



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.

LAND RESOURCES: TOWN OF GREENLAND

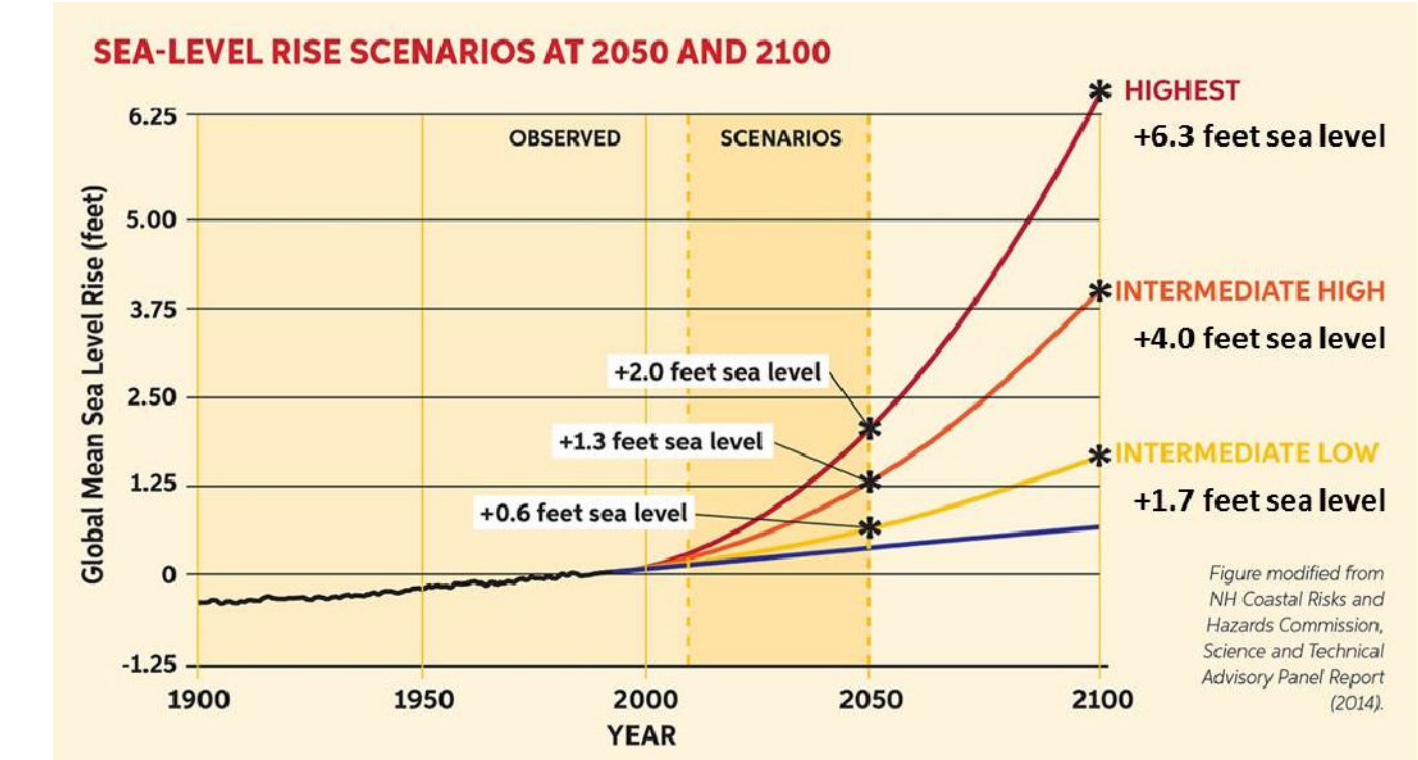
