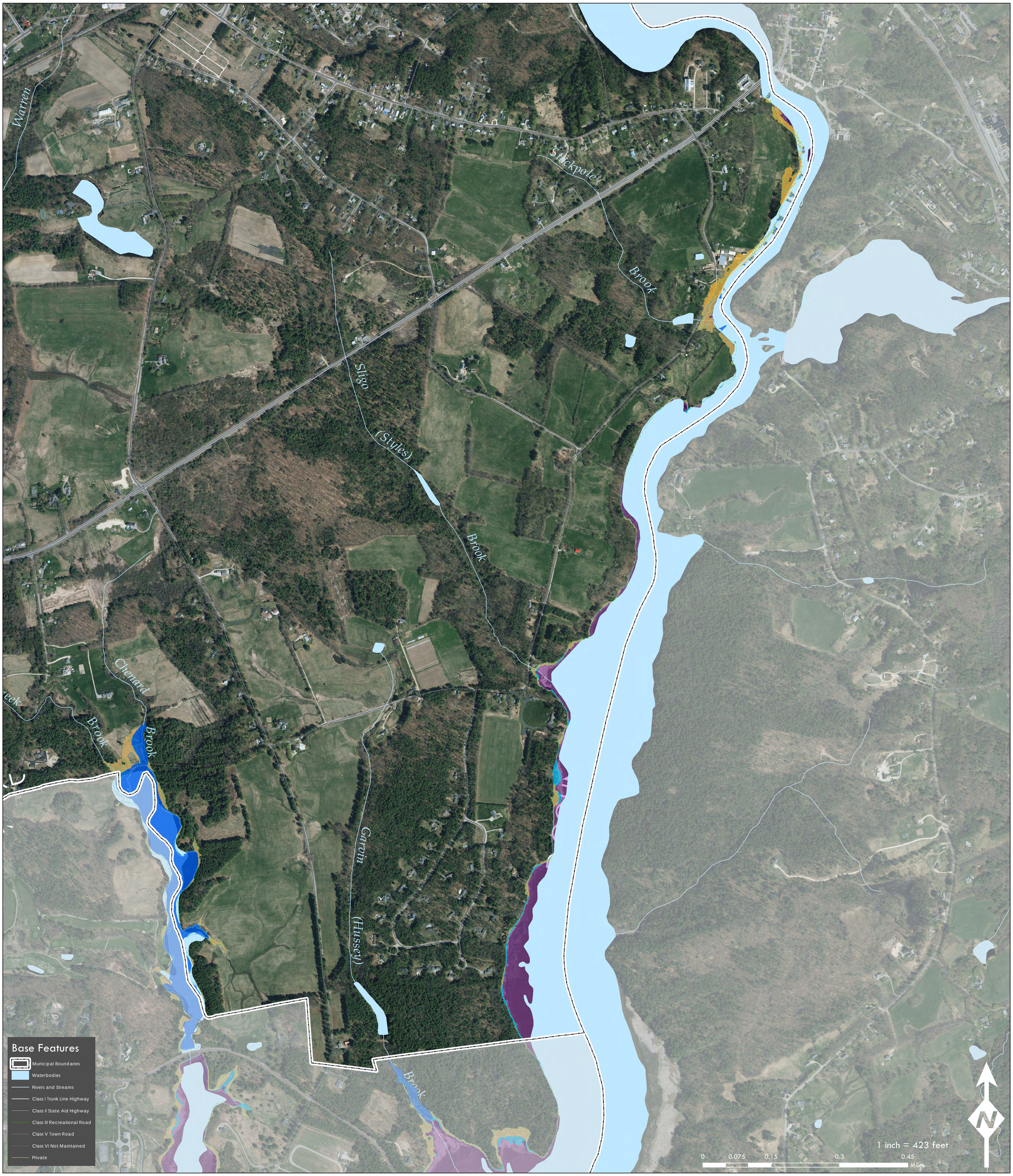


C-RiSe

The Climate Risk in the Seacoast: Assessing Vulnerability of Municipal Assets and Resources to Climate Change (C-RiSe) project provides maps and assessments of flood impacts to infrastructure and natural resources in the coastal Great Bay region associated with projected increases in storm surge, sea level, and precipitation.

TOWN OF ROLLINSFORD

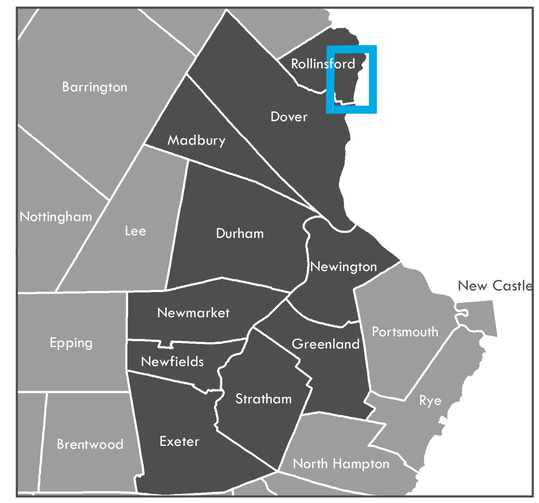
Map 9: Water Resources
Sea-Level Rise 1.7', 4.0', 6.3'

