Upper Machias Bay Master Plan

Identified Data Gaps, July 2025

Dike Replacement

- Exact amount of flood risk to land and septic systems for each dike scenario
- How far landfill leachate travels in the groundwater, and how that might change with each scenario*
- Mitigation options
    - Protecting private property
    - Minimizing landfill leaching
    - Dredging
    - Filling or diking
- Impact of construction and transition on downstream areas
- Historic information about topography, filling/dredging, land uses*
- Ecosystem values
- Transition of freshwater marsh to saltwater marsh
    - Time frame and options for increasing the rate of change
    - Visual impacts
    - Costs
- Flood risks over time, final dike elevation
- Other possible options for Dike replacement, e.g. other types of gates, widths, designs?

Flooding in the Downtown

- Cost and economic impacts of adaptation options:
    - Riverwalk/ Sea wall
    - Retreat
    - Raising downtown elevations
    - Hurricane gate downstream
    - Other options
- What options are available to protect roadways?
- Sea Level Rise/Storm Surge predictions – will they change over time?
- What options are available to protect the WWTP?
- Flooding impact on natural systems
- Flood mitigation from natural systems
- Success stories from other places
- Flood protection option for the downtown

- Stormwater management option

Water quality

- Fate of chemicals in the surface and groundwater
- Details of upland flooding and impacts on water quality
- Other potential dumping sites in the watershed
- Testing around town dump site
- Future design for treatment plant and stormwater

Natural Resources:

- Detailed fish studies in river and streams
- Detailed studies of various habitats
- Impacts on water quality due to tidal flow if it is restored
- Value of clam flats
- Value of the land for agriculture and other uses