HAMPTON BEACH AREA COMMISSION

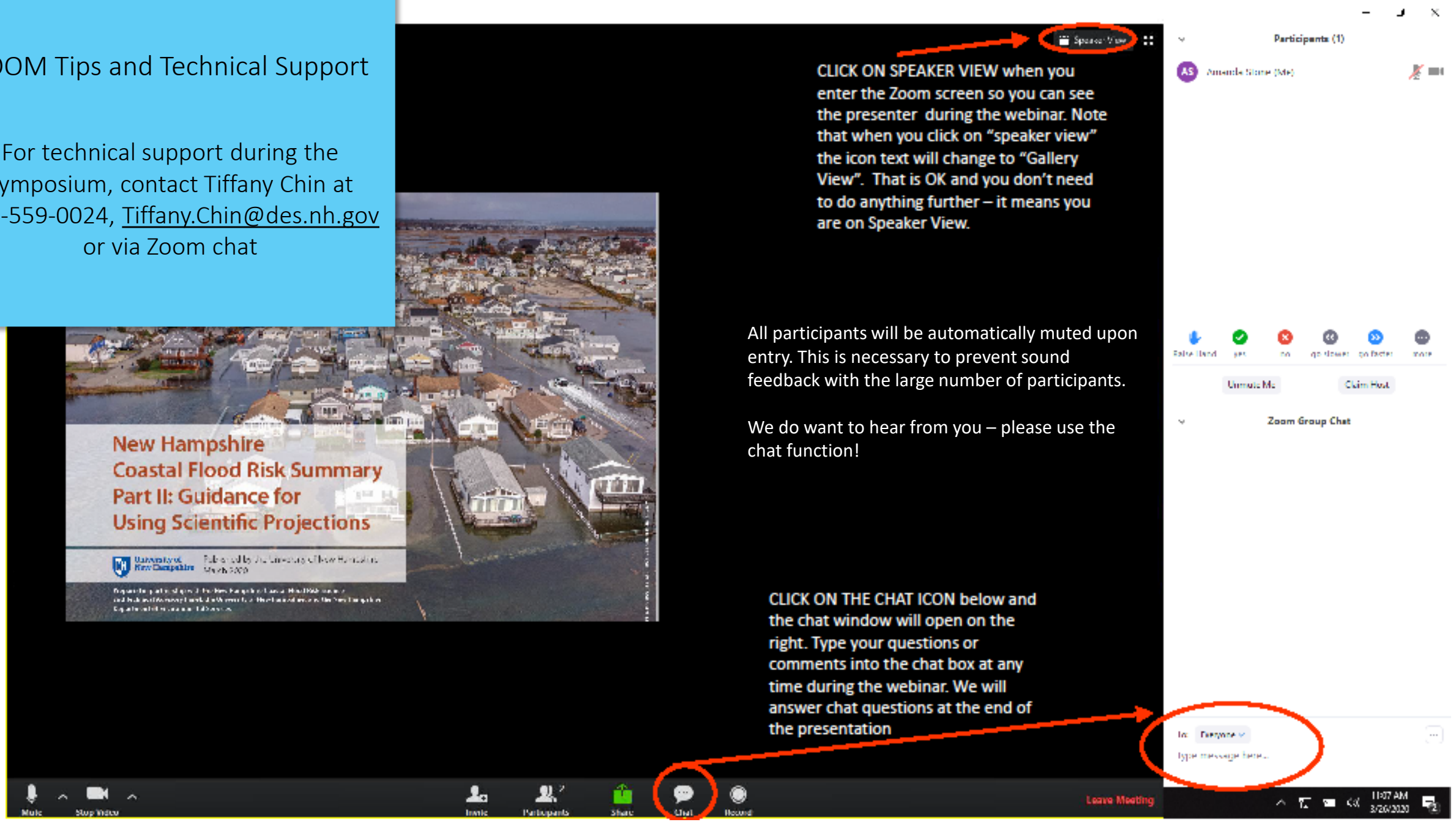
COASTAL RESILIENCE SYMPOSIUM

February 9, 2021
8:30AM – 2:30PM

This event was funded, in part, by the National Oceanic and Atmospheric Administration Office for Coastal Management in conjunction with the NH Department of Environmental Services Coastal Program.

ZOOM Tips and Technical Support

For technical support during the Symposium, contact Tiffany Chin at 603-559-0024, Tiffany.Chin@des.nh.gov or via Zoom chat



AGENDA

8:30 - 9:00 AM	Sign On
9:00 – 9:15 AM	Welcome & Introductions
9:15 – 10:30 AM	Presentations, Bob Casassa, Moderator
10:30 – 10:45 AM	Break
10:45 – 11:45 AM	Presentations (continued)
11:45 AM – 12:30 PM	Q&A and Discussion with Presenters and Symposium Participants
12:30 – 1:15 PM	Lunch Break
1:15 – 1:25 PM	Debrief of Morning Sessions and Introduction of Afternoon Sessions
1:25 – 2:25 PM	Advisory Panel, Bob Casassa, Moderator
2:25 – 2:30 PM	Closing Remarks and Next Steps
2:30	HBAC Commission Meeting (all welcome)

Full Agenda & Meeting Packet: https://www.nhcaw.org/hbac-coastal-resilience-symposium/

WELCOME & INTRODUCTIONS

The goal of the Symposium is to inform the Coastal Resilience Update to the HBAC Master Plan through discussion of the many ongoing works to increase Hampton Beach resilience to coastal environmental hazards.

HBAC JURISDICTION

ADVISORY PANEL

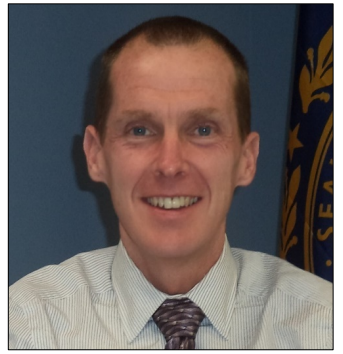
Laurel Adams
REDC

Roger Stephenson
Union of Concerned Scientists

Kirsten Howard
NH DES Coastal Program

Rick Friberg
TEC, Inc.

Jamie Sullivan
Town Manager



Tim Roache
Rockingham Planning Commission

Rep. Renny Cushing
NH House of Reps

Johanna Lyons
NH State Parks

John Nyhan
Hampton Area Chamber of Commerce

Tom McGuirk
McGuirk Properties / McGuirk's Ocean View

Steve Whitman
Resilience Planning & Design, LLC

MORNING BREAK

Reconvene at 10:45 AM

LUNCH BREAK

Reconvene at 1:15 PM

HBAC COMMISSION MEETING

2:30 PM

All are welcome to attend

Tory O'Byrne

2019-2020

NH COASTAL FLOOD RISK SUMMARY

PART I: SCIENCE & PART II: GUIDANCE FOR USING SCIENTIFIC PROJECTIONS

Nathalie DiGeronimo

THE FUTURE IS NOW

"Coastal flooding is already occurring in New Hampshire and is expected to increase in frequency and severity in the future."

PART I: SCIENCE

- ↑ SEA-LEVEL RISE
- ↑ COASTAL STORMS
- ↑ GROUNDWATER RISE
- ↑ PRECIPITATION
- ↑ FRESHWATER FLOODING


Will Brown

SEA-LEVEL RISE

Local sea level has risen

7.5 to 8.0 inches from 1912-2018

More widespread and damaging flooding during storms and high tides


Marie Sapienza


Peter DiGeronimo

Rich Beauchesne

SEA-LEVEL RISE

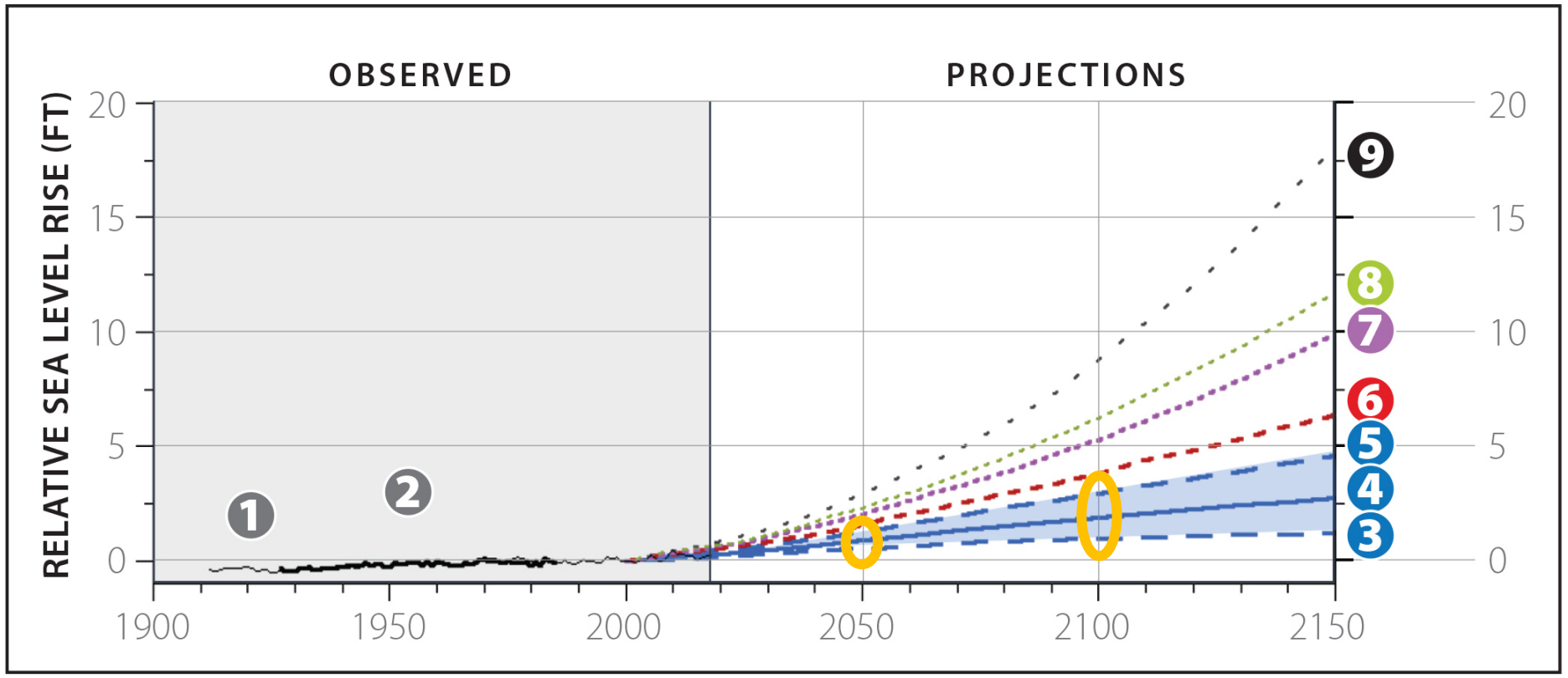


Figure 4.5. Observed and Projected Relative Sea-Level Rise for Seavey Island Tide Gauge K14 Projections | Stabilized Greenhouse Gas Concentrations (RCP 4.5).

1. Historical data for Portland, ME (1912-2018; thin black line)
2. Historical data for Seavey Island, ME (1927-1986; thick black line)
3. Lower end of "likely range"
4. Central estimate
5. Upper end of "likely range"
6. 1-in-20 chance estimate
7. 1-in-100 chance estimate
8. 1-in-200 chance estimate
9. 1-in-1000 chance estimate

GROUNDWATER RISE

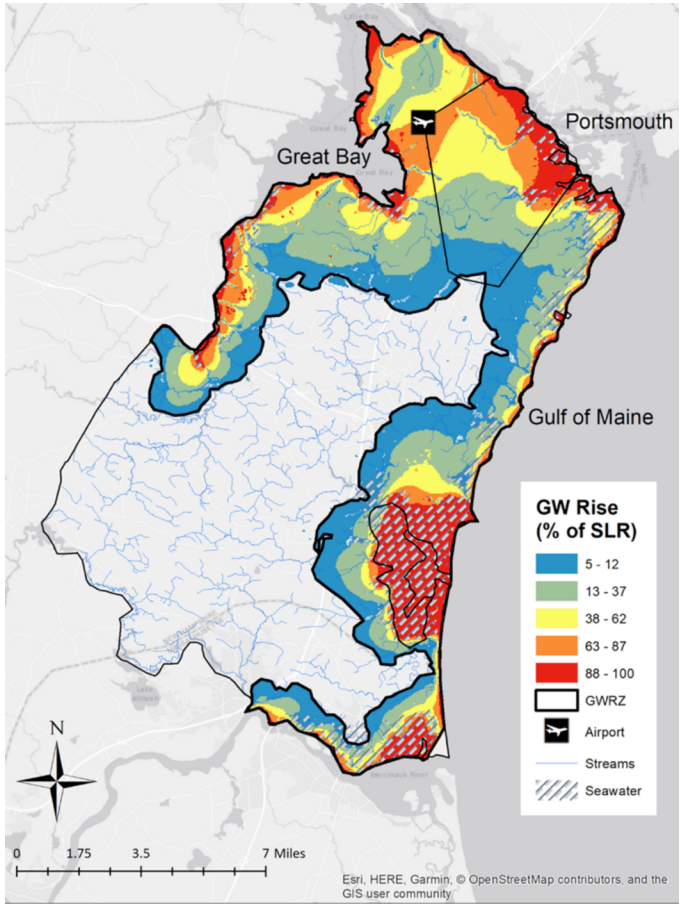


Figure 6.5. Projected groundwater rise as a percent of RSLR in the coastal New Hampshire study area. **Source: Modified from Knott et al. (2018a).**

COASTAL STORMS

More frequent and intense

More damaging storm surge

Faster currents will increase coastal erosion

PRECIPITATION AND FRESHWATER FLOODING

1 to 2 more inches of rainfall during extreme 24-hour events since the 1950s

More frequent extreme events

More freshwater flooding

PART II: GUIDANCE FOR USING SCIENTIFIC PROJECTIONS

GUIDING PRINCIPLES

STEP-BY-STEP APPROACH

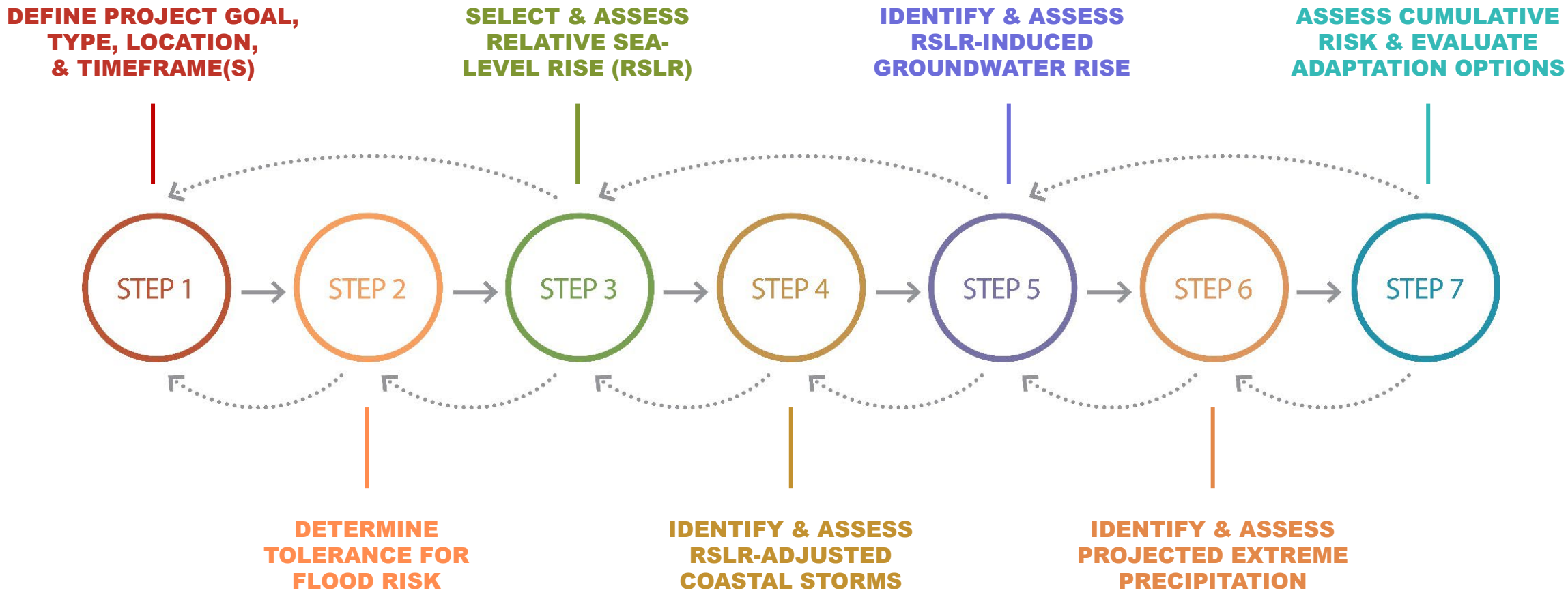

David Murray

TOLERANCE FOR FLOOD RISK

Willingness to accept higher or lower probability of flood impacts based on:

- Project value or replacement cost
- Capacity to adapt
- Importance for public function/safety
- Sensitivity to flooding

STEP-BY-STEP APPROACH



PART I: SCIENCE
WWW.TINYURL/CFRSCIENCE

PART II: GUIDANCE FOR USING SCIENTIFIC PROJECTIONS
WWW.TINYURL/CFRGUIDANCE

THANK YOU

Nathalie DiGeronimo (Morison)

603.559.0029

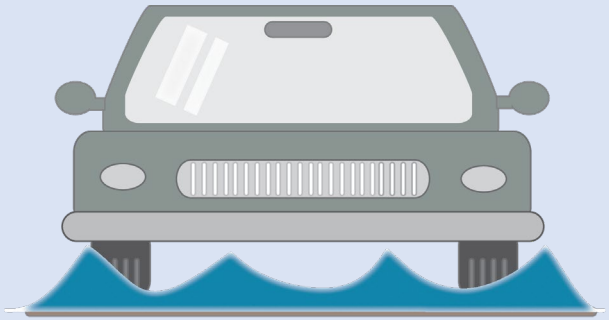
nathalie.morison@des.nh.gov

ROCKINGHAM PLANNING COMMISSION

Empowering Communities

theRPC.org

Julie LaBranche
STCVA Project Manager/
Senior Planner



Seacoast Transportation Corridor Vulnerability Assessment

Hampton Beach Area Commission Coastal Resilience Symposium

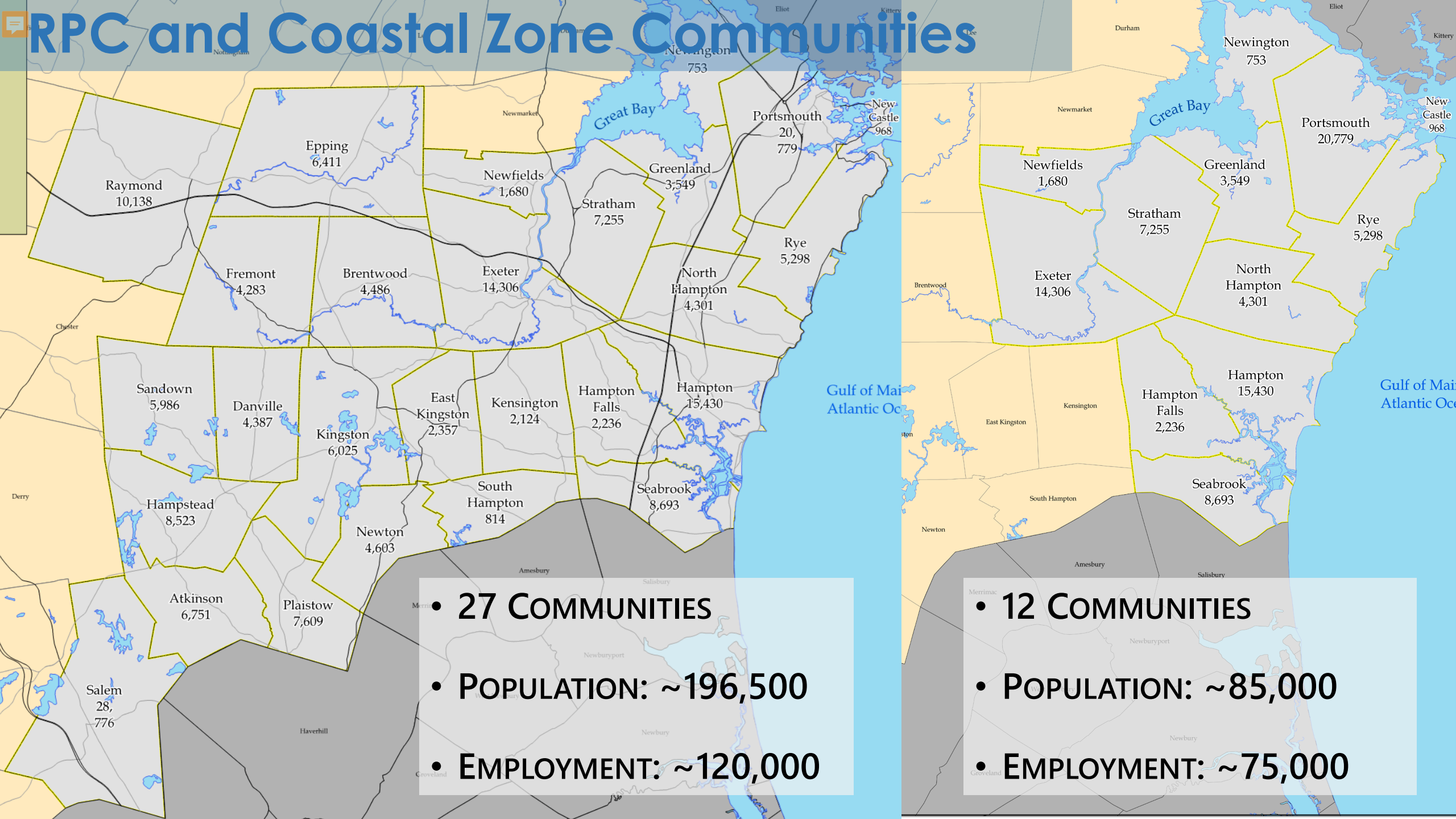
February 11, 2021

Seacoast Transportation Corridor Vulnerability Assessment (STCVA)

- A partnership between:
  - Rockingham Planning Commission
  - NH DES Coastal Program
  - NH Department of Transportation
  - University of New Hampshire
  - 10 NH coastal municipalities
- Funded as a 2019 NOAA Project of Special Merit

This project was funded,in part, by NOAA's Office for Coastal Management under the Coastal Zone Management Act in conjunction with the New Hampshire Department of Environmental Services Coastal Program.