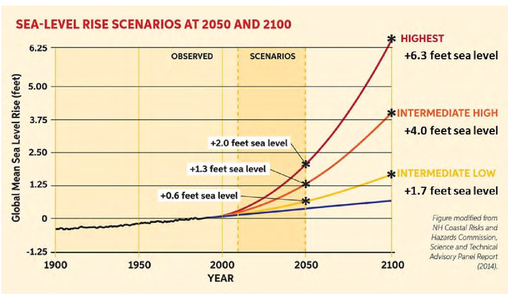
SLR Legend

- Extent of Sea-Level Rise 1.7'
- Extent of Sea-Level Rise 4.0'
- Extent of Sea-Level Rise 6.3'
- Approximate Mean High High Water Level

Impact Legend

- Freshwater Wetlands
- Estuarine and Marine Wetlands
- Stratified Drift Aquifers
- Wellhead Protection Areas





Sea-Level Rise Scenarios

Please note that the sea-level rise scenarios used in this assessment were derived from the Wake, 2011 report (refer to table of values below from this report). These scenarios were selected prior to the release of the Science and Technical Advisory Panel Report to the N.H. Coastal Risks & Hazards Commission, in August, 2014 [1]. While slightly different than the scenarios cited in that report, they yield coverage estimates that are within the mapping margin of error.

[1] Wake CP, Kirshen P, Huber M, Knuuti K, and Stampone M (2014) Sea-level Rise, Storm Surges, and Extreme Precipitation in Coastal New Hampshire: Analysis of Past and Projected Future Trends, prepared by the Science and Technical Advisory Panel (STAP) for the New Hampshire Coastal Risks and Hazards Commission.

	2050		2100	
	Lower	Higher	Lower	Higher
Current Elevation of MHHW a,b	4.4	4.4	4.4	4.4
100-Year Flood Height	6.8	6.8	6.8	6.8
Subsidence	0.0	0.0	0.0	0.0
Eustatic SLR	1.0	1.7	2.5	6.3
Total Stillwater Elevation a,c	**12.2**	**12.9**	**13.7**	**17.5**

a - NAVD: North American Vertical Datum of 1988
b - MHHW: Mean Higher High Water at Fort Point, NH
c - Total Stillwater Elevation may not equal total of components due to rounding

Table 13. Estimates (in feet) of future 100-year flood Stillwater elevations at Fort Point under lower and higher emission scenarios (relative to NAVD88) based on the statistical analysis presented in this report.

Wake CP, E Burakowski, E Kelsey, K Hoshoa, A Stoney, C Watson, E Douglas (2011) Climate Change in the Piscataqua/Great Bay Region: Past, Present, and Future. Carbon Solutions New England Report for the Great Bay (New Hampshire) Stewards.[2]

Water Resource Impacts: Town of Rollinsford

Resource Type	Name/Type	Sea Level Scenarios		
		1.7 feet	4.0 feet	6.3 feet
Wellhead Protection Areas	Rollinsford Water and Sewer: District 5, Lower Mill Road	1.10	4.57	9.09
Estuarine and Marine Wetlands	Esuarine and Marine Deepwater	0.00	0.00	0.00
	Estuarine and Marine Wetland	0.37	0.99	1.30
Freshwater Wetlands	Freshwater Emergent Wetland	0.00	0.59	0.24
	Freshwater Forested/Shrub Wetland	0.00	0.00	0.00
	Freshwater Pond	0.00	0.00	0.00
	Lake	7.75	8.76	8.99
	Riverine	0.42	0.70	0.74
Aquifers	Stratified Drift	3.72	8.32	15.21

Water Resource Totals (acres)

Reasource Type	Sea Level Scenarios		
	1.7 feet	4.0 feet	6.3 feet
Wellhead Protection Areas	1.10	4.57	9.09
Estuarine and Marine Wetlands	0.37	0.99	1.30
Freshwater Wetlands	8.17	10.05	9.97
Stratified Drift Aquifers	3.72	8.32	15.21
Total(s) Combined	13.36	23.93	35.57

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Date: 12/7/2016 Author: MS/RP/JL/KP

Path: M:\Region\Project_Special_Merit\Mapping\Final_Maps_By_Community\Rollinsford\Rollinsford_WaterRes_1_3.mxd

Data Sources:
Data sets were retrieved from the NH GRANIT database, December, 2015. Digital data in NH GRANIT represent the efforts of the contributing agencies to record information from the cited source materials. Earth Systems Research Center (ESRC), under contract to the Office of Energy & Planning (OEP), and in consultation with cooperating agencies, maintains a continuing program to identify and correct errors in these data. Neither OEP nor ERSC make any claim as to the validity or reliability or to any implied uses of these data.

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