



## Town of Vinalhaven: Coastal Flooding Vulnerability Study of the Downstreet Business District



January 4, 2018 Winter Storm Grayson. Vinalhaven's Carvers Harbor southeast exposure. Pictured here is a lobster buying station with no pedestrian access due to storm tides. In the background is a Maine State Ferry Service boat in its pen. Photo: Andrew Dorr

*"This funding will make possible the work most likely to produce practical results as we move toward effective mitigation and toward protecting and preserving our community."*

Phil Crossman, Board of Selectmen (2018)

### **PARTNERS**

The Island Institute, Knox County Emergency Management Agency and Vinalhaven Land Trust.

### **PROJECT DESCRIPTION (completed March 2018)**

The grant provided funds for Vinalhaven to conduct a vulnerability study for its downtown, locally referred to as "Downstreet". This is the economic hub of the island, hosting approximately 40 businesses, dozens of fishing wharves, and the ferry landing. Due to its low elevation, it is also susceptible to flooding from storm surge and sea level rise. The study provided a detailed understanding of flood risk and examined both short-term and long-term adaptation options.



## APPROACH

Vinalhaven's commercial harbor is threatened with increased flood events and a Main Street in dire need of repair following years of erosion and inundation. Roads, sidewalks, drainage, etc... are all built upon land that was man-made in the late 1800's. The Sea-Level Rise Committee decided that a vulnerability assessment would give our community the information and guidance to prepare for rising water levels and increased storm events.

Ransom Engineering was retained to develop a probability index that provides a level of certainty for a given SLR scenario. The model created by Ransom will be useful in our community's Downtown Master Plan. The committee hopes to use this index to inform other capital improvement decisions into the future.

## RESULTS

### Accommodate (Adaptation)

- Performing more studies
- Implementing local policies to reduce flood risk
- Developing and implementing of early warning systems to inform stakeholders of impending flood events
- Developing and disseminating of educational tools to educate the public about their exposure to flood hazards

### Protect (Mitigation)

- Elevating low lying areas of Main Street
- Elevating buildings on Main Street
- Installing a tidal gate at the Carver's Pond inlet
- Planning and modification at the Maine State DOT Ferry Terminal

### Retreat

- Begin preparing for inevitable flooding of Main Street and examine cost-benefit-analysis of relocation.

## NEXT STEPS AND OPPORTUNITIES

Vinalhaven will pursue completion of the Maine Flood Resiliency Checklist to best understand our challenges and how to reduce flood risk. The Sea-Level Rise Committee will engage the community and provide property owners with educational tools and resources to evaluate the feasibility of elevating their buildings. The Downtown Committee will engage engineers in the planning of Main Street improvements to protect from increasing flood risk. The Vinalhaven Sewer District will engage with engineers in the Climate Adaptation Plan for its sewer infrastructure.



## COASTAL COMMUNITY GRANTS: Coastal Resiliency

### NEEDS

Community engagement is critical and the community will need to reach out to its residents to offer the information necessary for building and property owners to be able to make informed decisions. Funding will be needed to assess the feasibility of physical improvements/mitigation measures as well as implementation/construction of the improvements.

### LESSONS LEARNED

The SLR curve represents a trend, but planning for the trend does not protect us from the extreme events that occur sporadically. We need to think about those extreme events and the possibility of more than average water levels to ensure our infrastructure is protected.

### APPLICABILITY FOR OTHER MUNICIPALITIES

Planning is an integral component in gaining understanding, building community consensus and implementing change. This assessment brings our community closer to implementing change and allows us to inform our community about the risks and opportunities to manage the various flooding scenarios.

### For additional information

Andrew Dorr, Town Manager  
[townmanager@townofvinalhaven.org](mailto:townmanager@townofvinalhaven.org) or by phone at (207) 863-2042

<https://www.townofvinalhaven.org/sea-level-rise-committee>

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