



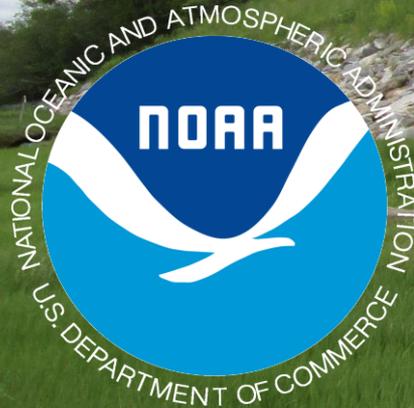
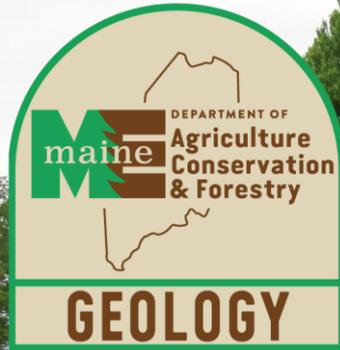
Developing a GIS-based decision support tool for **living shoreline suitability** in Casco Bay, Maine

Funding from:



Maine's Living Shoreline Decision Support Tool

Technical Working Group



Reviewed federal and state guidance and other state tools in determining appropriate factors and scores for living shoreline suitability in Maine.

Factors Influencing Living Shoreline Suitability Scores

Factor	Data Source	Range or Criteria	Score
Annualized Fetch	USGS Fetch Tool	Very Low (≤ 0.5 miles)	8
		Low (> 0.5 and ≤ 1.0 miles)	6
		Mod (1-3 miles)	2
		High (3-5 miles)	1
		Very High (> 5 miles)	0
Nearshore Bathymetry	NOAA 1/3 AS DEM	Shallow (< 1 m within 30 m)	6
		Deep (> 1 m within 30 m)	0
Landward Shoreline Type	EVI Maps	Wetlands, Swamps, Marshes	6
		Beaches, Scarps, Banks	5
		Sheltered hard shoreline/rip-rap	3
		Exposed hard shoreline/rip-rap	1
Seaward Shoreline Type	EVI/CMGE Maps	Marshes and flats	6
		Beaches, dunes, flats	5
		Low/Moderate channels	3
		High energy channels	1
		Ledge/man-made land	0

