



Town of Chebeague Island Sea Level Rise Vulnerability Study

“The completion of a Coastal Hazard Assessment and Adaptation study is a critical component to both short and long range planning of long range planning of municipal wharf facilities on Chebeague and will help to ensure that the facilities can withstand projected climate-related impacts.”

Project Participant



Inundation of Chebeague Island's Stone Pier

PARTNERS

Greater Portland Council of Governments, The Island Institute and Maine Geological Survey

PROJECT DESCRIPTION (completed March 2017)

The Greater Portland Council of Governments (GPCOG) worked with Chebeague Island officials to prepare a Sea Level Rise Vulnerability Assessment for the town. The assessment discusses the latest science behind sea level rise, identifies risks to publicly-owned infrastructure (i.e., roads, culverts, buildings, and wharves), as well risks to environmental resources, such as tidal wetlands, aquifers, and open spaces.

APPROACH

A GIS assessment identifying vulnerable areas under various scenarios of sea level rise was conducted. Issue areas identified through this GIS work were verified through ground-truthing, and several meetings were held with Public Works and Planning Department staff. Strategies and recommendations were then drafted with feedback from staff, officials, and the public. A public meeting was also held to present a draft plan to the community.

RESULTS

GPCOG drafted a report that outlines strategies the Town can implement to increase its resiliency to extreme weather events and sea level rise. The Stone Wharf, the town's central ferry location, provides the docking for a year round ferry service that connects most islanders with the mainland. The wharf is in need of major repairs and the town was concerned about the vulnerability of its location to storms and sea level rise. Through this process the Town intends to determine if this location is still appropriate, or if alternative locations should be identified. As the Town is also considering an update to its Comprehensive Plan, the report was also organized and written in a way that should be easy to incorporate in to their Comprehensive Plan.

NEXT STEPS AND OPPORTUNITIES

In Chebeague's case, there are many opportunities to implement recommendations through upcoming capital investment decisions and ordinance changes. The information included in this report should be incorporated into the town's long-term capital improvement plan related to the wharf and the next update to the Town's Comprehensive Plan.

LESSONS LEARNED

The most important lesson learned is that the report could not have been prepared without technical assistance (and data) from the Maine Geological Survey.

APPLICABILITY FOR OTHER MUNICIPALITIES

At this point, only a few communities in Maine have prepared sea level rise vulnerability reports, or separate sea level rise chapters for their Comprehensive Plans, and few of those are located in Cumberland County. This report was aided greatly by previous efforts, such as the sea level rise chapters of the Towns of York and Bowdoinham, and reports from South Portland and Cape Elizabeth. While individual analysis of risks must be performed for each community, the science, and scenarios developed for this (and other) sea level rise reports, and ordinance recommendations can be easily transferrable to other planning efforts.

For additional information

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