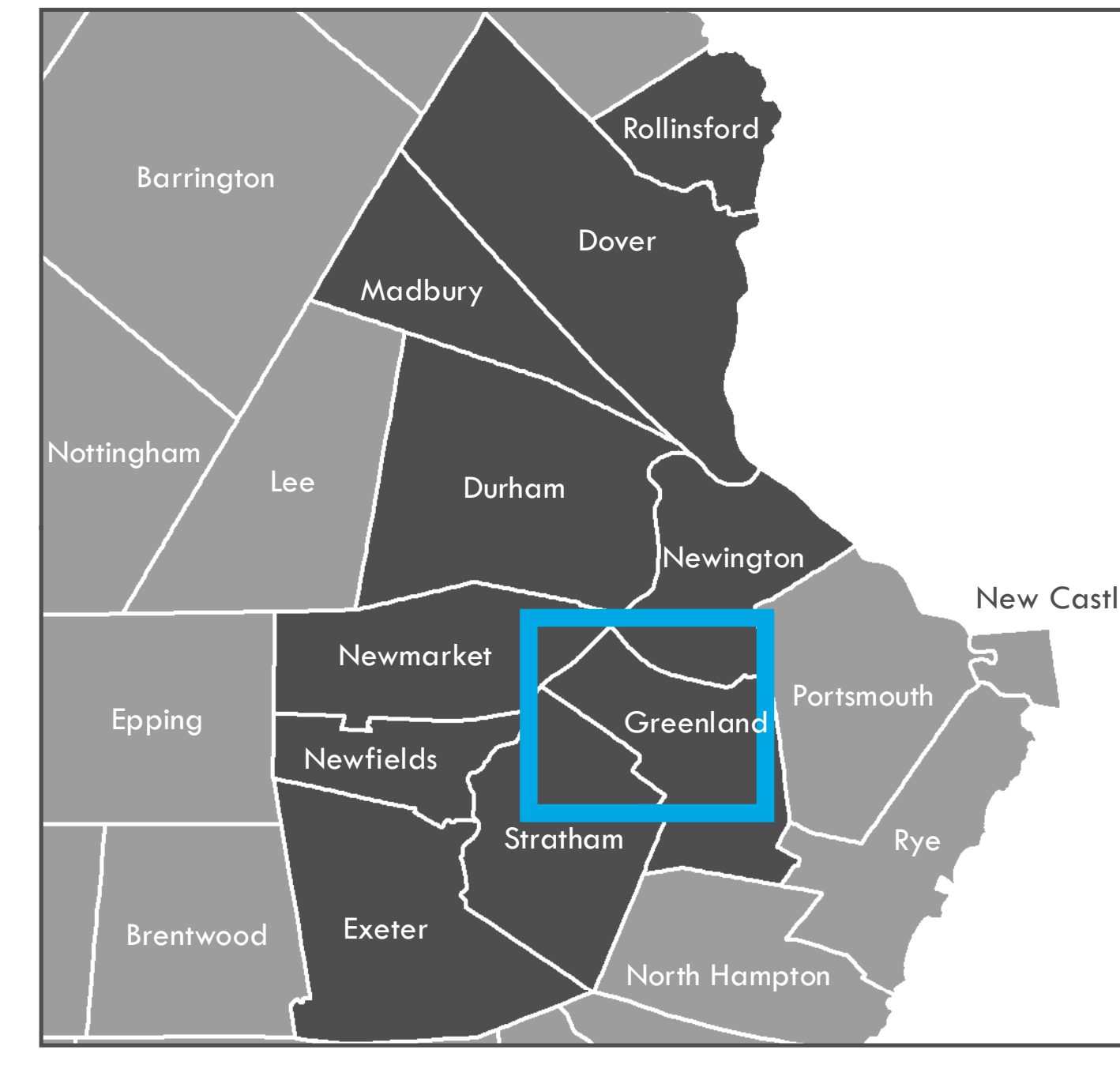
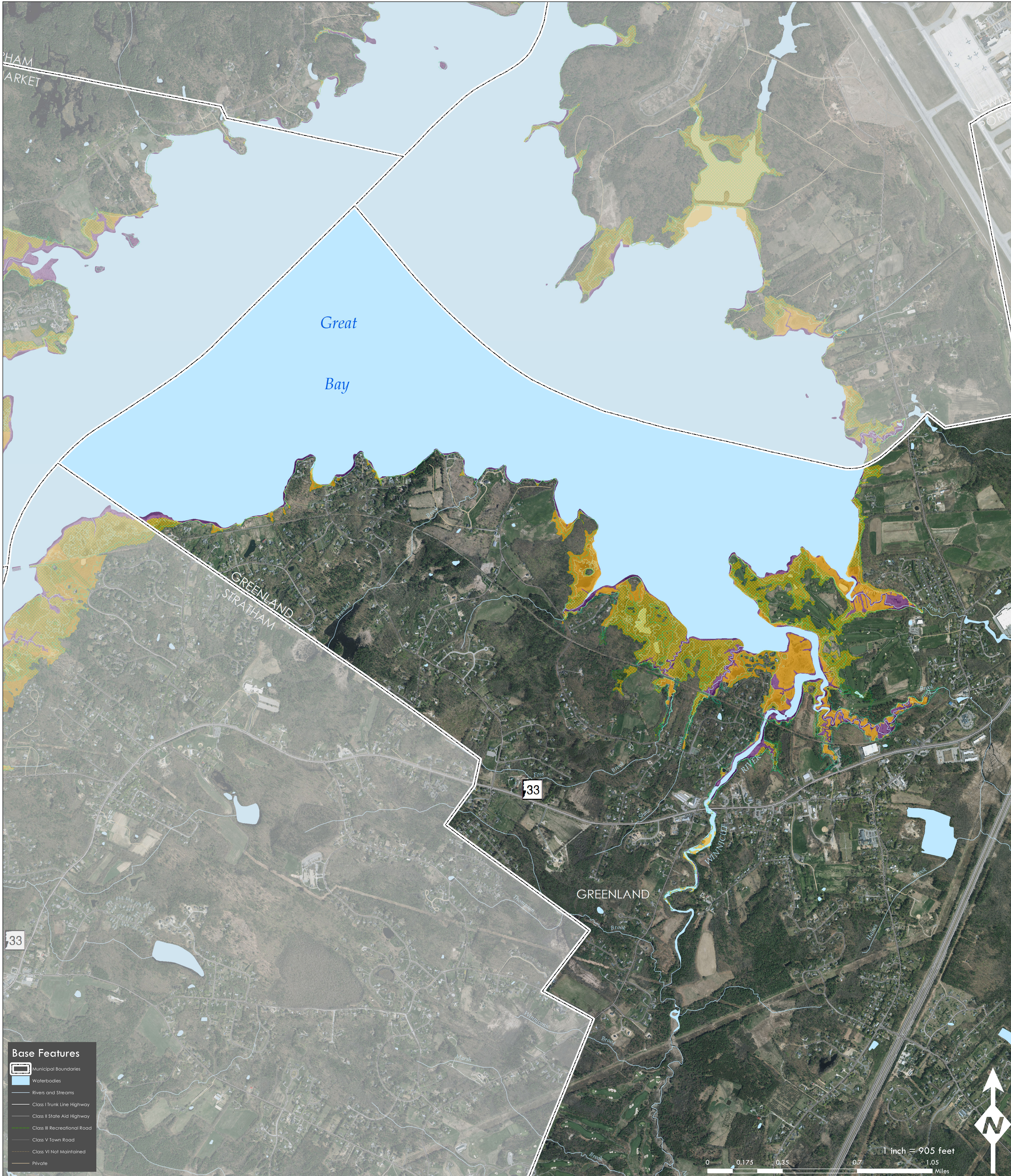
Extent of Projected Tidal Flooding
Sea-Level Rise 1.7', 4.0', 6.3'

