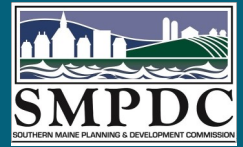


# Tides, Taxes, & New Tactics: Planning for Sea Level Rise and Coastal Adaptation in Southern Maine

## Community Spotlight: Town of Kennebunk



### PROJECT OVERVIEW

Sea level rise and coastal flooding pose significant threats to southern Maine communities. Marked by picturesque seaside neighborhoods, ecologically significant coastal habitat, and a robust economy driven by coastal tourism, the region is a highly desirable place to live, work, and visit. Many of these characteristics that make Kennebunk so desirable also make it exceptionally vulnerable to coastal storms and rising seas. A highly developed coastline, low-lying coastal areas, sandy beaches, and development pressure further compound that vulnerability. Kennebunk's coastal development provides a substantial portion of the municipal tax base, generating vital funds that sustain community operations, services, and programs. However, it is that same development that is most susceptible to coastal flooding, placing residents, visitors, and municipal funding at greatest risk. The coastal areas and resources that drive the economy are also vulnerable to rising seas. In order for towns like Kennebunk to address these vulnerabilities and prepare for coastal hazards, locally-specific information about how sea level rise and storm flooding could impact the community is needed.



Recreation and tourism areas like Mothers Beach and the municipal infrastructure located along it are vulnerable to coastal flooding.

The *Tides, Taxes, & New Tactics* project is addressing that need by providing Kennebunk with vital information about sea level rise impacts, local vulnerabilities, and tailored strategies for protecting people, property, and natural resources from the impacts of coastal flooding. Led by the Southern Maine Planning and Development Commission (SMPDC) and funded by the Maine Coastal Communities Grant program, the project involves the towns of Kennebunk, Wells, and York. The project team is working in partnership with the three towns to investigate municipal-level economic and social impacts of **1.6, 3.9, and 6.1** feet of sea level rise and develop adaptation and resilience planning strategies that address those impacts. Municipal staff from each community serve on a Project Advisory

### KEY PROJECT ACTIVITIES



Committee (PAC) to guide the project and ensure that the methodology, findings, and recommendations are tailored to and suit the needs of each town.

### SEA LEVEL RISE VULNERABILITY ASSESSMENT

Using municipal geospatial data, parcel information, Census data, and sea level rise projections developed by the Maine Geological Survey, a GIS-based vulnerability assessment was completed for Kennebunk. For each of the three sea level rise scenarios, polygons depicting the inundation extent of each scenario were overlaid with municipal geospatial data layers of parcel, land use, and infrastructure information to assess what was impacted by inundation and to what degree. In instances where detailed data were not available, the assessment relied on certain assumptions to assess impacts. For each sea level rise scenario, the assessment generated the following information:

- Number of parcels impacted (e.g., touched by inundation zone polygons)
- Total assessed value of buildings and land values impacted
- Demographic information within impacted area
- Zoning districts of impacted parcels

The following impacts of sea level rise on the local economy and municipal tax revenue were also analyzed:

- Number and type of businesses impacted
- Employee numbers and annual wages impacted
- Impacts to economic activity
- Municipal fiscal impacts

**719**

The total number of parcels in Kennebunk impacted by 3.9 ft of sea level rise

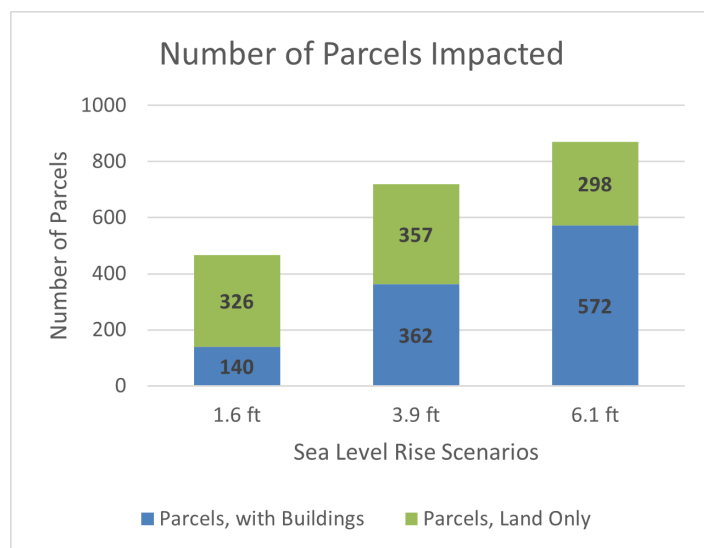
**35.6%**

The assessed value of those impacted parcels, as a percentage of the Town's 2020 budget