RPC and Coastal Zone Communities



- 27 COMMUNITIES
- POPULATION: ~196,500
- EMPLOYMENT: ~120,000

- 12 COMMUNITIES
- POPULATION: ~85,000
- EMPLOYMENT: ~75,000

Seacoast Transportation Corridor Vulnerability Assessment (STCVA)

Project goals are to:

- Assess the impacts of projected sea-level rise on the seacoast transportation network
  - 1.0', 1.7', 4.0' and 6.3' sea-level rise at 2050

    (Tides to Storms and consistent with 2020 NH Science Summary)
- Evaluate changes in traffic volume, travel patterns, road capacity, road conditions
- Identify priority sites impacted by flooding
- Identify adaptation and resilience strategies for priority sites
- Improve RPC/MPO decision making processes

Regional Travel Demand Model

- Travel Demand Model - demographic data – employment, population, travel volume
- Uses demographic data aggregated into zones to estimate future travel in the region
- Model attempts to find most efficient path for all trips between aggregated zones
- Many, but not all, (local) roads are included
- Focused on impacts on primary travel corridors

Seacoast Transportation Corridor Vulnerability Assessment (STCVA)

- Corridor Advisory Committee - capitalize on municipal expertise and experiences
- Understand NHDOT and municipal roadway network management, policies and planning decsisions
- Inform state and local hazard mitigation planning efforts
- Inform coastal region climate adaptation and resilience planning

Importance of Resiliency Planning

MPO's purpose is to plan for the long-term needs of the regional transportation system

- Provides the means for people to access social, economic, and environmentally valuable/desired locations
- Current science indicates that planners need to account for sea level rise to maintain access to those locations in coastal NH

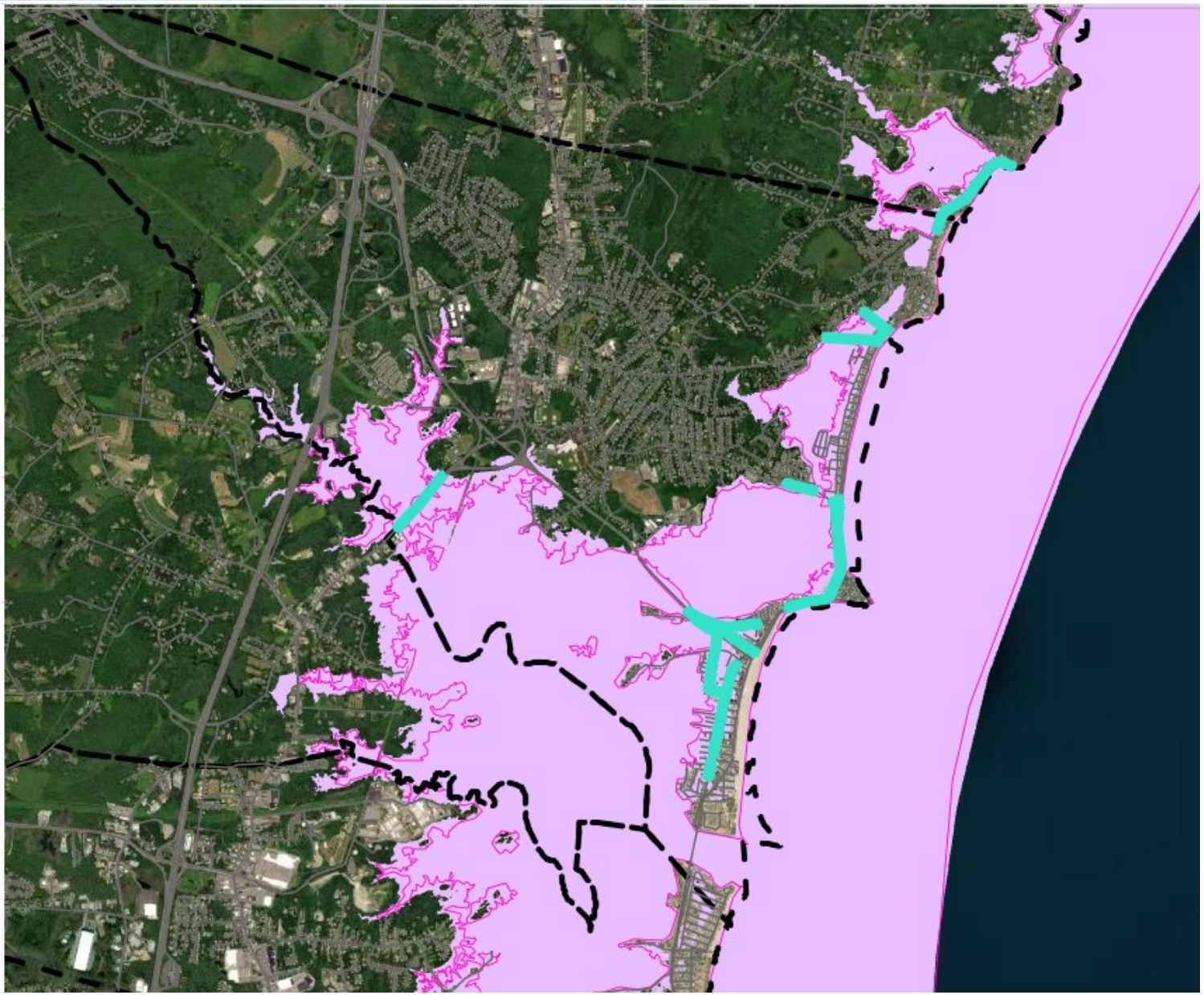
Planning a Resilient Transportation System helps to

- Reduce the likelihood of systemic disruptions to roadway functions
- Increase the capacity to absorb these disruptions and still function
- Ensure that all have the ability to access the transportation system during disruptions
- Reduce the time that is needed to return to normal functioning

STCVA Transportation Planning Outcomes

- Enhanced understanding of risks to transportation network from climate change
- Identify critical links and impacts of closures on overall transportation network
- Develop improvement concepts and costs to better understand scope and scale of building a more resilient system
- Improve use of resiliency factors in the project selection process
- Provide data and analysis for other planning and project development efforts.
- Define policies that can facilitate a more resilient transportation system

Regional Travel Demand Model Results



For More Information

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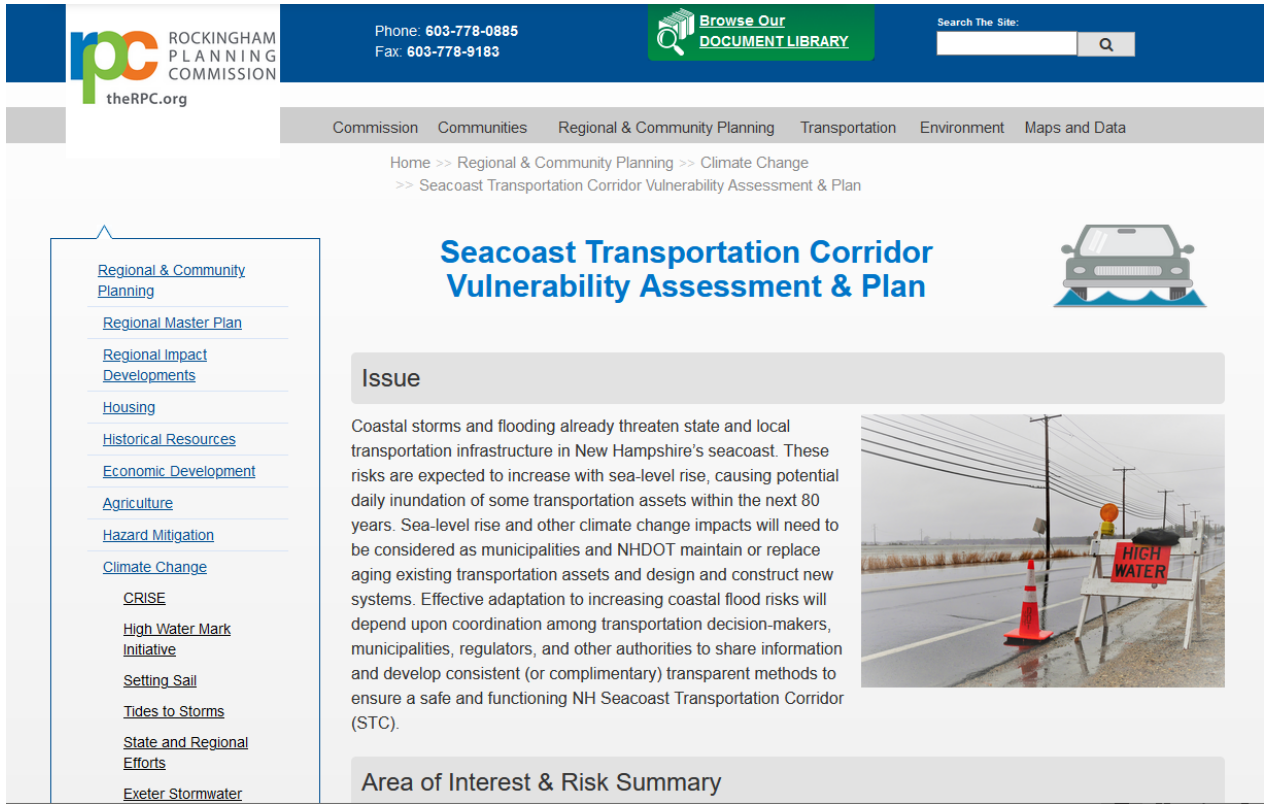


https://www.therpc.org/regional-community-planning/climate-change/STCVA

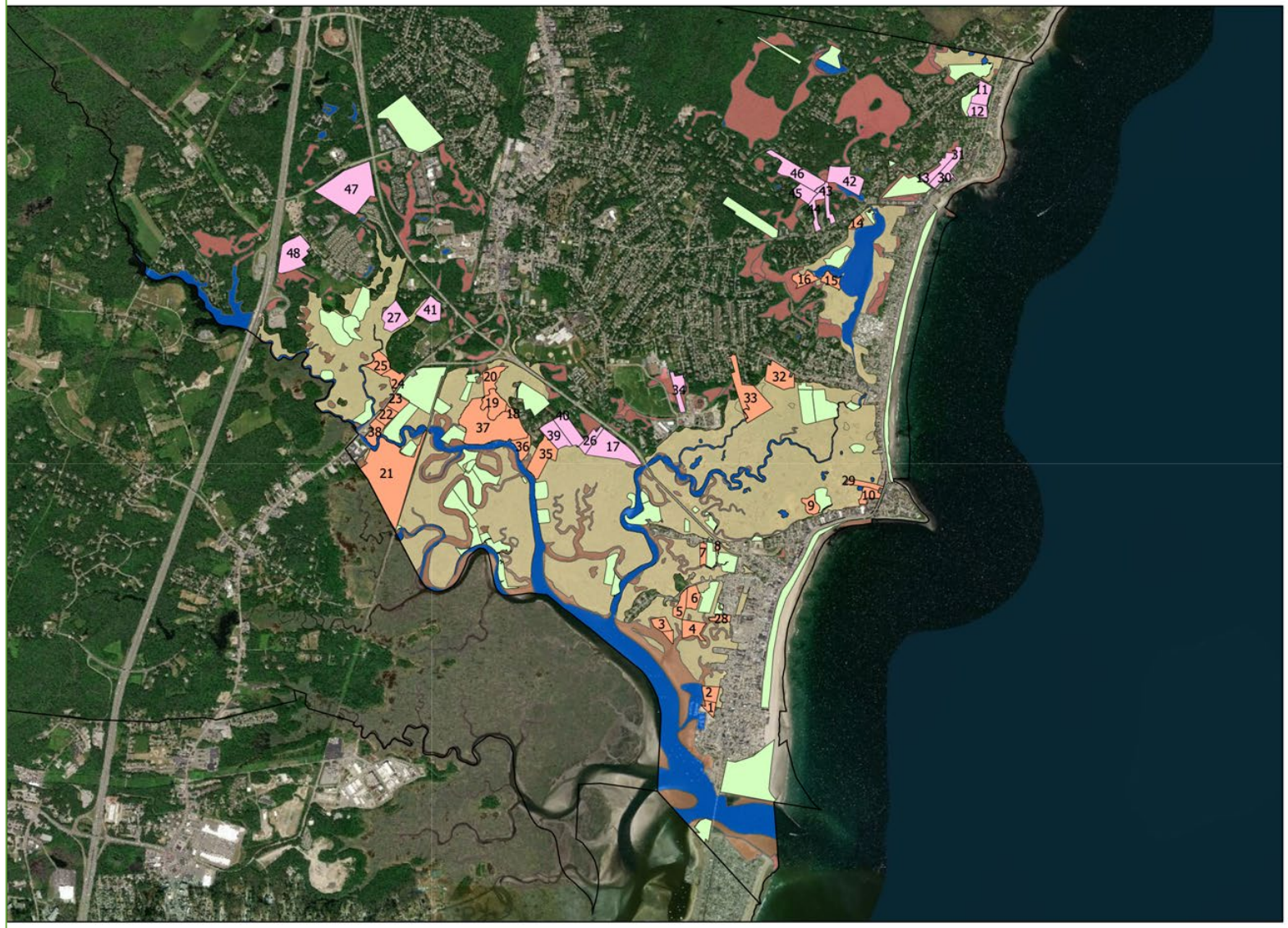
Seabrook- Hamptons Estuary Alliance (SHEA)

Established for the protection of coastal and aquatic resources, and the preservation of the Seabrook-Hamptons estuarine system through education, community outreach, and research.


NOAA
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE
Hampton Harbor
Tide Forecast – 2021
203 - 38

Photo by Matt Parker

Hampton Potential Conservation Land



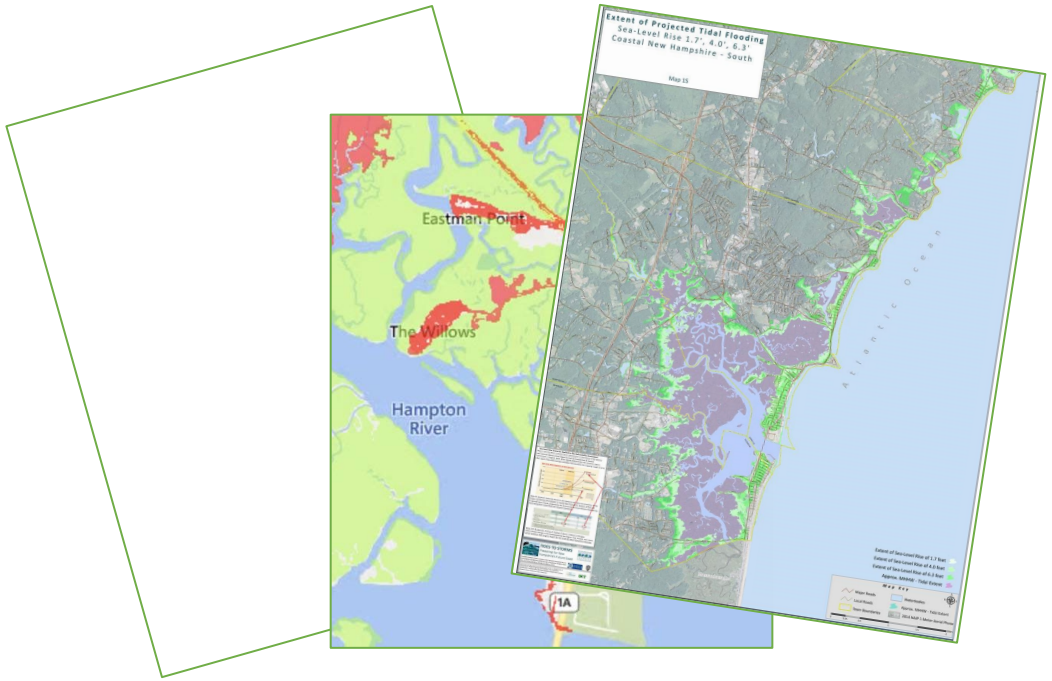
Coastal Hazards Adaptation Team

CHAT Members

- Board of Selectmen
- Planning Board
- Budget Committee
- Conservation Commission
- Hampton Beach Area Commission
- Hampton Beach Village Precinct
- Zoning Board of Adjustment
- Town Planner
- DPW Deputy Director
- Hampton Beach residents
- NHDES Coastal Program

CHAT Meetings

Case Histories



Natural Protection

Local Flood Maps

Flood Insurance

CHAT Recommendations

Tactics

Build a wall

Raise the roads

Temporary flood barriers

Strategies

Planning

Policies & Ordinances

Data collection & Research

Public outreach

CHAT Recommendations

Review ordinances and regulations

Coastal Hazards Overlay District

Community Resilience and Floodplain Administrator

Understand economic impacts

Implementation Committee

Estuary Management Plan

Shellfish

Estuary Vision

Existing Data

Needs & Gaps

Management Goals & Strategies

Plan Adoption

Implementation

Periodic Review & Update

Vegetation

Avian wildlife

Salt Marsh

- Marsh migration to help protect local properties
- CHAT recommendations focused on increased flood resilience
- Estuary Management Plan to ensure a healthy and protective Hampton-Seabrook Estuary