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

- Conservation Lands (2015)
- Wildlife Action Plan Tiers 1,2,3 (2015)



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 C, Kintner P, Huber M, Knott K, and Stimpson 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
Elastic SLR	1.0	1.7	2.5	6.3
Total Stillwater Elevation^{c,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 NAVD83) based on the statistical analysis presented in this report.
Notes: C.S. Benford, E. Daley, S. Hynes, A. Stone, C. Warren, E. Douglas (2011) Climate Change in the Portsmouth/Great Bay Region: Past, Present, and Future. Carbon Solutions New England Report for the Great Bay New Hampshire District.

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Path: M:\Region\Project_Special_Merit\Mapping\Final_Maps_By_Community\Greenland\Greenland_LandRes_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 ESRC make any claim as to the validity or reliability or to any implied uses of these data.

Resource Type	Name	Sea Level Scenarios		
		1.7 feet	4.0 feet	6.3 feet
Conservation Lands	Emery	0.28	1.18	1.91
	Great Bay Shoreline South	23.42	39.83	57.25
	Great Bay WMA	16.49	25.31	32.79
	Hughes #1	3.39	5.08	8.05
	Leonard Weeks & Descendants, Inc.	2.00	3.20	5.19
	Portsmouth Country Club	6.95	25.24	57.26
	Sandy Point	1.62	3.33	4.05
	Smith Tract	2.38	3.29	4.02
Wildlife Action Plan	Town of Greenland Land Weeks	2.84	3.16	3.33
	Weeks	0.02	0.12	0.33

Resource Type	Name	Sea Level Scenarios		
		1.7 feet	4.0 feet	6.3 feet
Conservation Lands	White	0.28	1.17	3.34
	Winnicut Dam Site - Greenland	0.05	1.25	0.58
	Tier 1	123.85	180.98	249.96
Wildlife Action Plan	Tier 2	4.04	12.61	21.17
	Tier 3	1.61	5.98	14.49

Resource Type	Land Resource Totals (acres)		
	1.7 feet	4.0 feet	6.3 feet
Conservation Lands	59.72	112.16	178.10
Wildlife Action Plan	129.50	199.57	285.62
Total(s) Combined	189.22	311.73	463.72