## VULNERABILITY ASSESSMENT FINDINGS

Kennebunk will experience coastal flooding impacts along the open coast as well as along the tidal Kennebunk River. Under 1.6 feet of sea level rise, 33% of the 'Coastal Residential' zoning district will be inundated. The following graphics summarize some of the key findings for Kennebunk.



Number of parcels impacted by 1.6, 3.9, and 6.1 feet of sea level rise, broken down by parcels with buildings and land impacted and those with only land impacted. The total number of impacted parcels equals the sum of the land only parcels and parcels with buildings.

### ASSESSED VALUE OF IMPACTED PROPERTY

SLR	Value	% of Total Value
1.6 ft	\$110,467,678	4.02%
3.9 ft	\$330,318,996	12.02%
6.1 ft	\$489,051,066	17.80%

Assessed value of parcels and the percent of total assessed value in Kennebunk impacted by sea level rise (SLR), based on 2020 Town assessment data.

### IMPACTS OF 3.9 FT OF SEA LEVEL RISE

Number of Businesses: 14

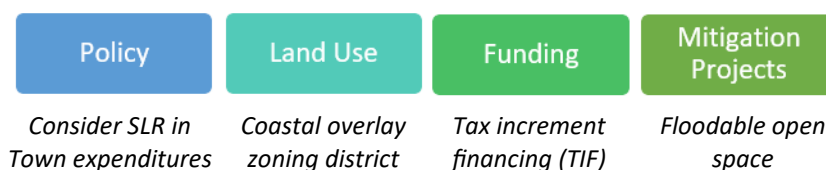
Number of Employees: 125

Industry with Greatest Impact: Restaurant

Number of businesses and their employees located within the inundation zone of 3.9 feet of sea level rise.

## STRATEGIES FOR ADAPTATION AND RESILIENCE

The project is developing tailored adaptation and resiliency planning strategies to help Kennebunk and the region prepare for sea level rise (SLR) and protect people, property, and municipal resources now and into the future. Strategies are designed to address local vulnerabilities and risk associated with coastal flooding and sea level rise. Strategy types and examples of each include:



## NEXT STEPS

- **Town Workshop** - On **March 2nd, from 6:30 - 7:30 pm**, the project team will hold a **web-based workshop** to share the assessment results for Kennebunk, present potential adaptation strategies for the Town to consider, and provide an opportunity for municipal staff and officials to ask questions and provide input on ways Kennebunk can begin to plan for sea level rise. Event details will be shared with town staff for broader distribution.
- **Regional report** - Project findings will be summarized and compiled in a regional report that will outline results of the vulnerability assessment and economic analysis, town specific findings, and recommendations for advancing coastal resilience planning.
- The project team will provide assistance to the Town to incorporate the project findings into municipal planning efforts.

### SEA LEVEL IN MAINE

- Sea levels have historically been rising and in recent decades, the rate of rise has accelerated to about **1 ft per century, or 3 to 4 mm per year** in Maine.
- Roughly half of the rise we have seen over the past century has occurred since 1990.
- Sea level will likely continue to rise between **3 and 5 ft by the end of 2100**, though higher scenarios are possible.
- Nuisance flooding in southern Maine in the last decade occurred about 4 times more frequently than the 100-year average.
- 1 ft of sea level rise will increase the frequency of nuisance flooding by 15 fold.
- The Maine Climate Action Plan recommends Maine commit to manage **1.5 ft of rise by 2050 and 3.9 ft by 2100** and prepare to manage **3.0 ft and 8.8 ft** by those same years, respectively.

## FOR MORE INFORMATION

Project materials and the vulnerability assessment reports are available on SMPDC's website: [www.smpdc.org/coastalprojects](http://www.smpdc.org/coastalprojects). For more information, please contact **Abbie Sherwin**, SMPDC Senior Planner & Coastal Resilience Coordinator: [asherwin@smpdc.org](mailto:asherwin@smpdc.org).