Photo: Univ. of New Hampshire

Collaborating Toward Coastal Resilience

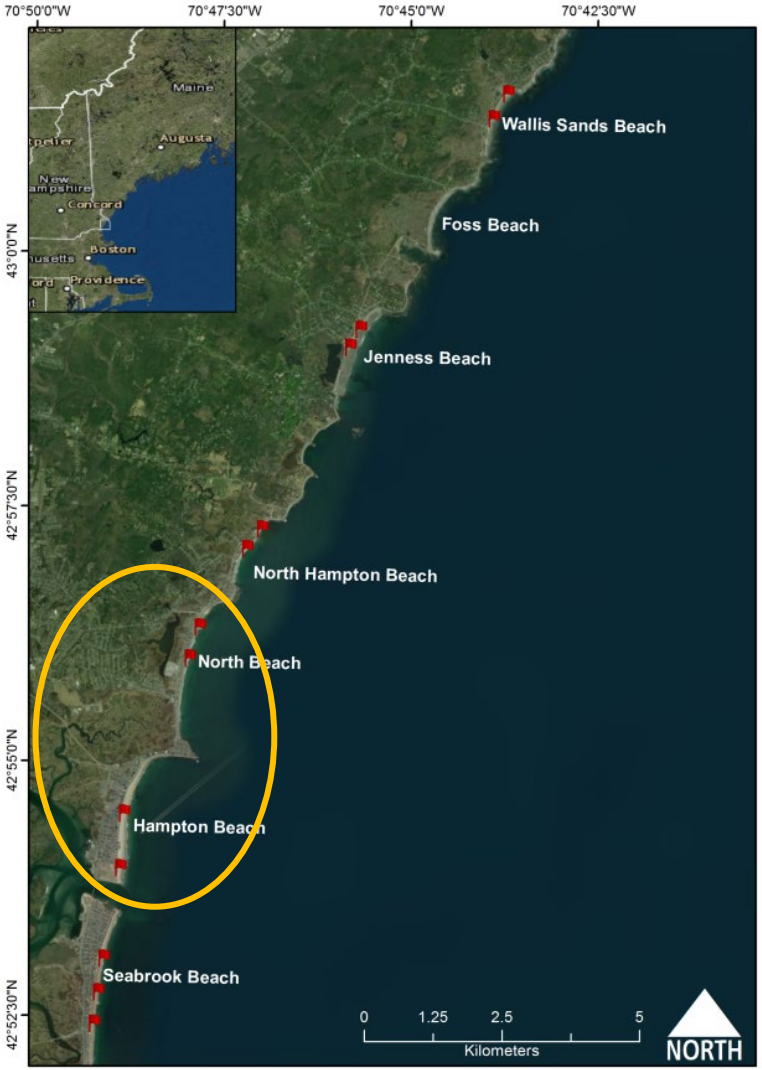
Lessons from Community Based Programs

Sea Grant New Hampshire | NH Extension

Lessons from Community-Based Programs
Alyson Eberhardt, PhD

Hampton Beach Area Commission
Feb 9, 2021

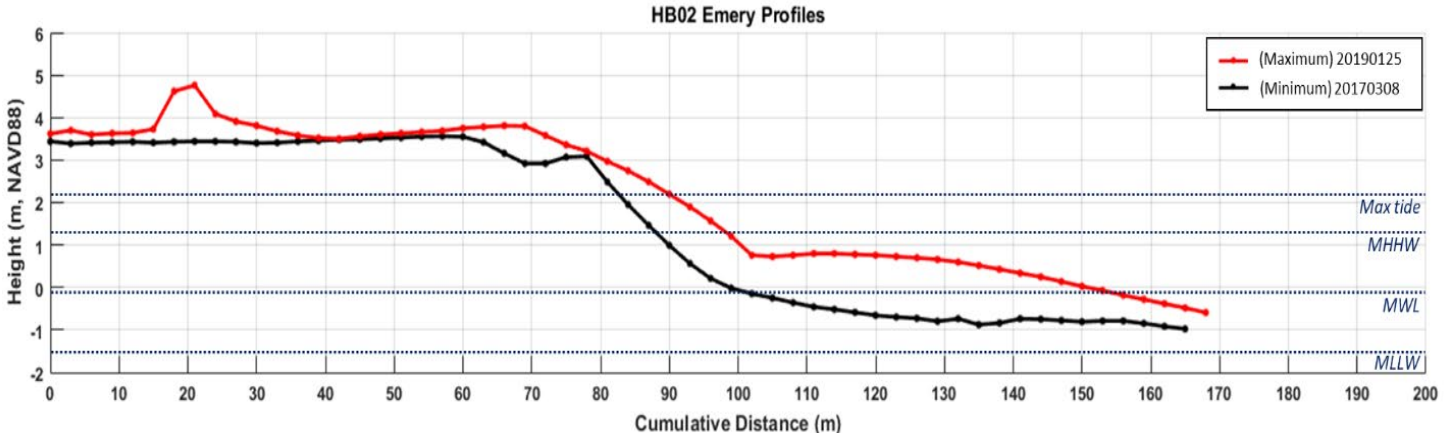
NH Volunteer Beach Profiling Program



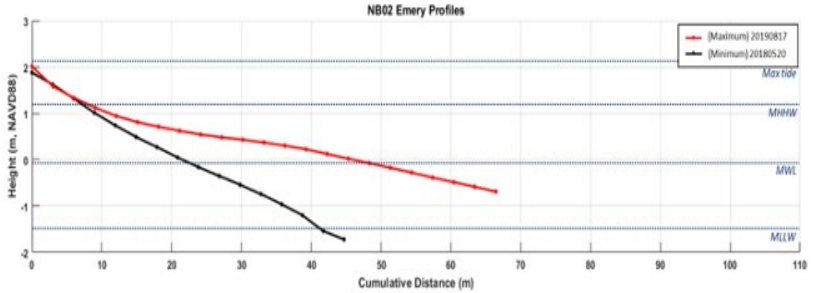
Wide beaches with higher elevation offer more storm protection.

Beaches with seawalls result in more wave reflection, and more erosion.

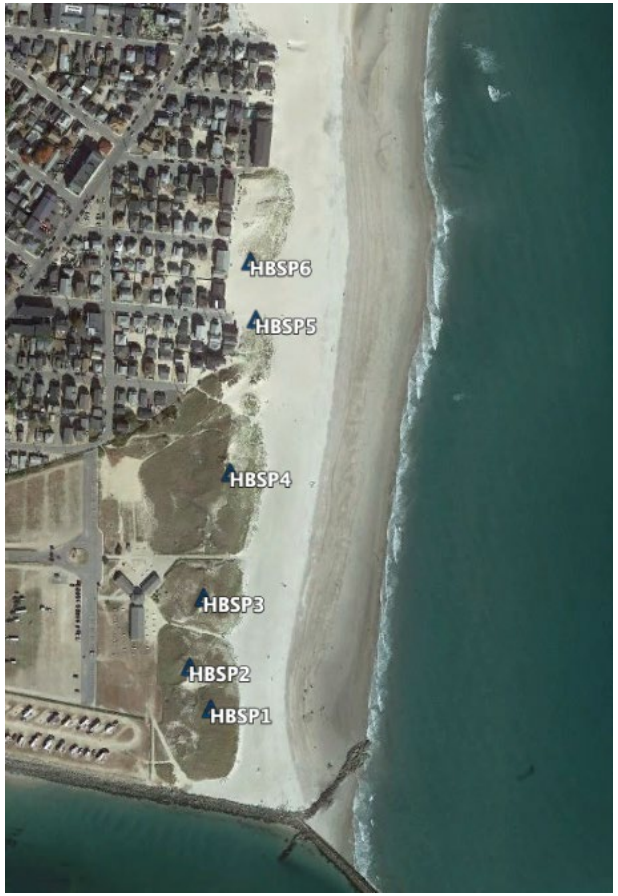
Hampton Beach

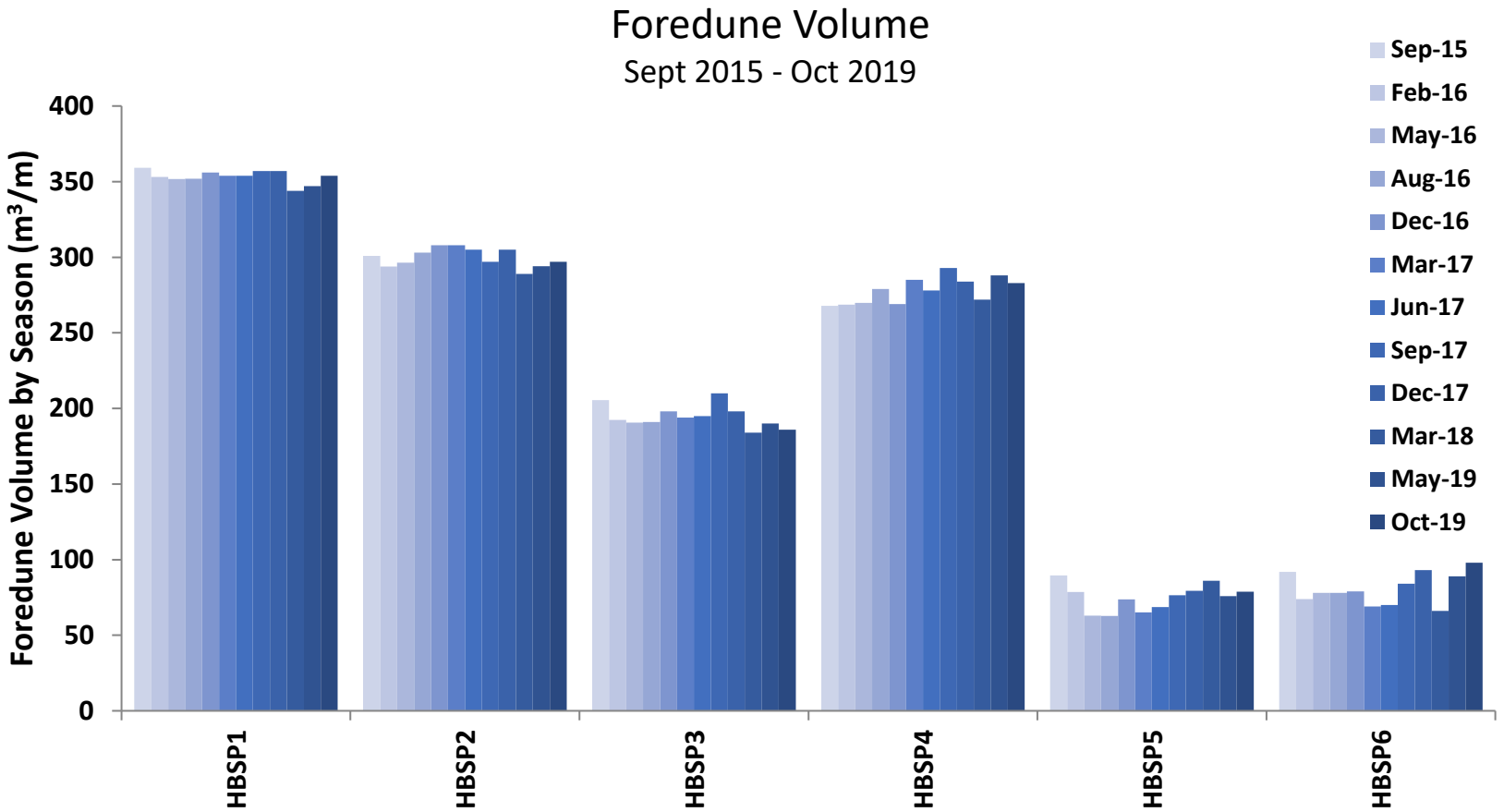


North Beach



Beaches and dunes work together as a coupled system. They are some of our most important storm protection assets.





Considerations for the Coastal Environmental Hazards Master Plan update

Restore dunes wherever possible – e.g., Sun Valley, north of the State Park

Explore options for living shorelines

Maintain processes that supply sediment to the system
- Dune walkover structures
- Leave seaweed on beaches

Establish a committee to create a long-term plan for beach nourishment

The Coastal Landowner Technical Assistance Program

To provide equitable technical assistance, information, tools, and contacts to coastal residents to help :

- reduce individual and community flood risk
- utilize nature-based approaches to mitigate erosion and flood risk
- restore natural habitats to enhance the resilience of native ecosystems

What we are hearing from Hampton residents in LTAP

They are looking to better understand their flood risk

Many underestimate their flood risk

They are looking for flood mitigation solutions at both the property and the community scale

Oceanfront residents are interested in rebuilding sand dunes

Concern exists about the impact of groundwater rise

Some residents are interested in a voluntary buyout option at fair market value

Considerations for the Coastal Environmental Hazards Master Plan update

Provide landowner technical assistance regarding flood risk and flood mitigation

Develop a long-term plan for dune restoration and maintenance

Further explore future impacts of groundwater rise

Access the Hazard Mitigation Assistance Program for home elevation and voluntary buyouts

Acknowledgements

Wellsley Costello, NH Sea Grant Extension
Larry Ward, UNH Center for Coastal and Ocean Mapping
Rachel Morrison, UNH Center for Coastal and Ocean Mapping
David Burdick, UNH Jackson Estuarine Laboratory
Gregg Moore, UNH Jackson Estuarine Laboratory
Kirsten Howard, NH DES Coastal Program
Chris Williams, NH DES Coastal Program
Nathalie Morison DiGeronimo, NH DES Coastal Program
Jay Diener, Seabrook-Hamptons Estuary Alliance
Rayann Dionne, Seabrook-Hamptons Estuary Alliance

Beach Profiling Volunteers

Lee Pollock
Sylvia Pollock
Claudia Gilmartin
Ellen Saas
Molly Dennett
Alfred Ackerman
Kaye Jaus
Craig Jaus
Lisa Sweet
NH Coastal Program staff
Dennis Barrett
Hank Bautzmann
Bob Walsh
Tom Adams
Rick Cliche
Leslie Cliché
Steve McCarthy
Dave Samara
Dave Perkins
Sally Nickerson
Joe St. Onge
Katherine Brown
Hugh Evans
Mike Stockdale
Terry Stockdale
Sherri Townsend
Peter Leary
Mike Jeans
Barry Simard
Mark Davidson
Dave Canedy
Kathy Canedy
Colin Canedy
Jennifer Stetson
Bryce Stetson
Rebecca Beasley

Funded, in part, by NOAA's Office for Coastal Management under the Coastal Zone Management Act in conjunction with the NH DES Coastal Program

Resilient Tidal Crossings NH

Prioritizing tidal crossing replacement for community and ecosystem resilience

NHCP

The Nature Conservancy
New Hampshire

National Oceanic and Atmospheric Administration
NOAA
U.S. Department of Commerce

New Hampshire Department of Environmental Services

State of New Hampshire
Live Free or Die
Fish and Game

NH

T2
New Hampshire Technology Transfer Center

New Hampshire DOT

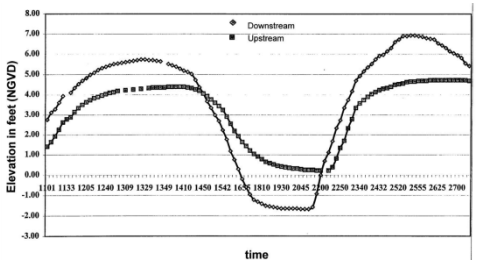
What is a Tidal Crossings?

a culvert or bridge that conveys bidirectional tidal flow, or that is predicted to become tidally influenced in the near future considering sea level rise (SLR) of 1.7 feet.

Why Tidal Crossings?

Complex Systems and Decision Making

Dynamic, Bi-Directional Flow



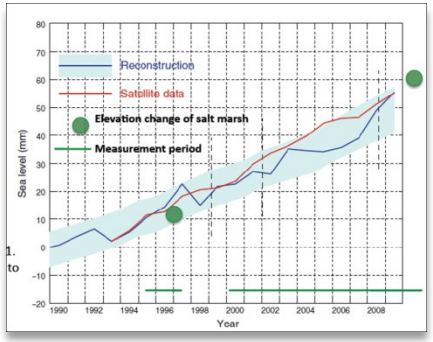
Salt Marsh Health & Migration

Low Lying Infrastructure

Increased Storm Intensity

Operations & Maintenance

Rising Sea Levels



Source: Adapted from NHDES Coastal Program

INFRASTRUCTURE SCORES

1. Structure Condition
2. Inundation Risk To Roadway
3. Inundation Risk To Crossing Structure
4. Inundation Risk To Low-Lying Development

ECOLOGICAL SCORES

5. Tidal Range Ratio
6. Crossing Ratio
7. Erosion Classification

} 8. Tidal Restriction Overall Score

9. Tidal Aquatic Organism Passage Evaluation
10. Salt Marsh Migration Potential Watershed
11. Salt Marsh Migration Potential Evaluation Unit
12. Vegetation Evaluation

COMBINED SCORES

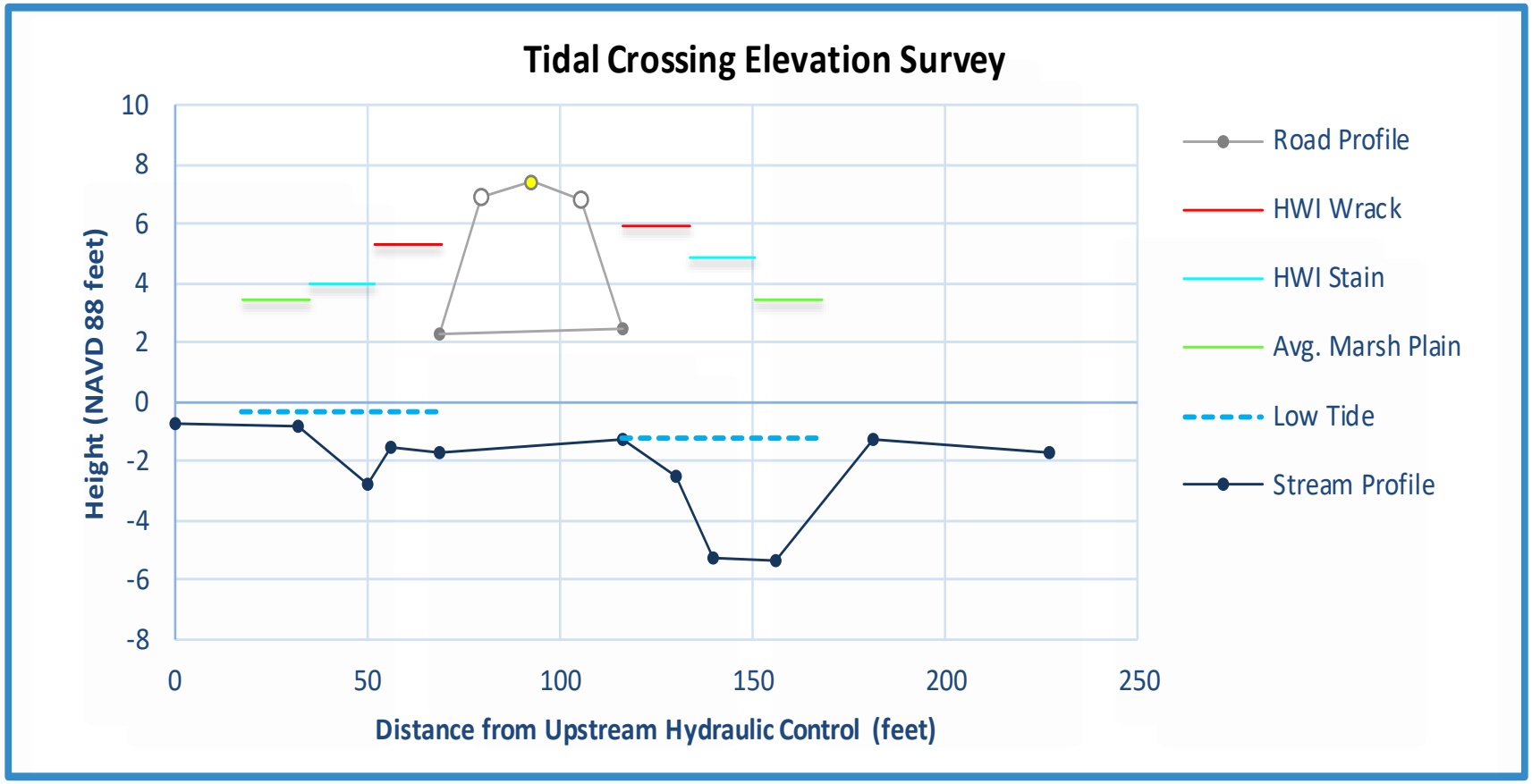
13. Overall Infrastructure Score
14. Overall Ecological Score
15. Overall Combined Score

