living Sea Walls - Modify flat, featureless marine construction (seawalls) to increase life and ecosystem diversity

- Can be modular to modify new or existing construction
- Has shown 36% increase in marine life in 2 years
- Turns existing, problematic hardscape into part of the solution





# **Large Seawalls**



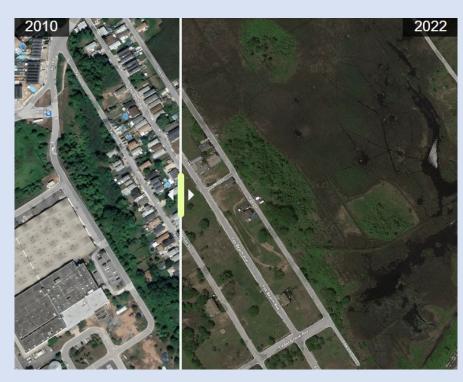


Source: https://www.asahi.com/ajw/articles/13257178

Source: https://www.wired.com/story/photo-gallery-japan-seawalls/



### **Property Buy Back Programs**



**Property Buy Back Programs - the changing coast** and ideally plan far in advance to transition built environment to nature.

- Proactively move people and infrastructure out of harm's way
- Minimize costs and inconveniences
- Maximize benefits to property owners and ecosystem
- Requires significant planning and investment
- Oakwood Beach, Staten Island
- Imperial Beach, California

SOURCE: "Left Behind: What life is like for the last residents of Staten Island's Oakwood Beach, Grist, 2022"