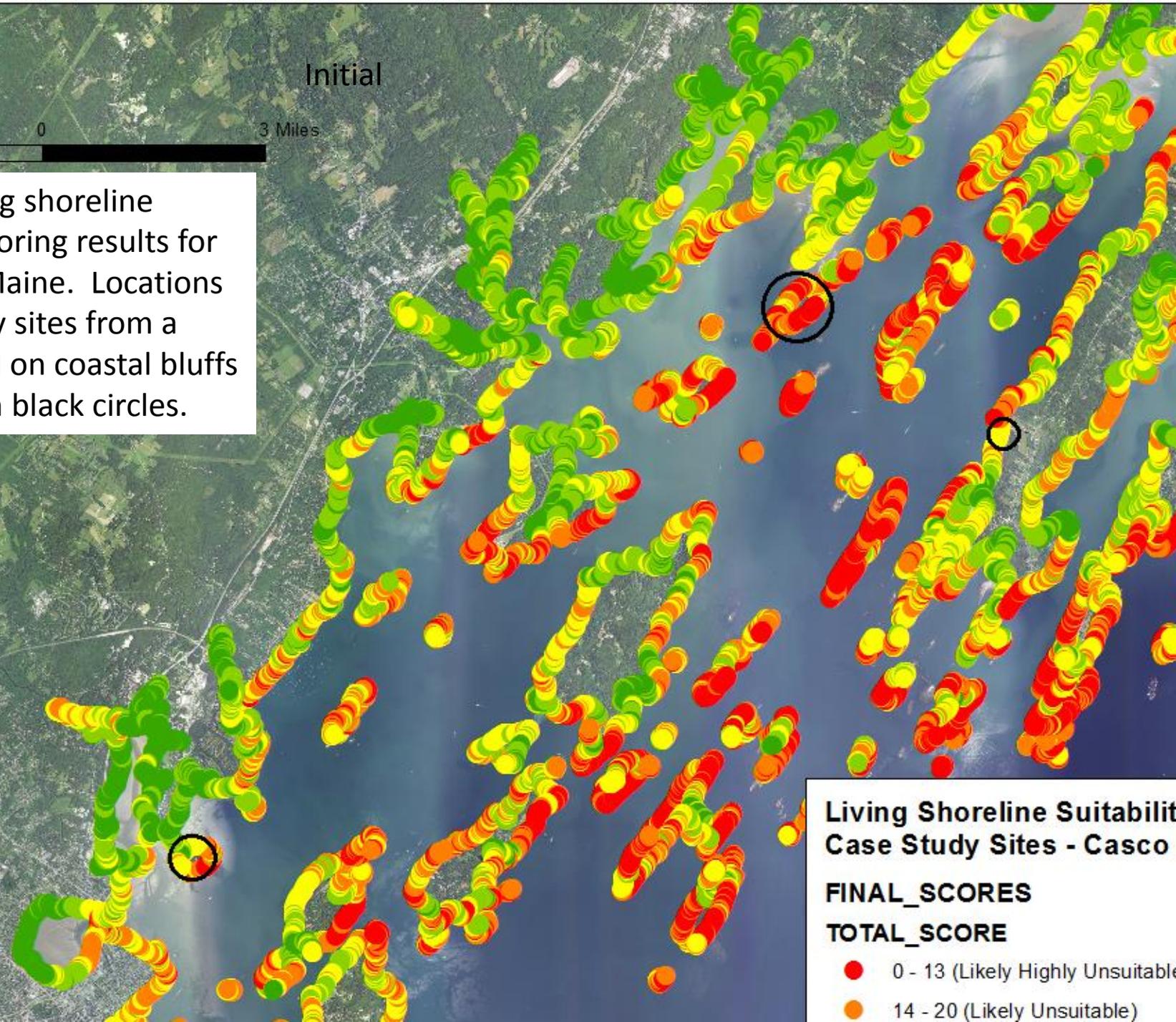
Factor	Data Source	Range or Criteria	Score
Relief (within 50 feet of MHW)	LiDAR	0-5 ft	6
		5-10 ft	5
		10-20 ft	3
		>20ft	1
% Slope (within 50 feet of MHW)	LiDAR	0-3%	6
		4-9%	5
		10-15%	4
		15-30%	2
		>30%	1
Aspect	LiDAR	SE, SW	6
		S, E, or W	4
		NE, NW	2
		N	0
<i>Special Habitat Type?</i>	<i>MEDEP</i> <i>MEGIS</i> <i>MDMR</i>	<i>Tidal Wading Waterfowl</i> <i>Eelgrass</i> <i>Shellfish</i>	It was decided that these factors would not be included in scoring but available for site specific analysis
<i>Structure Proximity</i>	<i>MELCD</i>	<i>Within 100 feet</i> <i>Beyond 100 feet</i>	





Initial

General living shoreline suitability scoring results for Casco Bay, Maine. Locations of case study sites from a NOAA POSM on coastal bluffs are shown in black circles.



Living Shoreline Suitability
Case Study Sites - Casco

FINAL_SCORES
TOTAL_SCORE

- 0 - 13 (Likely Highly Unsuitable)
- 14 - 20 (Likely Unsuitable)

Current status of the Maine Living Shoreline DST

- Tool was used to help determine suitable living shoreline sites in Casco Bay, Maine for the second NOAA RRG *Increasing resilience and reducing risk through successful application of nature based coastal infrastructure practices in New England*.
- Once storm wave and water level data is available from Track 1 work by University of Maine, this will be integrated into the tool as a proxy for **nor'easter storm exposure**.
- Tool is being implemented in Penobscot Bay, Maine, and will be expanded to include other large estuaries with eroding coastal bluffs.
- Tool is being integrated with the Maine Beach Scoring System in order to help guide living shoreline suitability (beach nourishment and dune restoration) along the open Maine sandy coastline.
- Tool is being adapted by NH NOAA Coastal Fellow in the development of a similar living shoreline suitability tool for the NH coastline.
- Tool will soon be made available on the Maine Geological Survey's [Coastal Hazards](#) page.