Scoring System

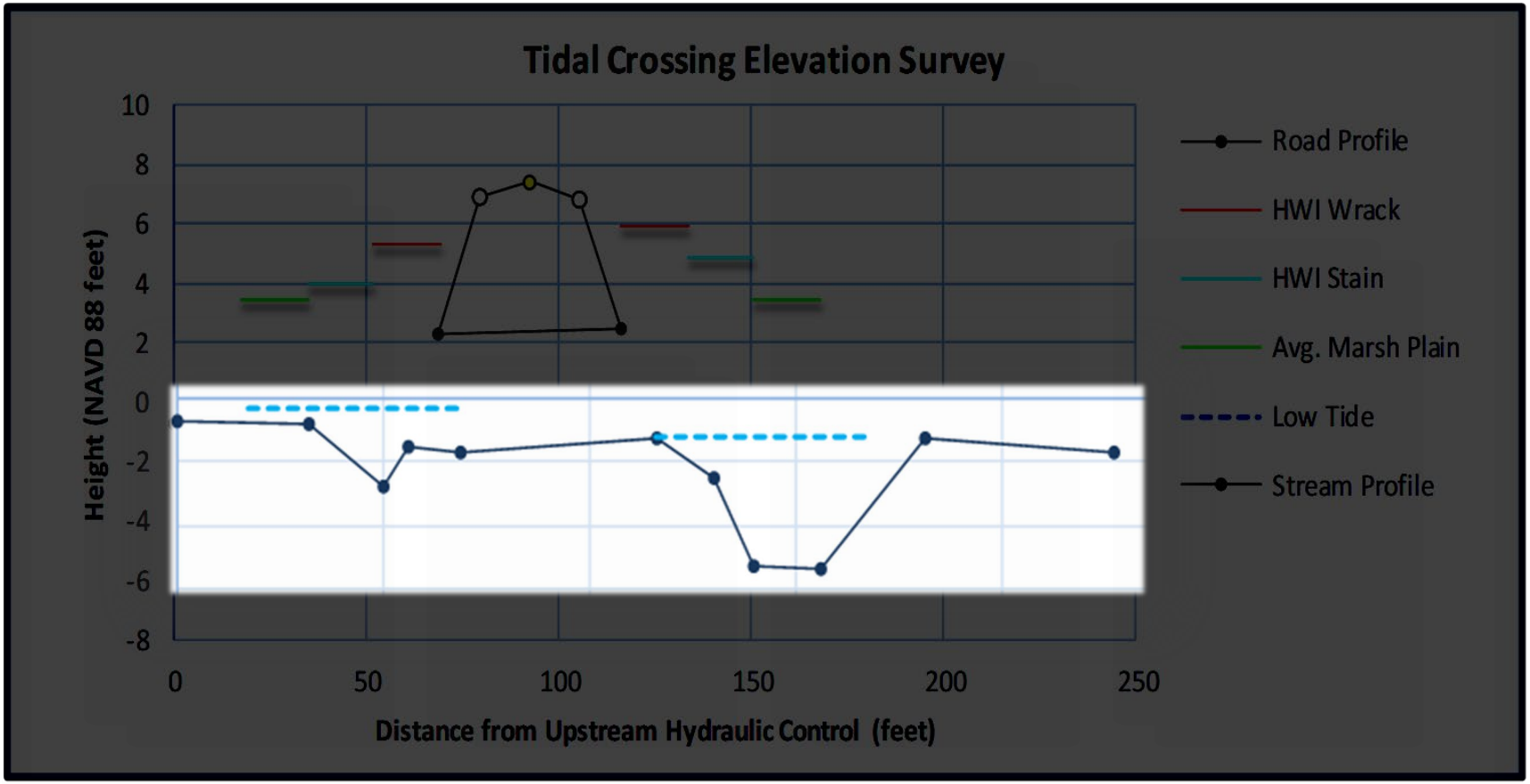
SCORE	SCORING CHARACTERIZATION	RECOMMENDED ACTION
1	- good structure condition - no tidal restriction - allows organism passage - low salt marsh migration potential - vegetation unaffected by crossing - low flood risk - many adverse impacts	Low Replacement Priority
2		
3		
4		
5	- poor structure condition - severe tidal restriction - reduced organism passage - high salt marsh migration potential - vegetation affected by crossing - high flood risk - few adverse impacts	High Replacement Priority

Evaluation Criteria ≥ 3 indicate a cause for concern

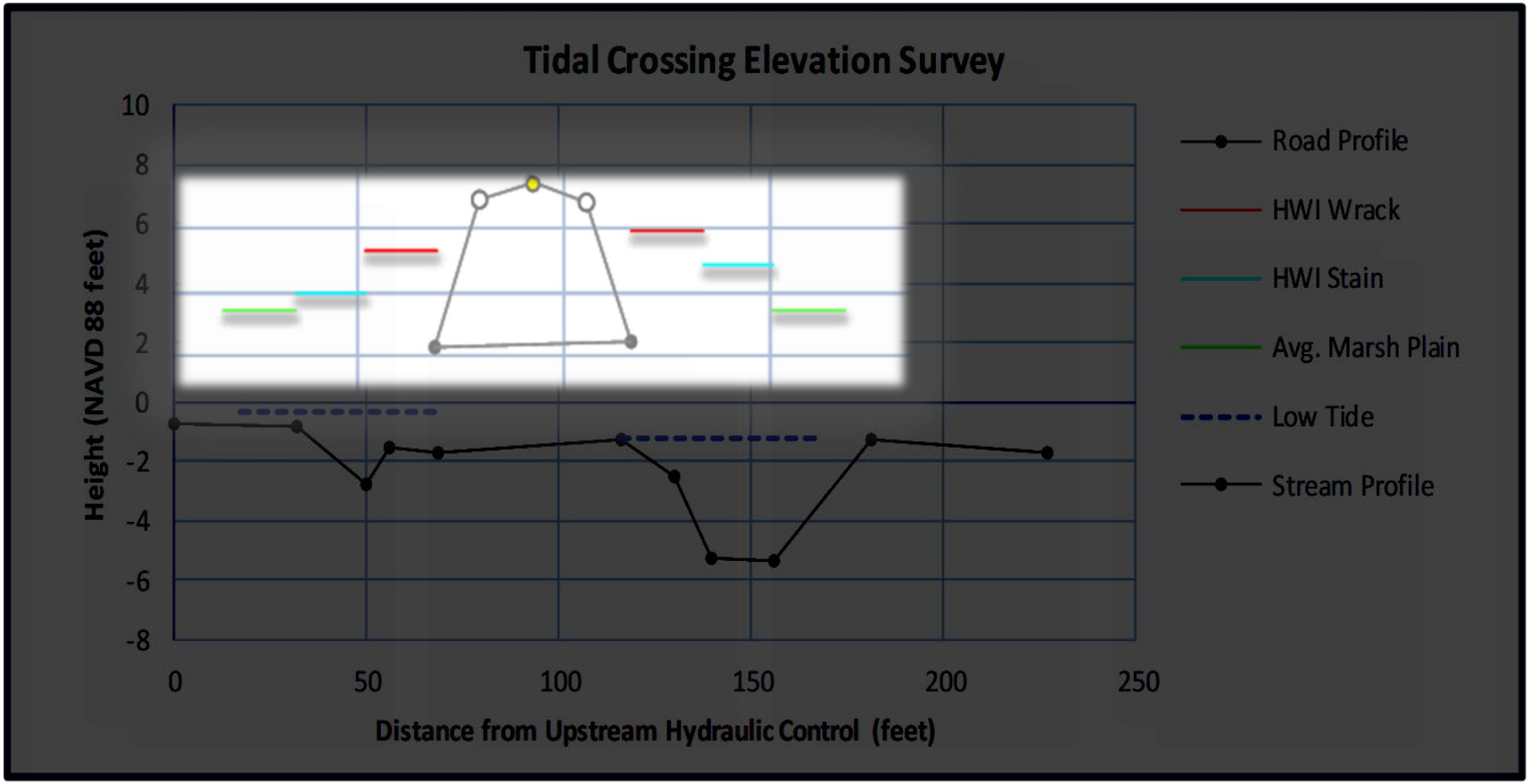
Tidal Crossing Elevation Survey



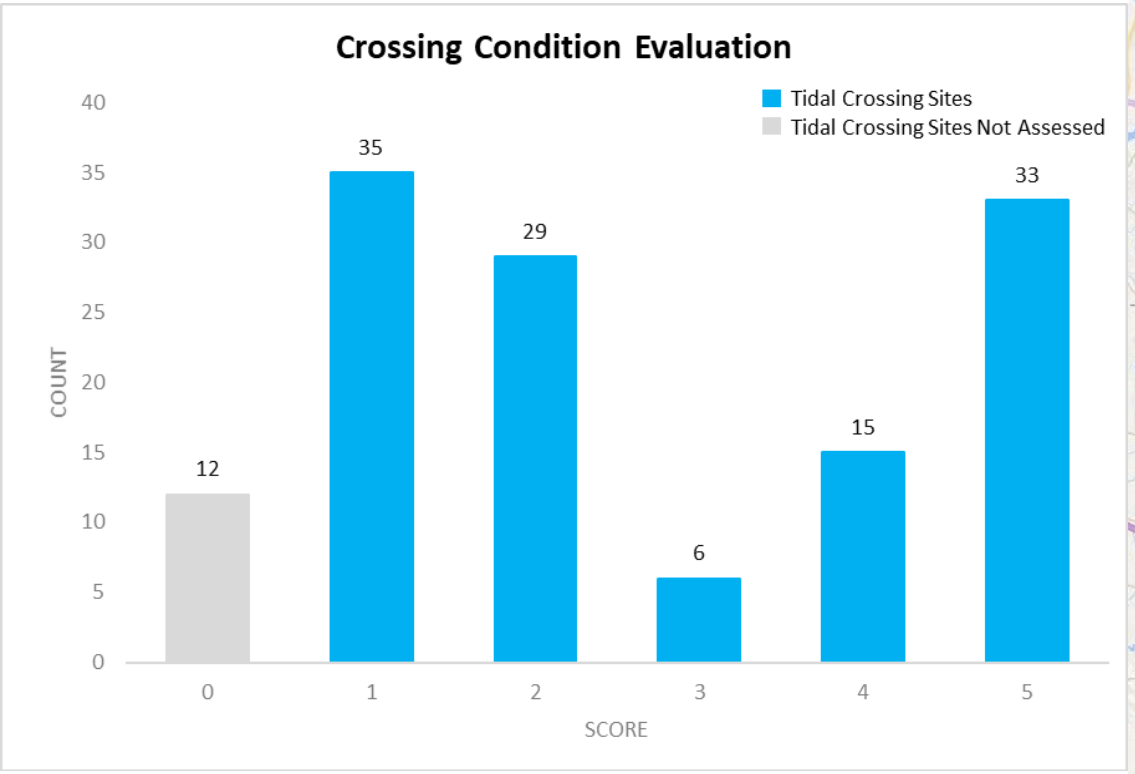
Tidal Crossing Elevation Survey

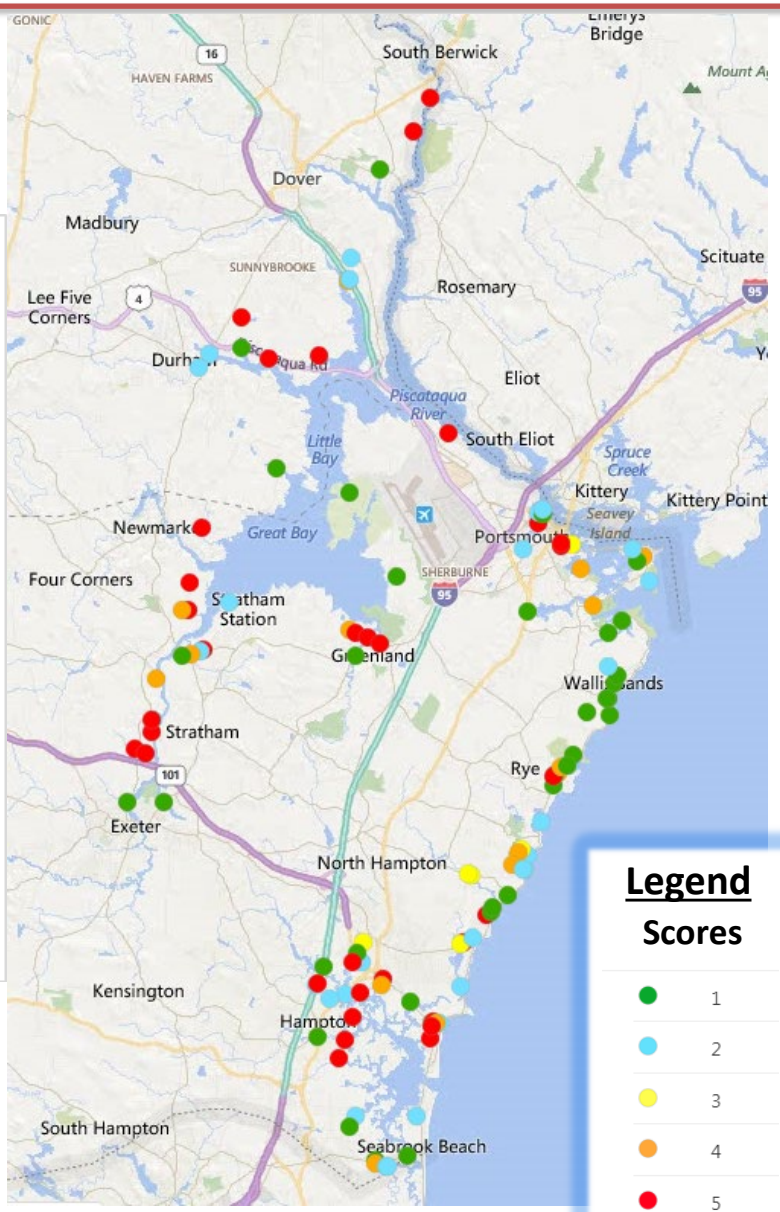


Tidal Crossing Elevation Survey



Structure Condition



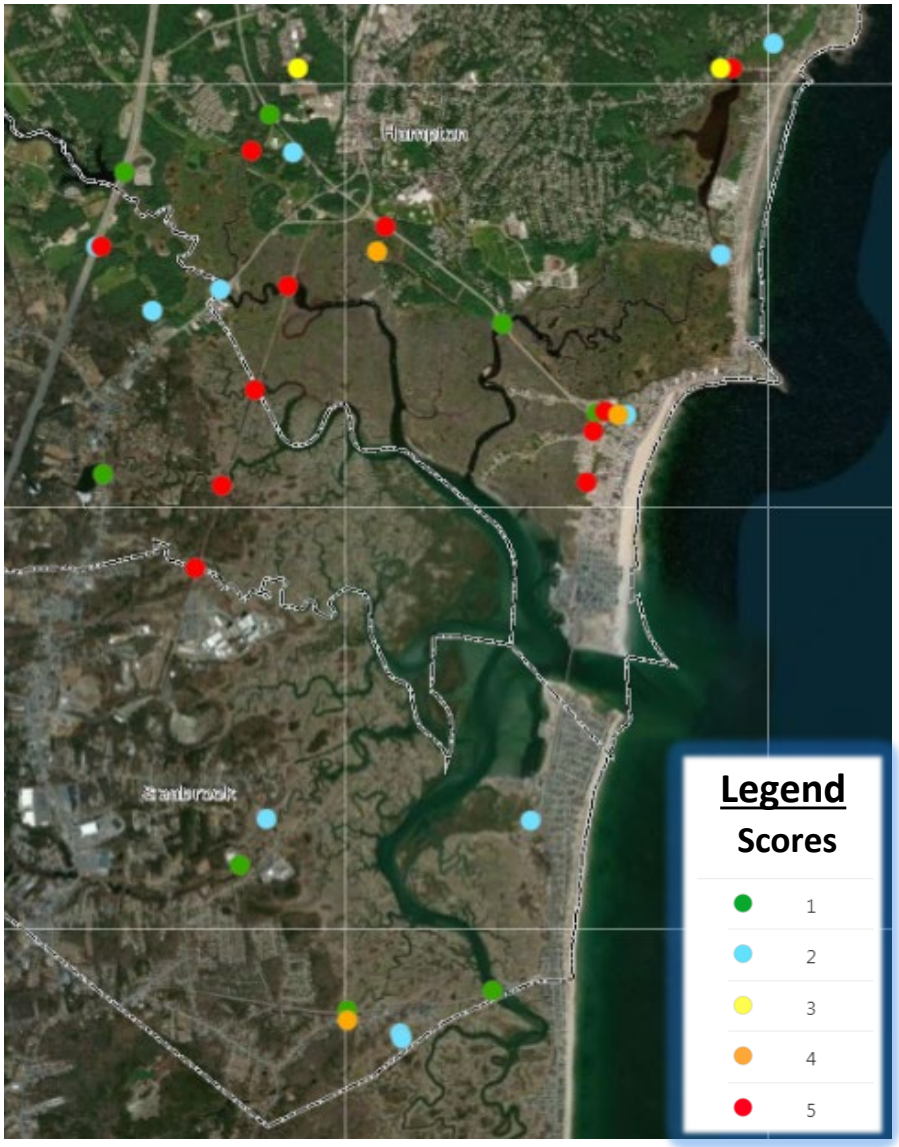


Structure Condition

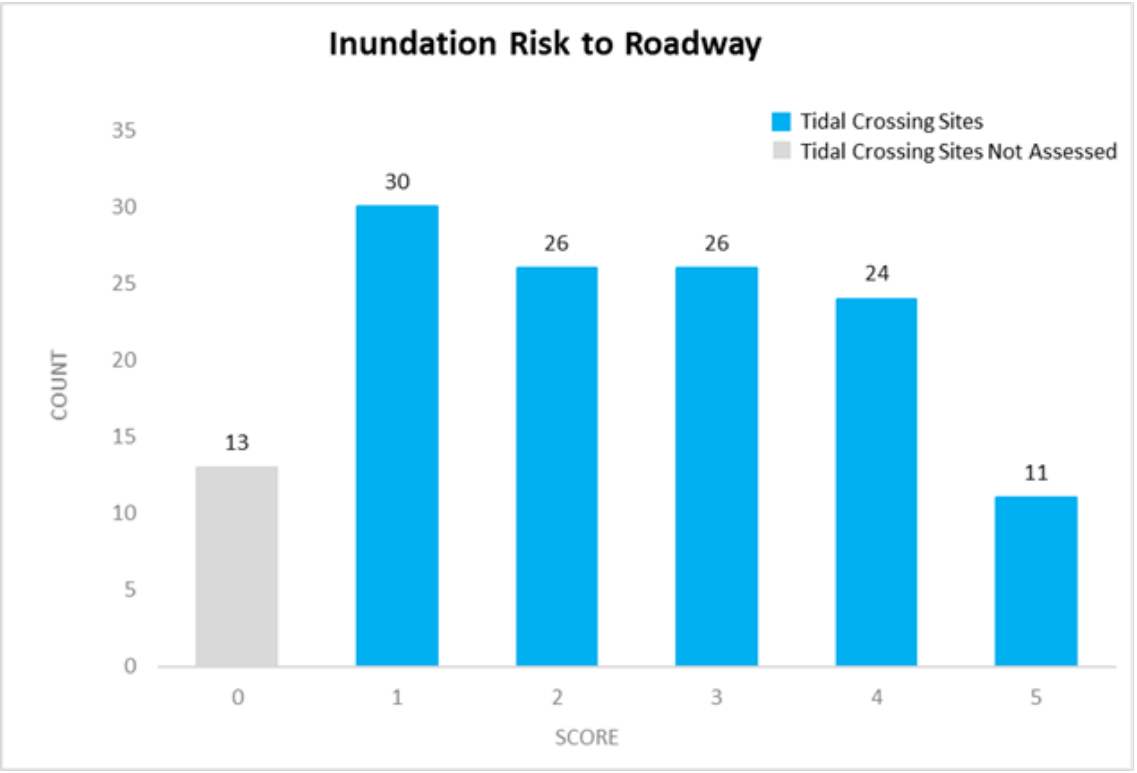
Tidal Crossings In
Hampton Seabrook Estuary

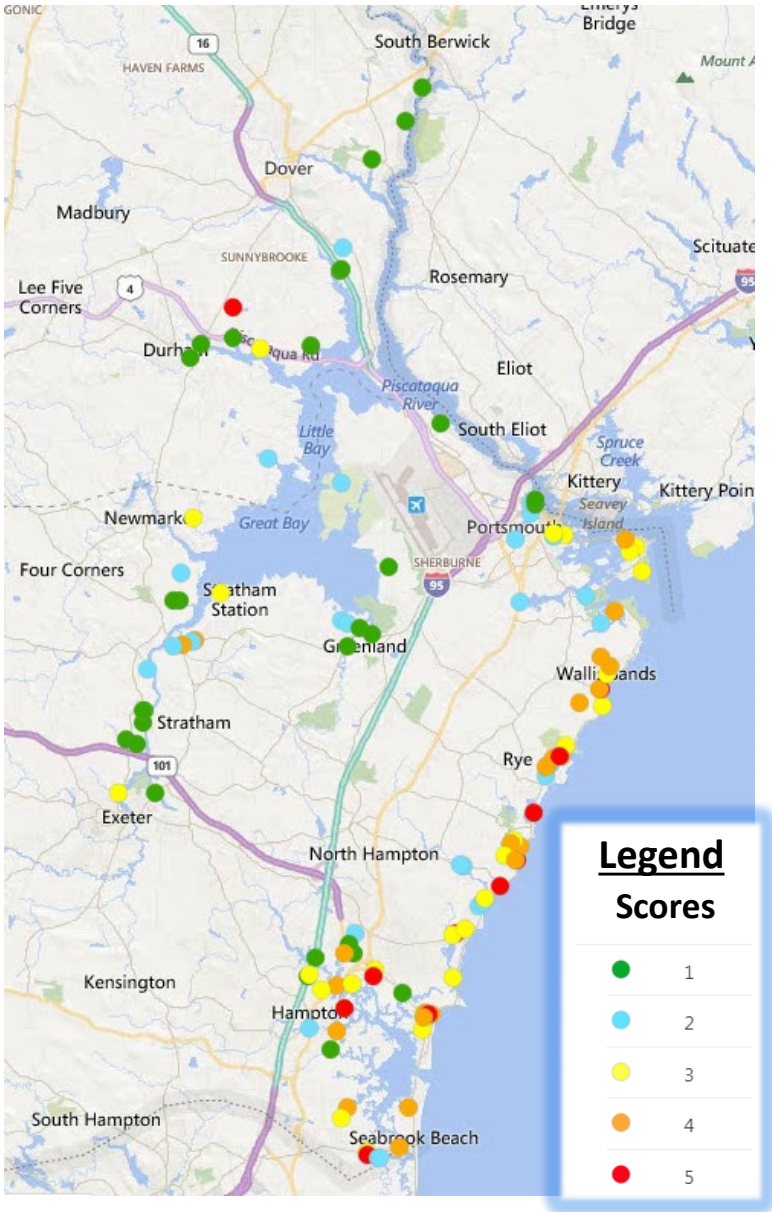
53% received a score of 1-2

47% received a score of 3-5



Inundation Risk to the Roadway



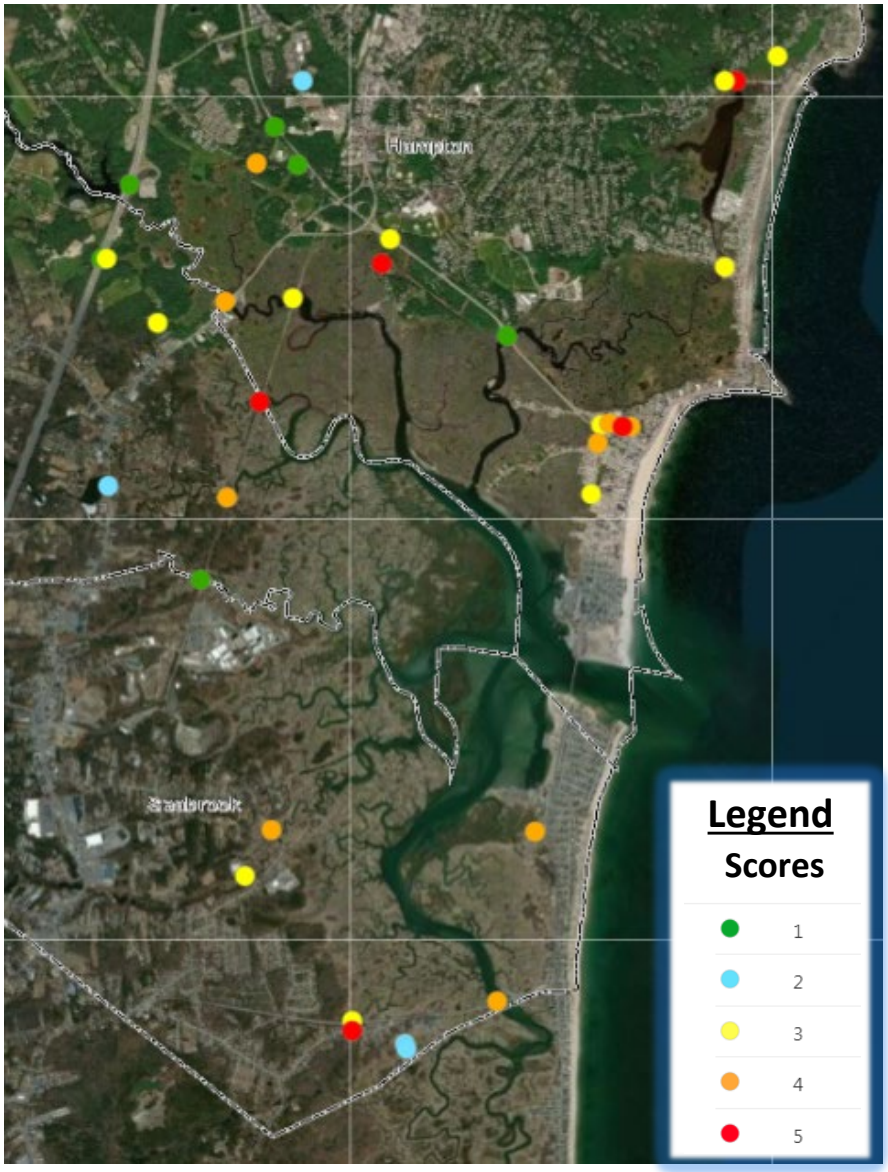


Inundation Risk to the Roadway

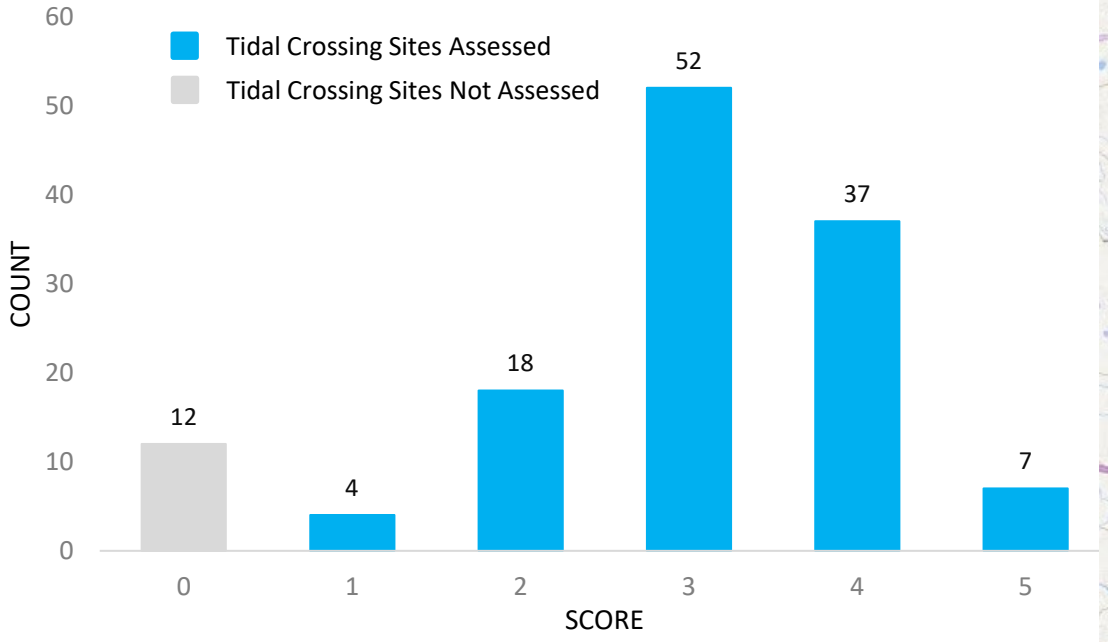
Tidal Crossings In
Hampton Seabrook Estuary

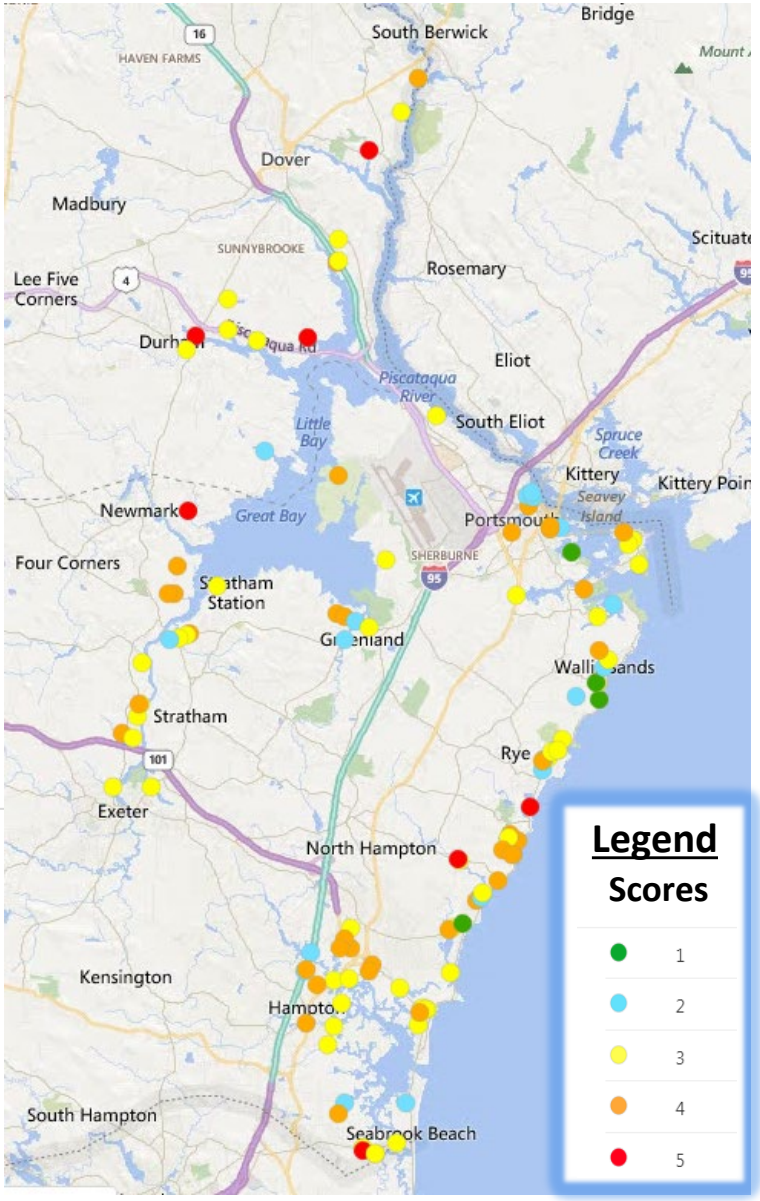
31% received a score of 1-2

69% received a score of 3-5



Tidal Restriction Overall



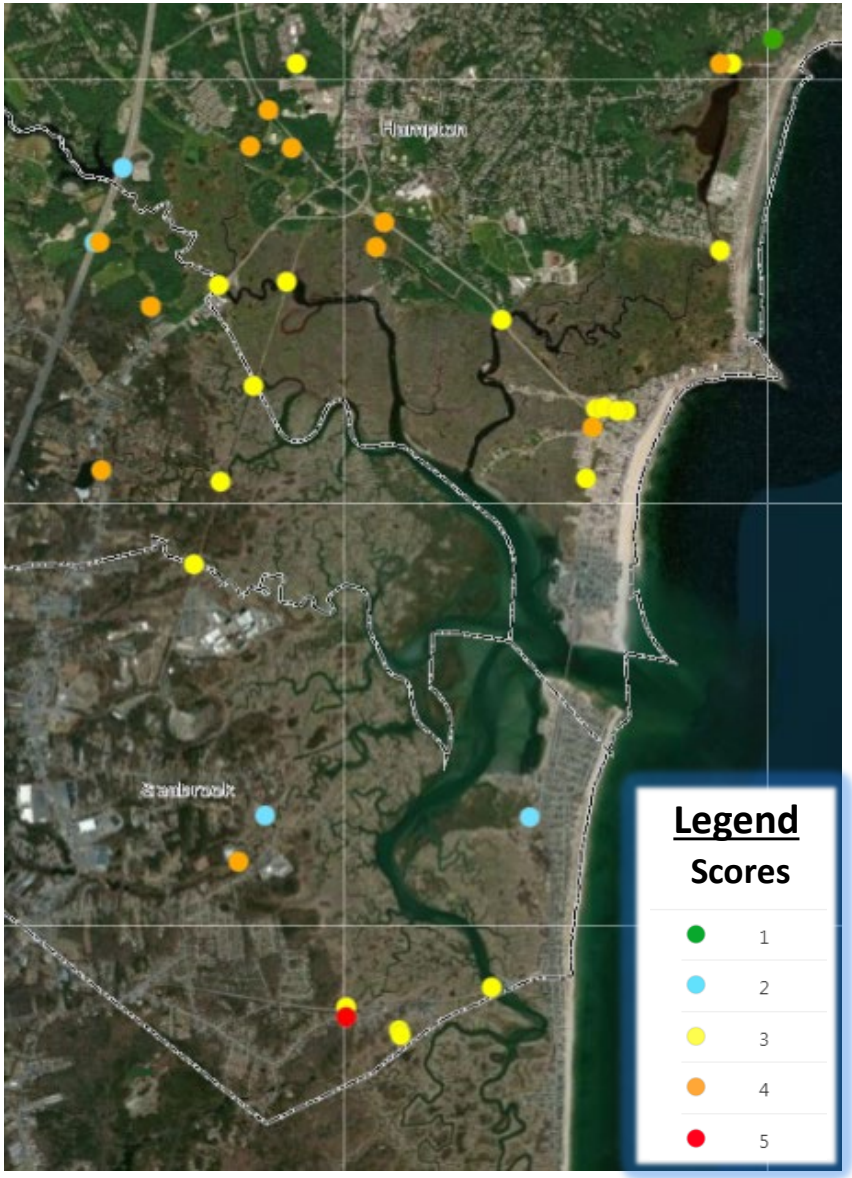


Tidal Restriction Overall

Tidal Crossings In
Hampton Seabrook Estuary

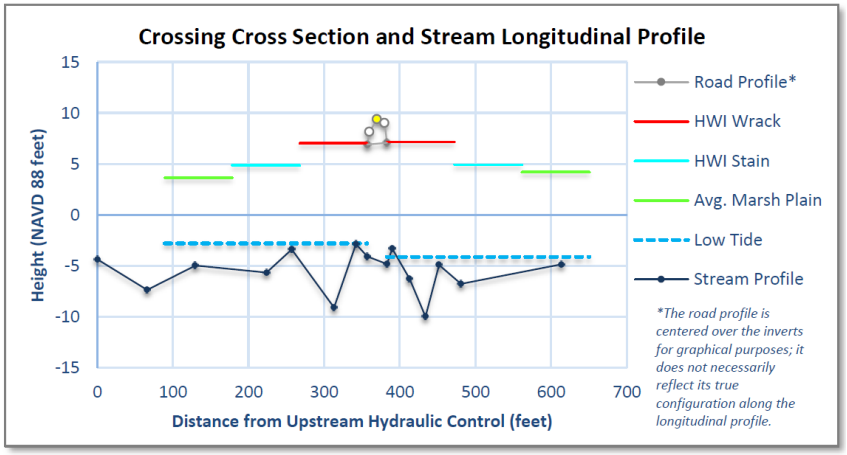
14 % received a score of 1-2

86 % received a score of 3-5

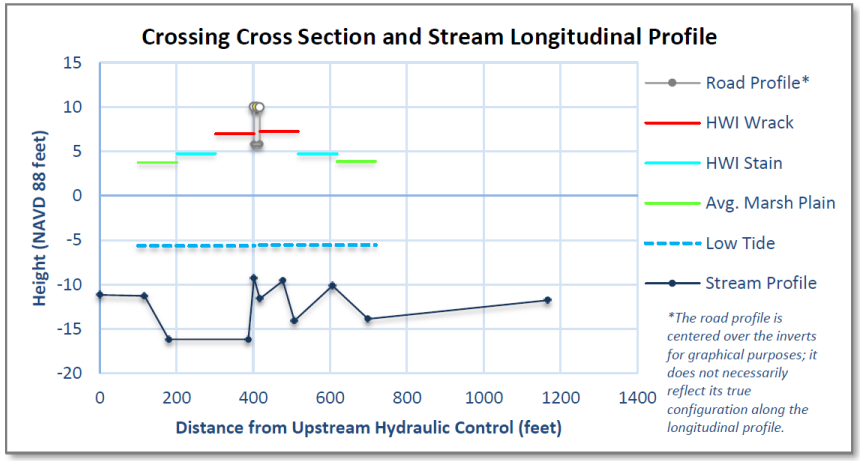


Tidal Restriction:
Scour Pool Depth in the Hampton Seabrook Estuary

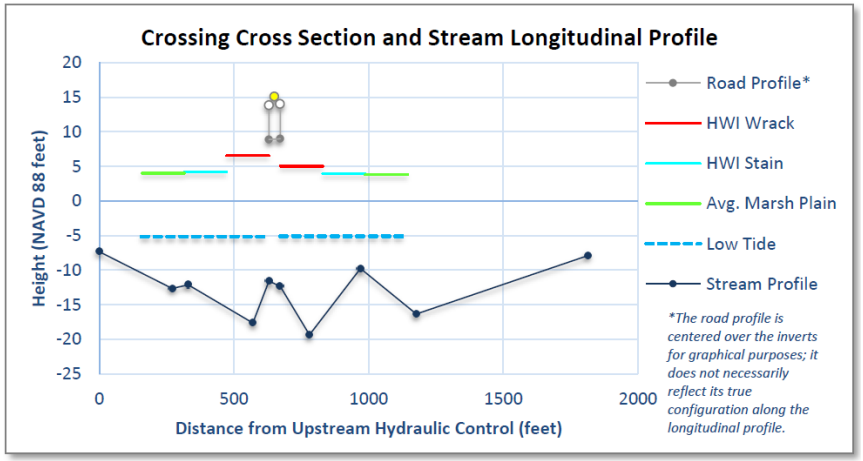
Hampton Falls River at railroad, Site ID# 29



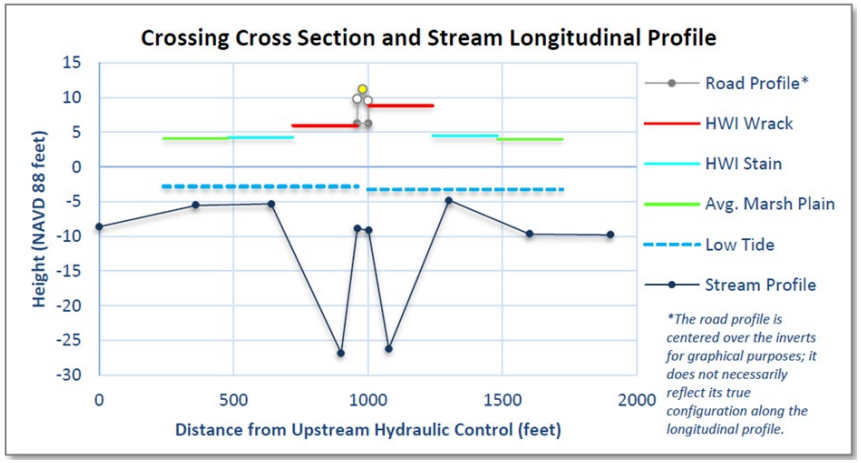
Taylor River at railroad, Site ID# 26



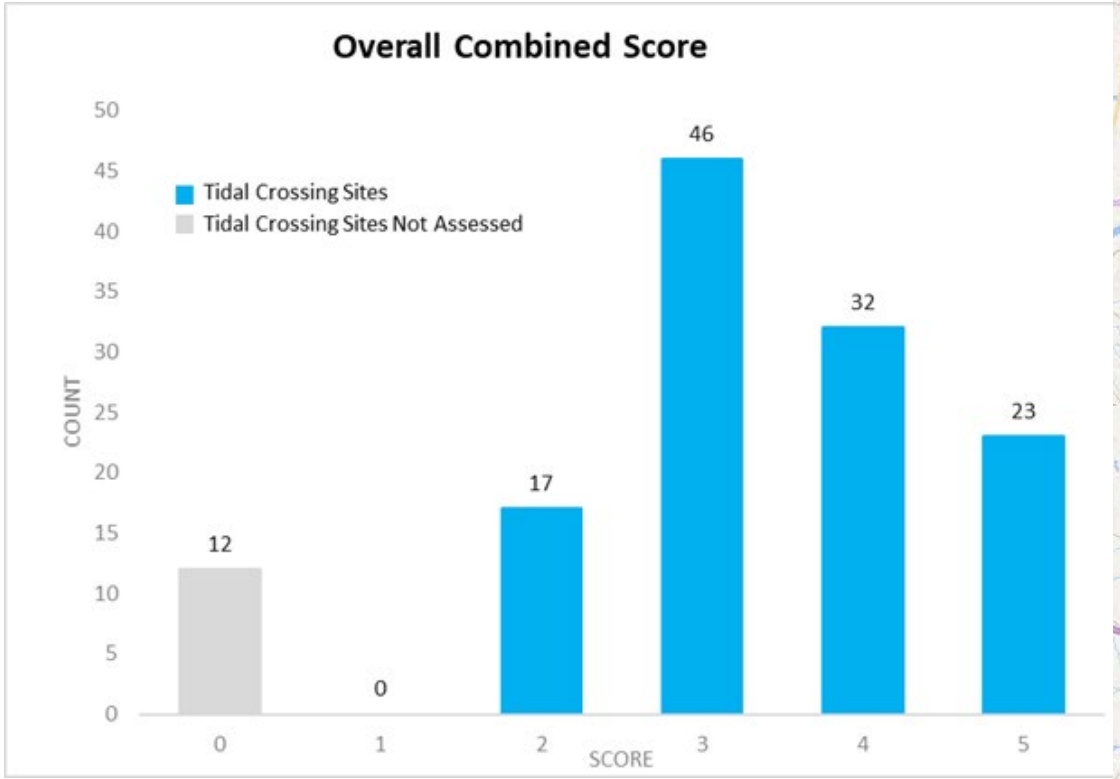
Tide Mill Creek at Rt 101, Site ID# 18

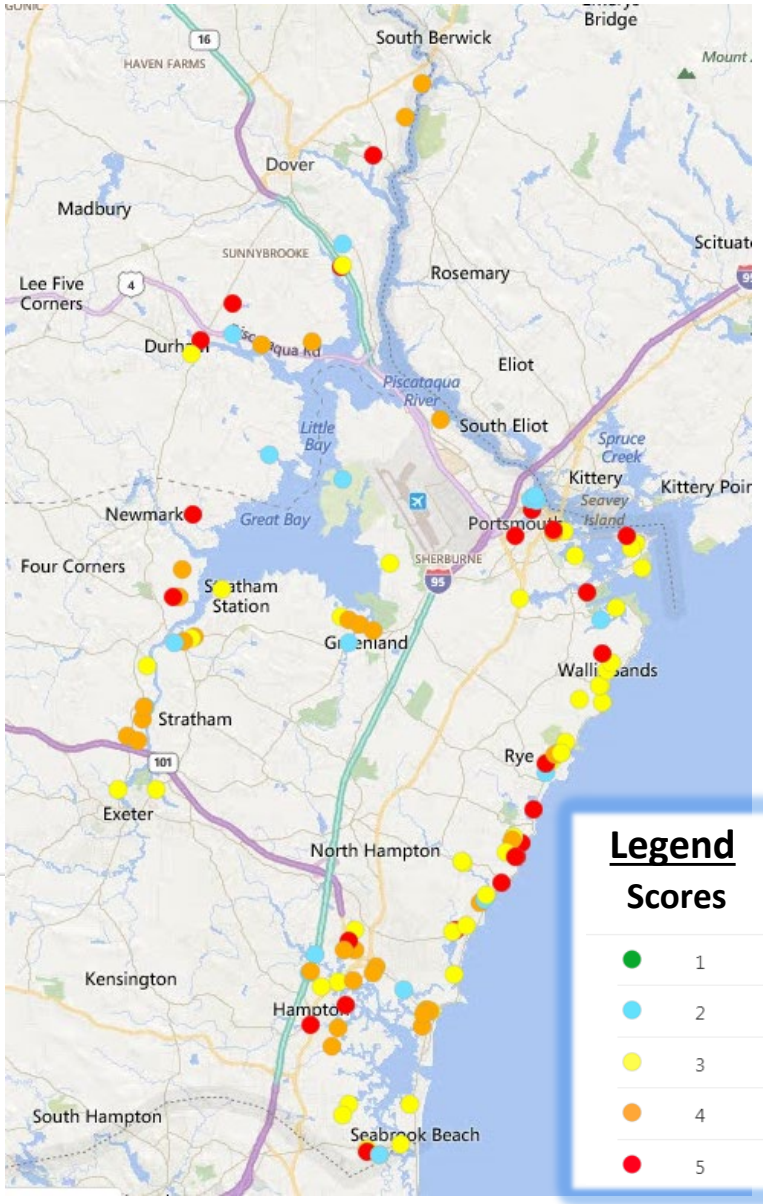


Blackwater River at Rt 286, Site ID# 1



OVERALL COMBINED SCORE



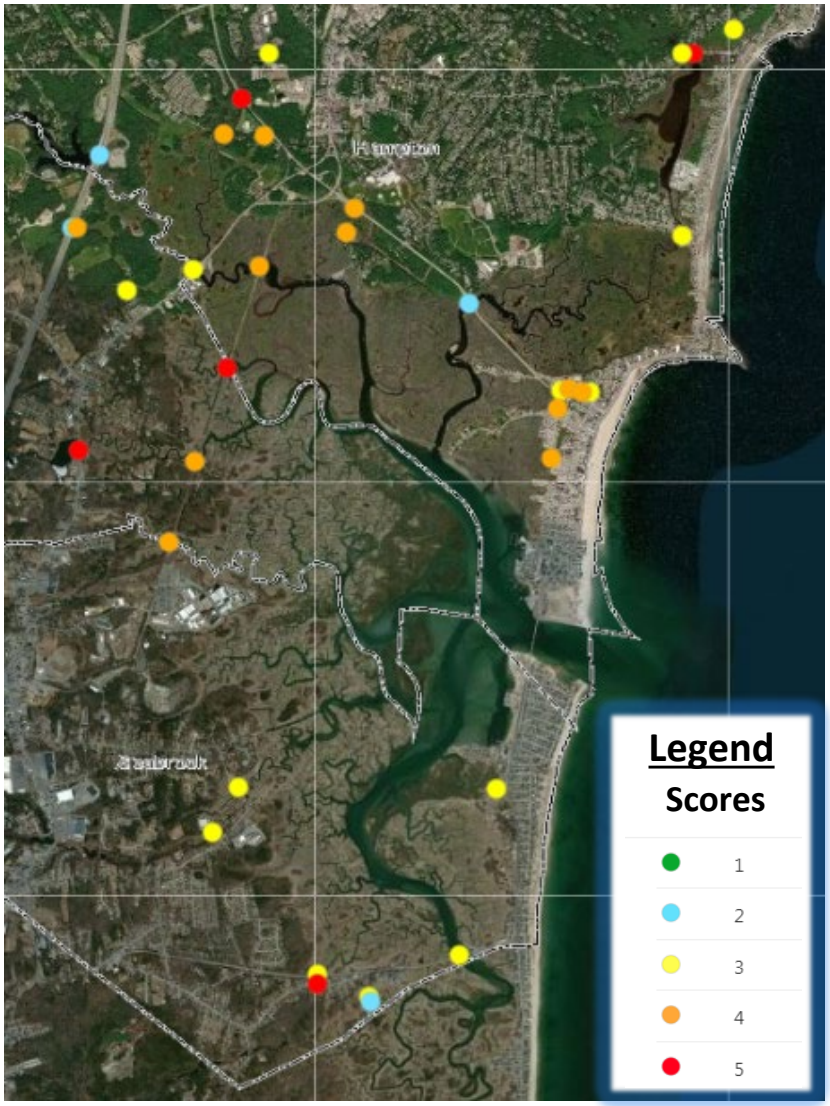


OVERALL COMBINED SCORE

Tidal Crossings In
Hampton Seabrook Estuary

11 % received a score of 1-2

89 % received a score of 3-5



Data Sharing

Tidal Crossing Summary Sheet

New Hampshire's Tidal Crossing Assessment Protocol

Crossing ID: 46

Observer(s) & Organization:	JB TS KL (NHDES Coastal)
Municipality:	RYE
Stream Name:	N/A
Road Name:	Ocean Blvd

Date:	5/25/2018
Start Time:	1:30:00 PM
End Time:	4:30:00 AM

Tide Prediction	**High**	**Low**
Time:	9:35 AM	2:47 AM
Elevation:	8.7	0.3
Tide Chart Location:	Portsmouth Harbor	

Crossing Condition Evaluation	Score*
Crossing Condition	4
Tidal Restriction Evaluation	
Tidal Range Ratio	1
Crossing Ratio	4
Erosion Classification	4
Tidal Restriction Overall Score	3
Tidal Aquatic Organism Passage	
Tidal Range Ratio	1
Salt Marsh Migration Evaluation	
Salt Marsh Migration Potential (Eval. Unit)	1
Salt Marsh Migration Potential (Wshed.)	5
Vegetation Evaluation	
Vegetation Comparison Matrix	3
Infrastructure Risk Evaluation	
Inundation Risk to the Roadway (US, DS)	2,2
Inun. Risk to the Crossing Structure (US, DS)	4,3
Adverse Impacts Evaluation**	
Inundation Risk to Low-Lying Development	1
Overall Scores	
Infrastructure	4
Ecological	3
Combined	3

* Scoring system ranges from 1 to 5, where 1 = lowest replacement priority and 5 = highest replacement priority

**Adverse Impacts Evaluation scores range from 1 to 5, where 1 = high risk and 5 = low risk

DS view toward structure

US view above structure

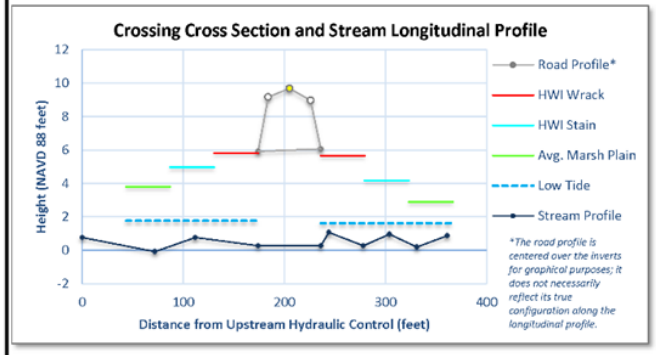
US view toward structure

DS view above structure

Long. Profile

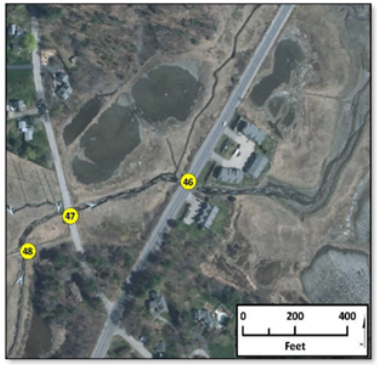
Dist.	Hght.	Feat.	Sub.
0	0.76	HC	C/S
72	-0.09	P	C/S
112	0.76	HC	S
174	0.26	I	G
236	0.26	I	G
244	1.06	GC	C
278	0.26	P	G
304	0.96	HC	G
331	0.19	P	G
361	0.86	HC	G

Crossing Cross Section and Stream Longitudinal Profile



Crossing Context:

One of two crossings of Rye Harbor Marsh as it passes across Route 1A from east to west, this branch conducts the tide to the Locke Road area through an old granite structure capped by concrete. The unfavorable crossing ratio and high erosion indicators lead to a moderate priority for replacement, with an overall combined score of 3. Tidal restriction here influences three more crossings upstream that limit flow to a significant marsh area.



Structure Characteristics:

Structure Type:	Bridge with Abutments	**Date of Last Known Replacement:**	N/A
Structure Material:	Stone		
Tide Gate Present:	No		

Crossing Dimensions (ft):	Upstream	Downstream
Dimension A (width):	3.9	4
Dimension B^{CB} (height):	5.35	5.9
Crossing Length (Invert to Invert):	62	

Crossing Condition:	**Headwall Material**	**Headwall Condition**	**Wingwall Material**	**Wingwall Condition**	**Scour at Structure**	**Scour Severity**
Upstream	Concrete	Good	Masonry	Good	Wingwalls	Medium
Downstream	Concrete	Good	Masonry	Poor	Wingwalls	Medium

Scour in Structure	**Scour Severity in Structure**	**Road Surface Condition**	**Utilities at Crossing**	**Structure Condition Overall**
None	None	Good	Ohe US	Poor

Structure Condition Comments:	20 inch section of masonry collapse in structure

Ecological Assessment:	Upstream	Downstream
Natural Community Classification:	High Salt Marsh	Low Salt Marsh
Upstream Salt Marsh Migration Potential (acres):	36.40	

Flood Hazard & Emergency Access

Site Identified in Hazard Mitigation Plan:	Yes
Emergency Access or Evacuation Route:	Yes
History of Flooding:	higher tides flood US Marsh. 6" harbor rd 1/4/18

Data Sharing

Final Report with Summary Sheets and static maps for 132 assessed Tidal Crossings

https://www.des.nh.gov/

Abridged Tidal Crossing Assessment scores available for display and download on NH Coastal Viewer

http://www.nhcoastalviewer.org/

Complete Tidal Crossing Assessment dataset available for display and download through SADES

https://www.nhsades.com/

NHDES Stream Crossing Policy

Structure type requirements are based upon contributing watershed area and waterbody type.

Tier 1	Tier 2	Tier 3	Tier 4
≤200 acres	>200 - <640 acres	greater than 640 acres	Tidal Watercourse




New tidal stream crossings rules (Tier IV) became effective on December 15, 2019

NHDES Tidal Stream Crossing Policy

ENV-WT 904.07 Tier 4 Stream Crossing Regulatory Design Criteria

Shall be a designed :

- Of sufficient size to accommodate the 100-Year 24-hour design storm.
- To prevent a restriction of tidal flows
- To account for channel morphology
- To consider sea level rise.

Hampton Beach Area Commission

Coastal Resilience Symposium

Incorporating Coastal Flood Risk into NHDOT's NH 1A Projects

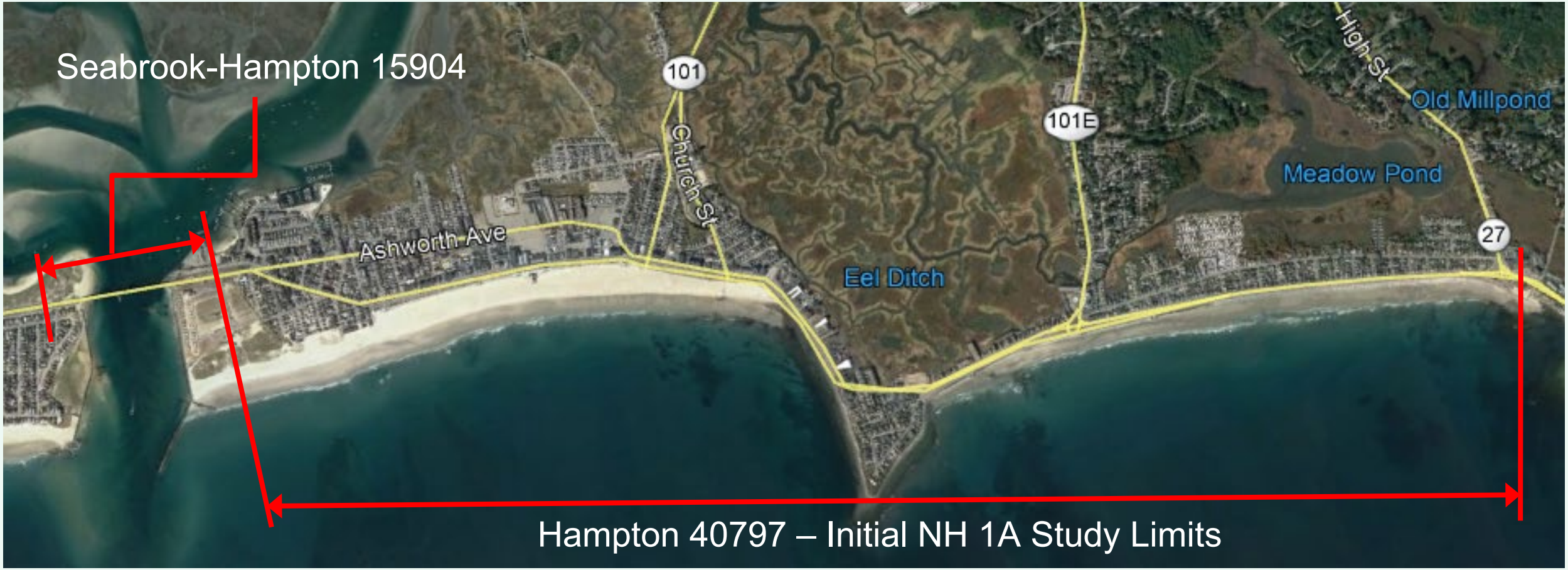
Presented by:

Jennifer Reczek, P.E., NHDOT Project Manager

Tuesday, February 9, 2021

New Hampshire DOT Department of Transportation

Concurrent Projects on NH 1A



- Final Hampton 40797 Limits TBD based on community input and funding availability

New Hampshire DOT Department of Transportation

Seabrook-Hampton 15904 – Bridge Project

Purpose

- Provide a safe, reliable, and structurally sound crossing
- Improve mobility for the travelling public (vehicles, bicyclist, and pedestrians) and marine users

Need

- Structurally deficient and functionally obsolete bridge
- Many original mechanical components and outdated electrical system
- Substandard shoulder and sidewalk widths

Bascule span coupler

New Hampshire DOT Department of Transportation

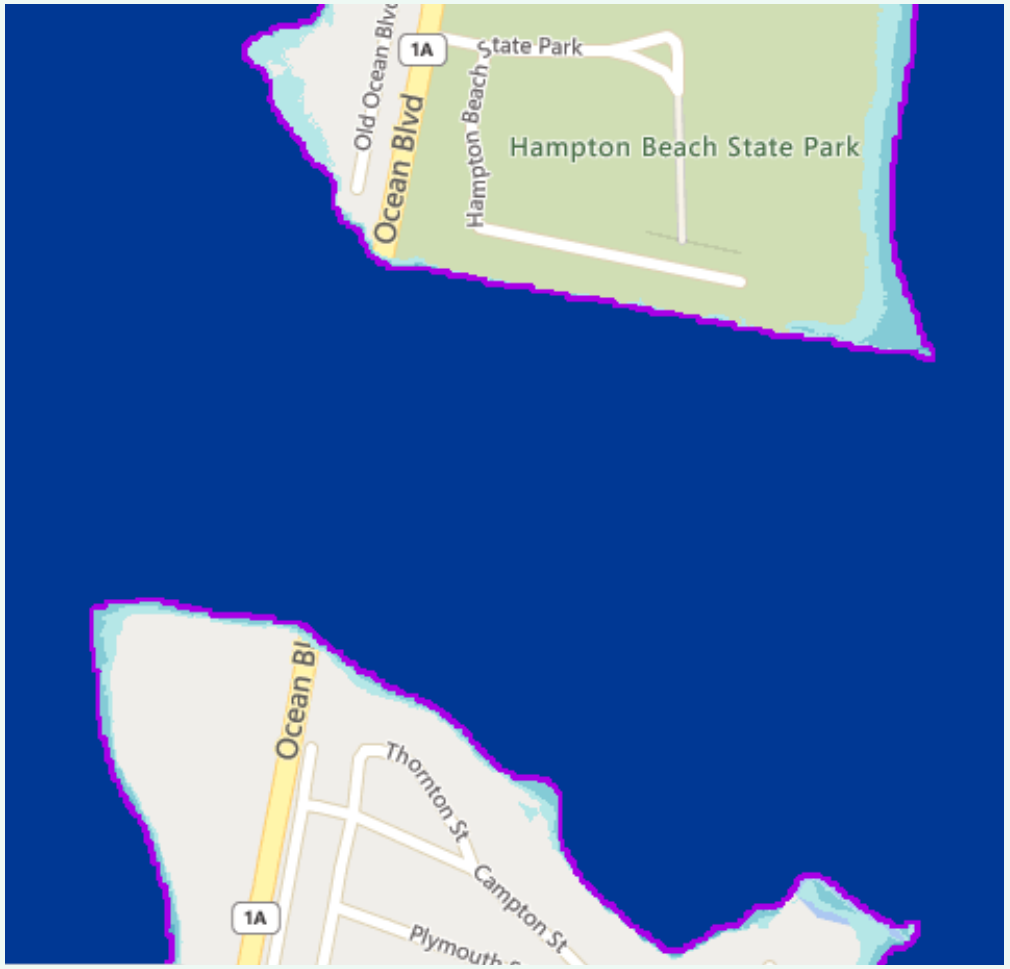
Seabrook-Hampton 15904 - Climate Change Considerations

- Managed to “Intermediate-High” scenario of 3.9’ by 2100:
  - Included in the bridge underclearance determination
  - Roadway approach is located above this elevation
  - Drainage outlet elevations will consider expected future sea-level

Aerial of Proposed Fixed Bridge

Seabrook-Hampton 15904 – Sea Level Rise

MHHW Baseline

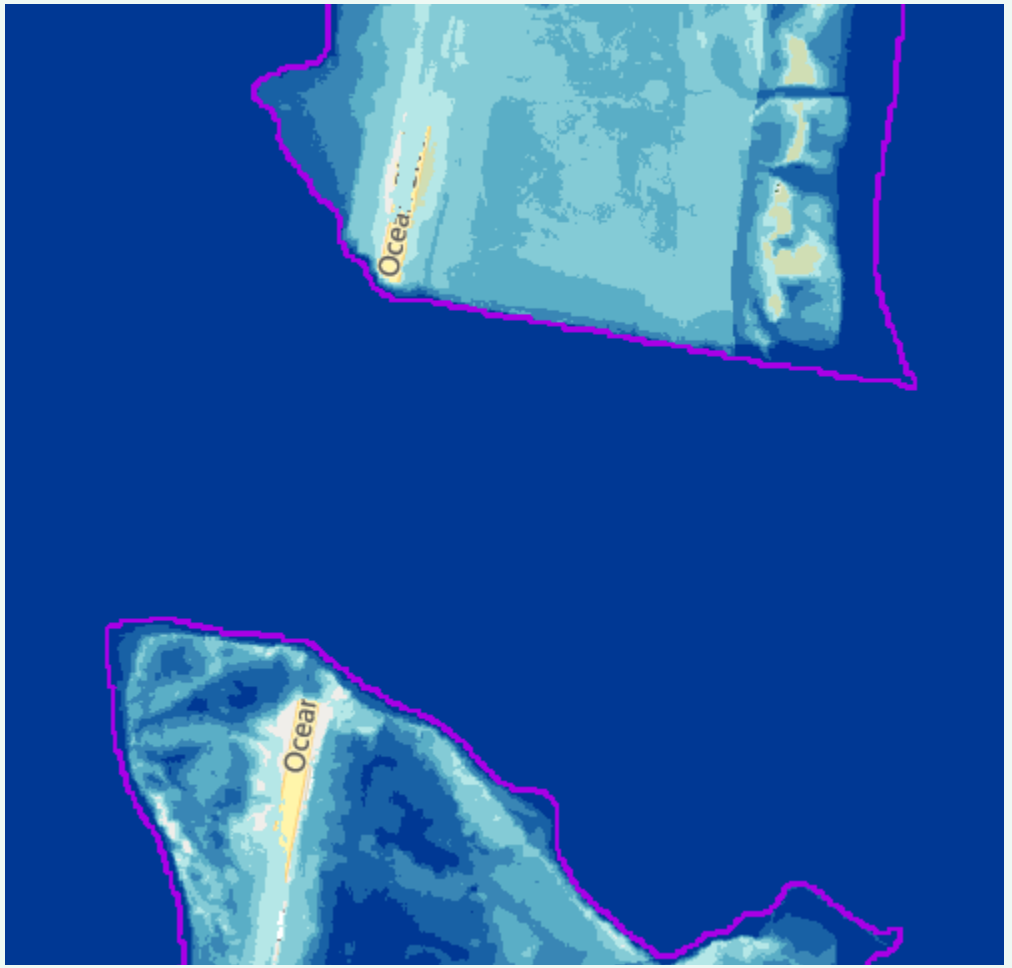


MHHW + 4ft SLR

New Hampshire DOT Department of Transportation

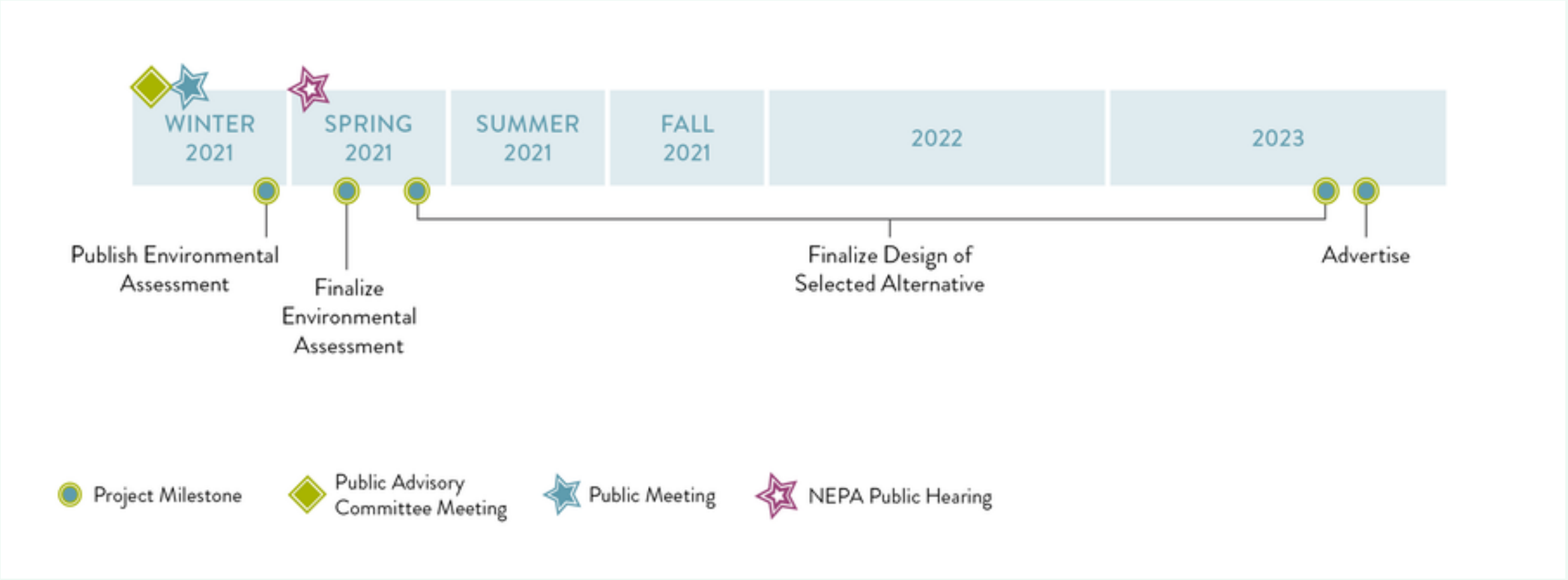
Seabrook-Hampton 15904 – Storm Surge

MHHW + 1% Storm Surge Baseline



MHHW + 1% Storm Surge + 4 ft SLR

Seabrook-Hampton 15904 – Next Steps



Three seasons of construction anticipated from 2024 through 2026

Hampton 40797 – Roadway Project Objectives

- Improve safety and mobility for all users with focus on bicycle and pedestrian travel
- Balance mobility and parking needs along corridor
- Incorporate treatments to mitigate storm events and drainage issues
- Minimize project impacts on natural and cultural resources
- Support economic needs of community

NH 1A Coastal Resilience Challenges

- Minimal elevation difference between roadway and tide elevations
  - Outlets may be underwater during certain tides and/or storm events
  - System may not drain as desired
- MS4 Requirements
  - Treatment locations need careful consideration
- Proximity of businesses, homes and environmentally sensitive areas to roadway

Hampton 40797 – Coastal Flooding Challenges

Current mapping shows that 1A is above the Intermediate-High curve projections

MHHW Baseline

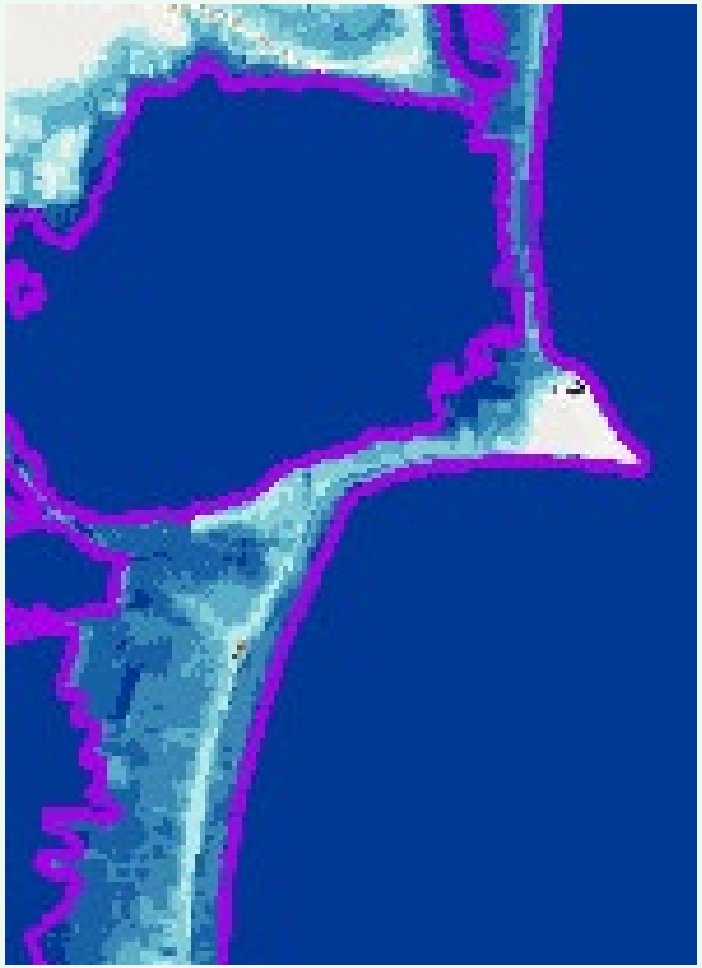
MHHW + 2ft SLR

MHHW + 4ft SLR

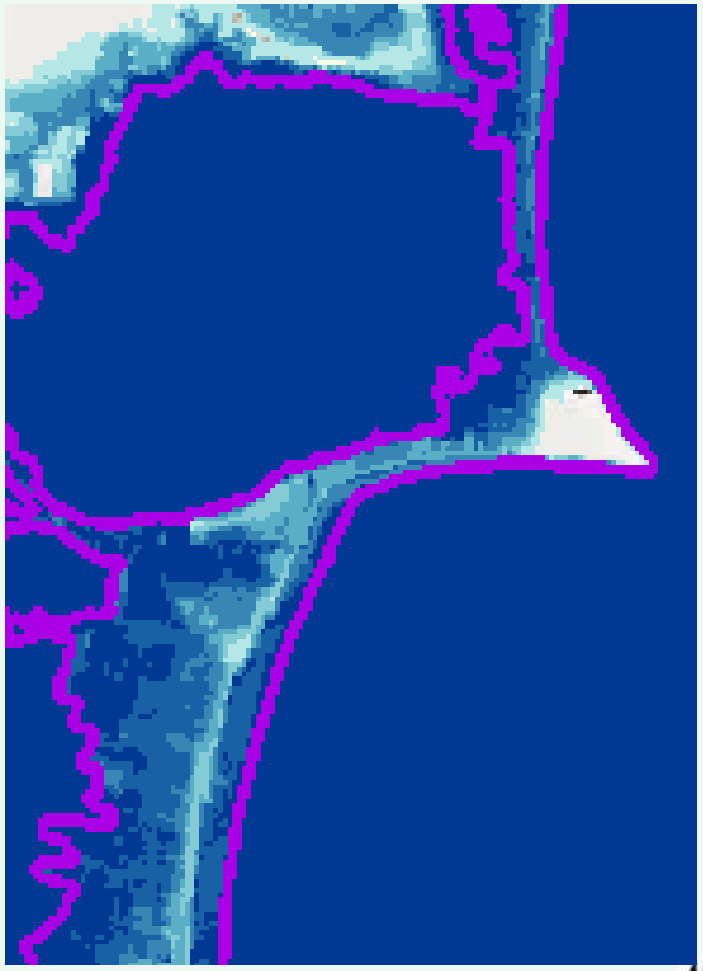
Hampton 40797 – Coastal Flooding Challenges

Storms currently wash over seawall

MHHW + 1% Storm Surge Baseline



MHHW + 2ft SLR + 1% Storm Surge

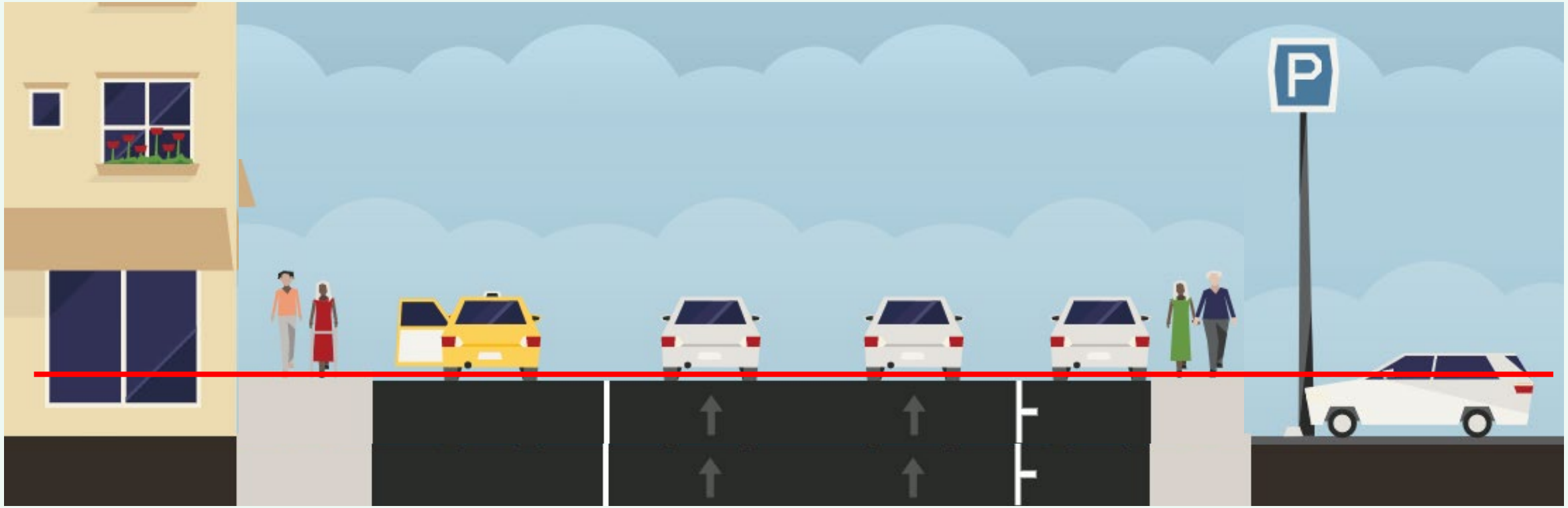


MHHW + 4 ft SLR + 1% Storm Surge

NH 1A Coastal Resilience Challenges

- Adjustments to roadway elevation would:
  - Require significant financial investment
  - Require significant property acquisition
  - Change character of area.
- Need multi-agency coordination to address the topic in coastal communities

NH 1A Resilience Challenges

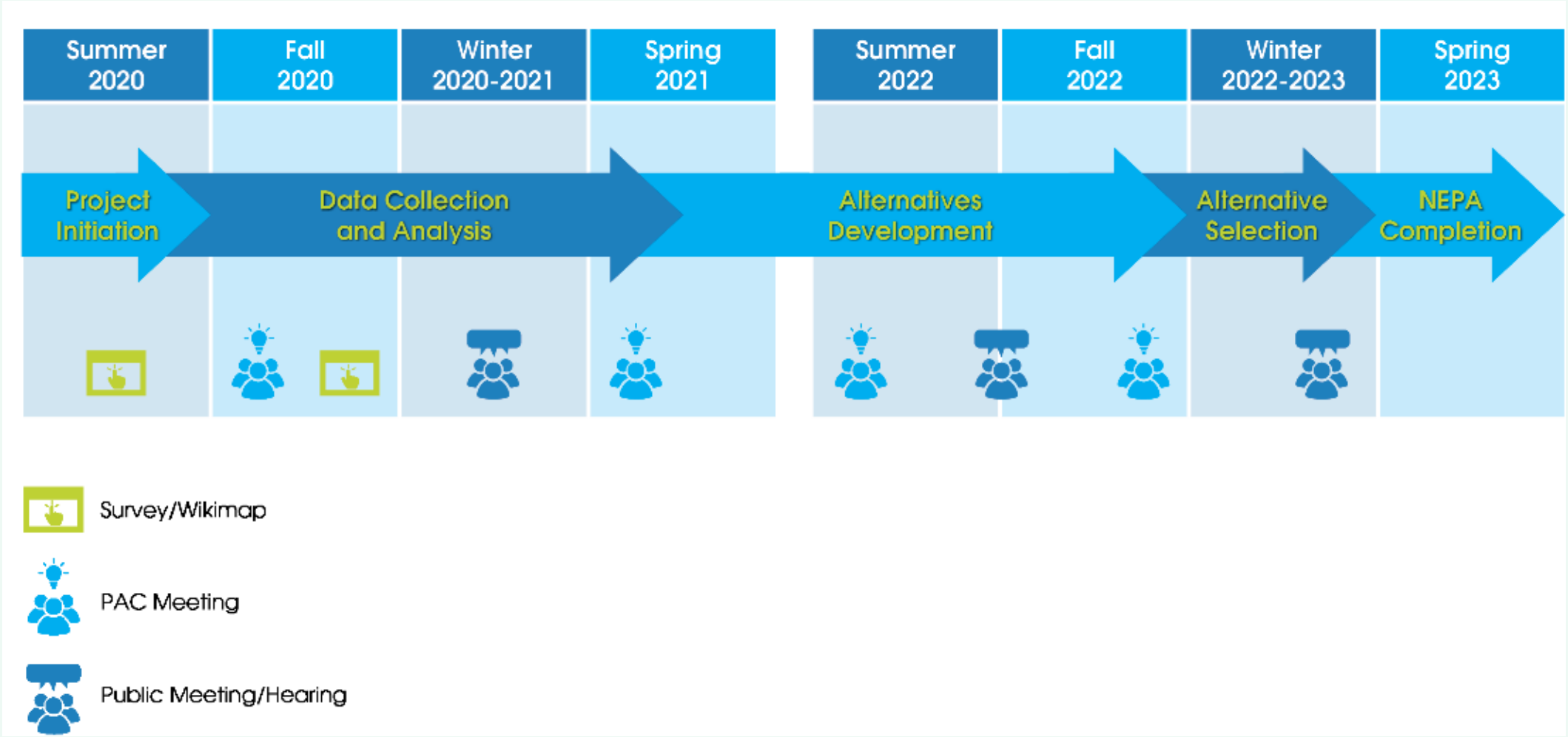


Hampton 40797 – Resiliency Approach

- Use 2019 STAP Report as guidance in the development and screening of alternatives
- Design to meet NHDES Coastal Lands and Tidal Waters rules (Env-Wt 600)
- Consider project design life
- Consider criticality of roadway
- Identify areas that may flood under normal tide cycles to see if they can be addressed
- Plan for inundation during storm events
- Ensure that drainage paths exist when water recedes
- Investigate treatments that minimize damage to roadway and allow it to open sooner after storm events.

New Hampshire DOT Department of Transportation

Hampton 40797 – Next Steps



Thank you!

HAMPTON MASTER PLAN Phase I

Vision and Coastal Resilience

HAMPTON MASTER PLAN CONTEXT

Previous Comprehensive Update

Chapter Updates

Phase I: Vision & Coastal

Phase II

Updated Plan

What is a Master Plan?

PHASE I

VISION

Shape Hampton’s unique identity & guide future growth

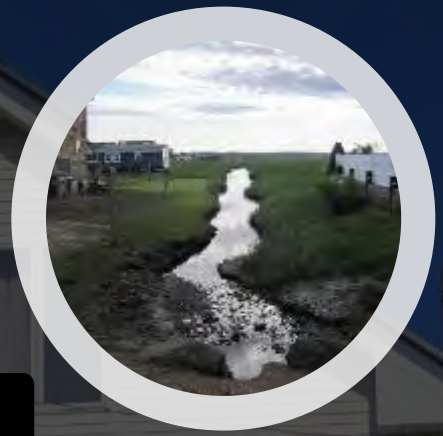
COASTAL RESILIENCE

Build capacity to thrive under a changing climate

VISION

VISION

- Where are we now?
- Where are we going?
- Where do we **want** to be?
- How do we get there?



VISION


Improve Existing Structures
Employment
North Beach
Community Activities
Visitor Management
Small Business
Crowd Control
Business
Small Town
Community Space
Resident Focus
Diversity
Parking
Design Standards
Year-Round
Community
Beauty
Open Space
Restaurants
Shopping
Nature
History
Infrastructure
Walkable
Cohesive
Activities
Limit Traffic
Close Ocean Boulevard
Architecture
Growth
Accessibility
Affordability
Downtown
Beach
Welcoming
Seniors
Rail Trail
Clean
Upscale
Family
Green Space
Limit Development
Economy
Boardwalk
Dog Park
Inclusion
Sidewalks
Hotels
Safe
Roads
Resilience
Sustainable
Family Oriented
Bikeable
Thriving
Aesthetics
Local Business
Improvements
Limit Condominiums
More Condominiums
Government Accountability

VISION

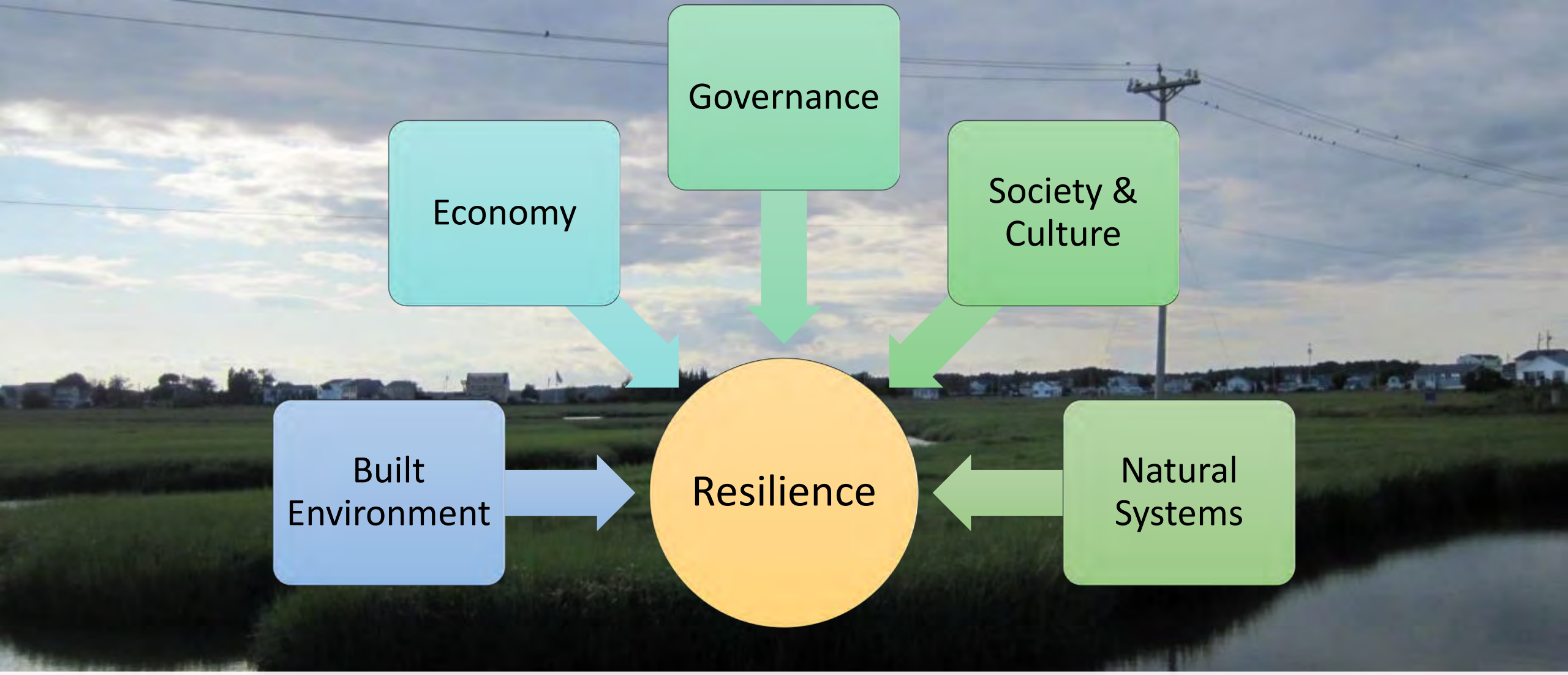
- Economic development
- Interconnected communities
- Village-like town center
- Thriving small businesses
- Multi-modal transportation
- Flood and climate change resilience
- Refocus development away from risk zones
- Equity

COASTAL RESILIENCE

COASTAL RESILIENCE

Capacity of a coastal community to **sustain** achievement of community goals and social, economic, and environmental wellbeing over the **long term** in a **changing climate**

- Bounce back (better) from stresses
- Leap forward in new ways



COASTAL RESILIENCE

COASTAL RESILIENCE

Invest	**Invest in Low-Risk Areas** • Build a strong economic base in low-risk areas, enable in-town migration
Protect	**Protect Resilient Hubs and Connectors** • Focus protective measures on critical facilities and infrastructure
Live	**Live with the Water** • Floodproofing and emergency planning/response
Support	**Support Local Business Resiliency** • Economic drivers, community services, anchors for recovery & resilience
Advance	**Advance Social Capital** • Community institutions & interpersonal relationships minimize impact on
Enhance	**Preserve and Enhance Coastal Habitats** • Dune, beach, & marsh restoration; living shorelines
Elevate	**Elevate Public Awareness** • Promote better understanding of risks, challenges, and opportunities

Next Steps

Next Steps

ONLINE SURVEY

SURVEYMONKEY.COM/R/PLANHAMPTON

FEB 11, 7:00 PM

NEIGHBORHOOD FOCUS GROUP

MAR 11, 7:00 PM

WORKSHOP TO REVIEW DRAFT PRODUCTS

MORE INFO

TINYURL.COM/PLANHAMPTON

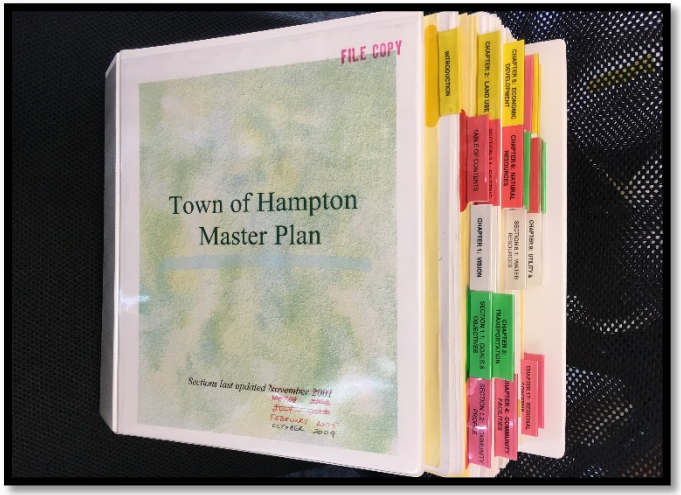
Town of Hampton
Comprehensive Master Plan Update

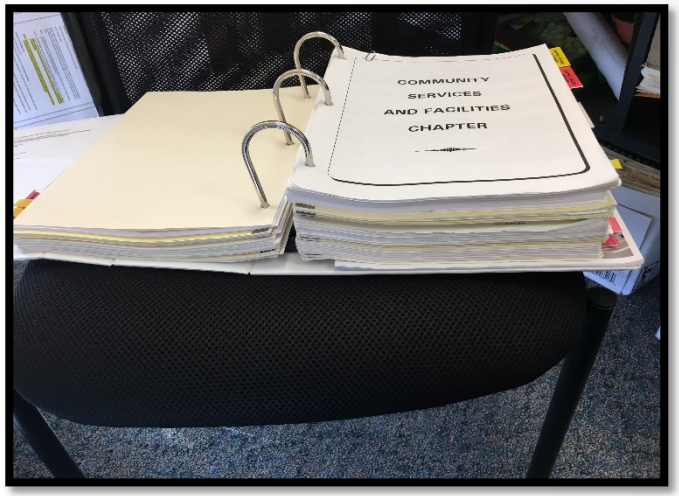
Hampton Beach Area Commission
Coastal Resilience Symposium
February 9, 2021

The Facts

- A Master Plan is required by statute (RSA 674:1 through 674:4).
- RSA 674:1.I states *"It shall be the duty of every planning board…to prepare and amend from time to time a master plan to guide the development of the municipality"*, and further states *that "Every planning board shall from time to time update and amend the adopted master plan with funds appropriated for that purpose by the local legislative body."*
- RSA 674:3.II states *"Revisions to the plan are recommended every 5 to 10 years."*
- Our current Master Plan was adopted in 1985, with some subsequent chapter amendments since that time.
- The 1985 Master Plan replaced a 1969 Master Plan (16 years). It has been over 35 years since the last comprehensive update.

The Current Town Master Plan





- Our current Master Plan has become unmanageable and outdated.
- Our updated Master Plan will be a concise document that will serve as a roadmap for the future growth of the Town of Hampton.
- Our completed Master Plan will be a “living document”, which provides citizen-driven direction for the decision-makers of the Town of Hampton.

Elements of a Master Plan

Sections required per RSA 674:2.II

Vision *	Land Use

Sections that may be included per RSA 674:2.III

Transportation	Regional Concern
Community Facilities	Neighborhood Plan
Economic Development	Community Design
Natural Resources	Housing
Natural Hazards	Implementation
Recreation	Energy
Utility and Public Service	Coastal Management *
Cultural / Historical Resources	

* *These elements are well underway as "Phase I" of the overall process.*

Why Complete a Comprehensive Update?

- All aspects of the current document are very outdated.
- Full consistency and relevance to today's issues is imperative.
- It will serve as an essential tool for meeting the more recent challenges of the community, and is needed to plan for the future of Hampton.
- It will help to preserve, protect and enhance our property values and the quality of life of Hampton residents.
- It will enable the Town to qualify for grants for projects that are otherwise financially beyond what the Town can afford.
- Hampton's residents and stakeholders will have a unique opportunity to help shape what Hampton will look like in 10-20 years. It will be your Master Plan and the means for making great ideas a reality!

The Project

- A comprehensive, integrated Master Plan for the Town of Hampton, which will replace the existing “binder”.
- The elements listed on the previous slide will be incorporated in the updated Master Plan.
- Funds for Phase II were secured through the passage of Article 10 at the March 2020 Town Meeting.
- The planning process is guided by an experienced professional consulting team, under the direction of the Planning Board and its Master Plan Steering Committee.
- Like Phase I, there will be a robust public participation process during Phase II.
- The Phase I deliverables will be integrated during Phase II.
- The updated Master Plan will be permanently available online.

Master Plan Steering Committee

- The Planning Board began holding Master Plan Sessions in June of 2019 with representatives from Town Boards, Committees, SAU 90, and residents. This working group evolved into a formal Master Plan Steering Committee.

- Public attendance and comments are strongly encouraged.

- The Master Plan Steering Committee has been working with the Phase I consultant on the Vision and Coastal Management content, and has actively participated in the following Phase II tasks:

  - Preparation of a Request for Proposals (RFP)
  - Proposal review
  - Proposal scoring process
  - Preparation of questions/comments to assist the interview team

Our Next Steps (Phase II)

- Continue monthly meetings with the Master Plan Steering Committee.
- Consultant selection by the Planning Board – February 2021
- Data collection and analysis – Mid 2021
- Develop and launch an outreach and engagement plan – Mid 2021
- Focus groups – Late 2021
- Work on plan elements – 2021 and 2022
- Create an implementation plan – Mid 2022
- Project completion – December 2022

More information is available at the Town of Hampton website
hamptonnh.gov

Please join us!

National Flood Insurance Program Update

Samara Ebinger, CFM
Principal Planner
NH Office of Strategic Initiatives

NEW HAMPSHIRE
OSI
OFFICE OF STRATEGIC INITIATIVES

NATIONAL FLOOD INSURANCE PROGRAM

The National Flood Insurance Program (NFIP)

- Voluntary partnership between FEMA and participating communities.
- Community agrees to adopt local floodplain regulations and enforce them through a local permitting process.
- NFIP flood insurance is available for purchase, for all property owners and renters in the community.

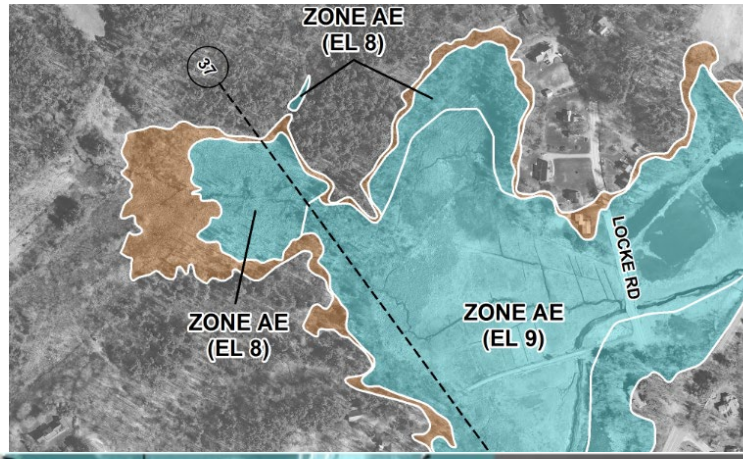
Rockingham County Coastal Mapping Project

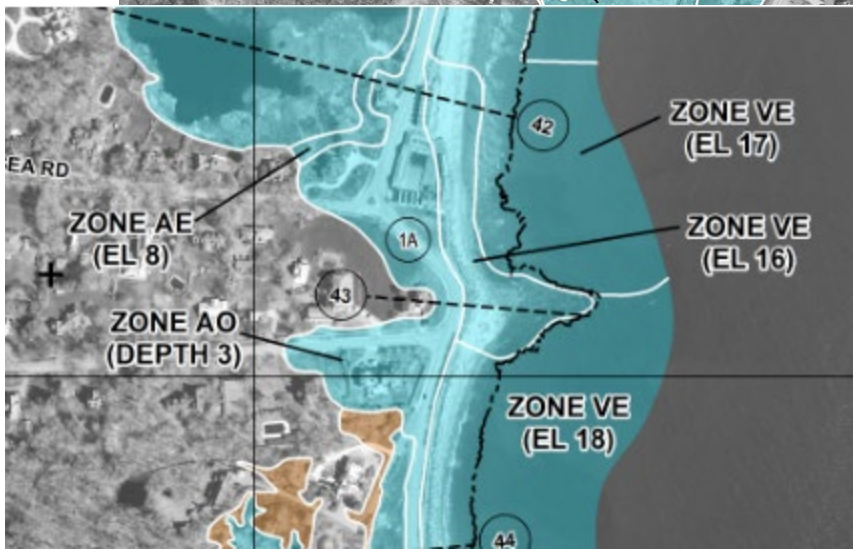
- New flood maps became effective 1/29/2021.
- Changes affect:
  - where and how community floodplain ordinance applies for new development.
  - flood insurance rates and requirements for residents and business owners.

- **Exeter**
- **Greenland**
- **Hampton**
- **Hampton Falls**
- **Little Boar's Head**
- **New Castle**
- **Newfields**
- **Newmarket**
- **Newington**
- **North Hampton**
- **Portsmouth**
- **Rye**
- **Seabrook**
- **Seabrook Beach**
- **Stratham**

How are the Maps Changing?

- Flood hazard information on the maps is being updated as a result of:
  - Revised coastal flood hazard analyses
  - More recent/accurate topographic data
  - Vertical datum change
- Total acreage of the Special Flood Hazard Area in Hampton decreased but the acreage of the most hazardous flood zone (Zone VE) increased.





The Community Rating System (CRS)

- A voluntary FEMA program created for NFIP communities that recognizes and encourages floodplain management activities that exceed the NFIP minimum requirements.
- Rewards communities by reducing the flood insurance premiums for policyholders in some areas between 5 and 45%.

CRS Activities - Examples

- Freeboard
- Preserving Open Space in Special Flood Hazard Areas
- More Restrictive Substantial Improvement/Damage Definitions
- Living Shorelines
- Hazard Mitigation Plan updates
- Outreach to residents about flood hazards

Process to Join CRS

- Can take a significant amount of time
  - Outstanding compliance issues must be resolved to move forward with the process.
- In the meantime, look into new ways to make your community more flood-resilient that can provide CRS credit.
- OSI Menu of Higher Floodplain Regulation Standards
  - Includes recommendations for going beyond minimum NFIP requirements included in community regulations
  - Identifies CRS credit points available for each activity

Resources

- OSI Coastal Mapping Project webpage
- FEMA Map Service Center
- NH Flood Hazards Viewer
- Community Rating System webpage
- NH CRS Users Group
- OSI Menu of Higher Floodplain Regulation Standards

Samara Ebinger
Principal Planner
NH Office of Strategic Initiatives
603-271-1755
samara.m.ebinger@osi.nh.gov

Improving Resilience of the Hampton-Seabrook Estuary Through a Coordinated Vision

Chris Meaney
USFWS Gulf of Maine Coastal Program
February 9, 2021

Why the Hampton Seabrook Estuary?

- Largest amount of saltmarsh habitat in the state
- Important habitats for shorebirds and saltmarsh sparrows; & essential habitat for key fisheries
- Communities dependent on the ecosystem for their well being, tourism, and commercial and recreational fishing
- Important infrastructure, e.g. evacuation routes and nuclear power
- Recreational opportunities

Why Now?

Risks

- Coastal community flooding
- Drowning of saltmarsh
- Dune erosion
- Fragmented habitat
- Critical infrastructure

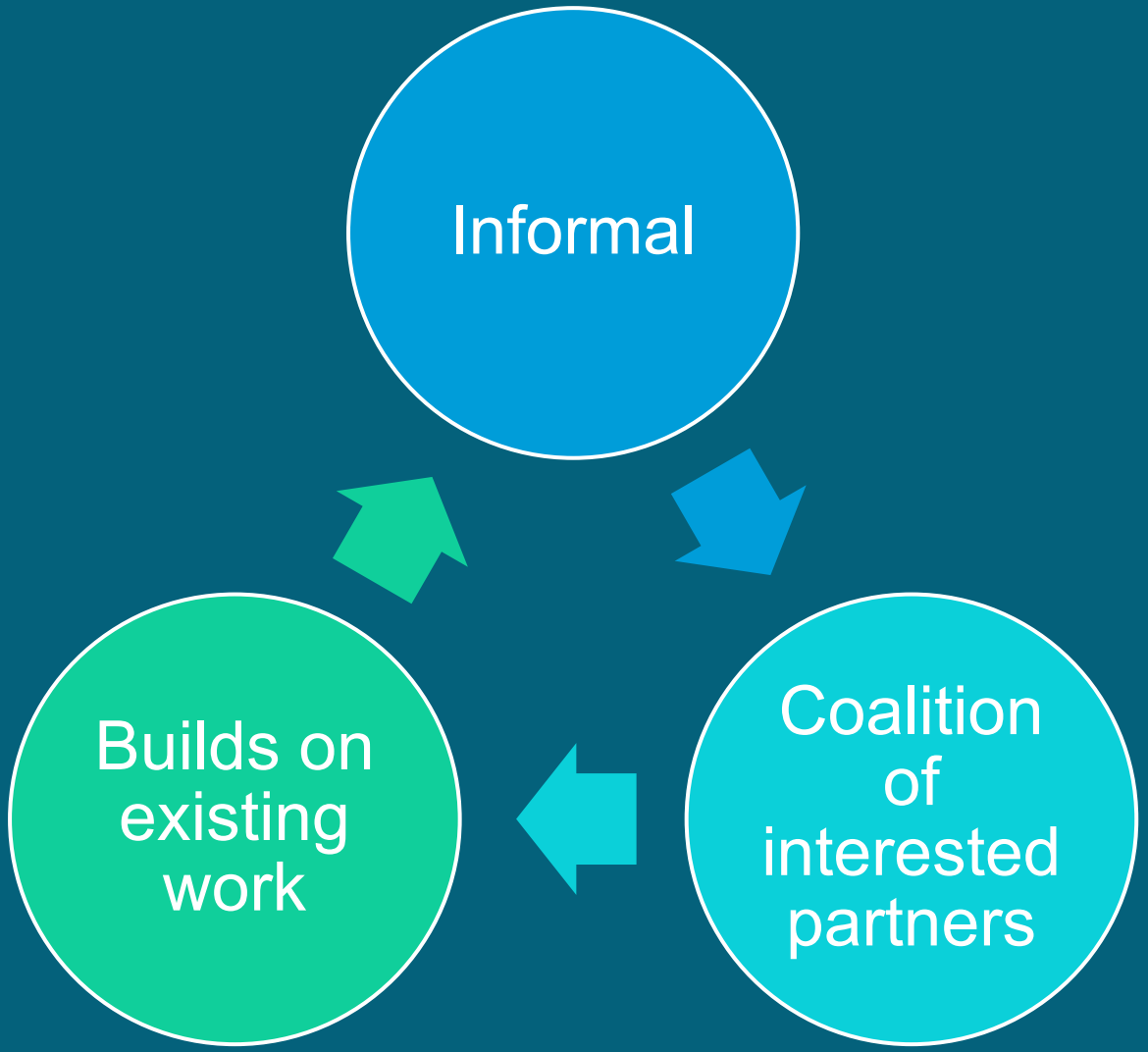
Opportunities

- Landscape scale conservation
- Resilient coastal communities
- Marsh migration
- Improved safety
- Habitat improvement

Momentum

- Motivated stakeholders
- Planning and management
- Funding

The Collaborative



Collaborative Goals

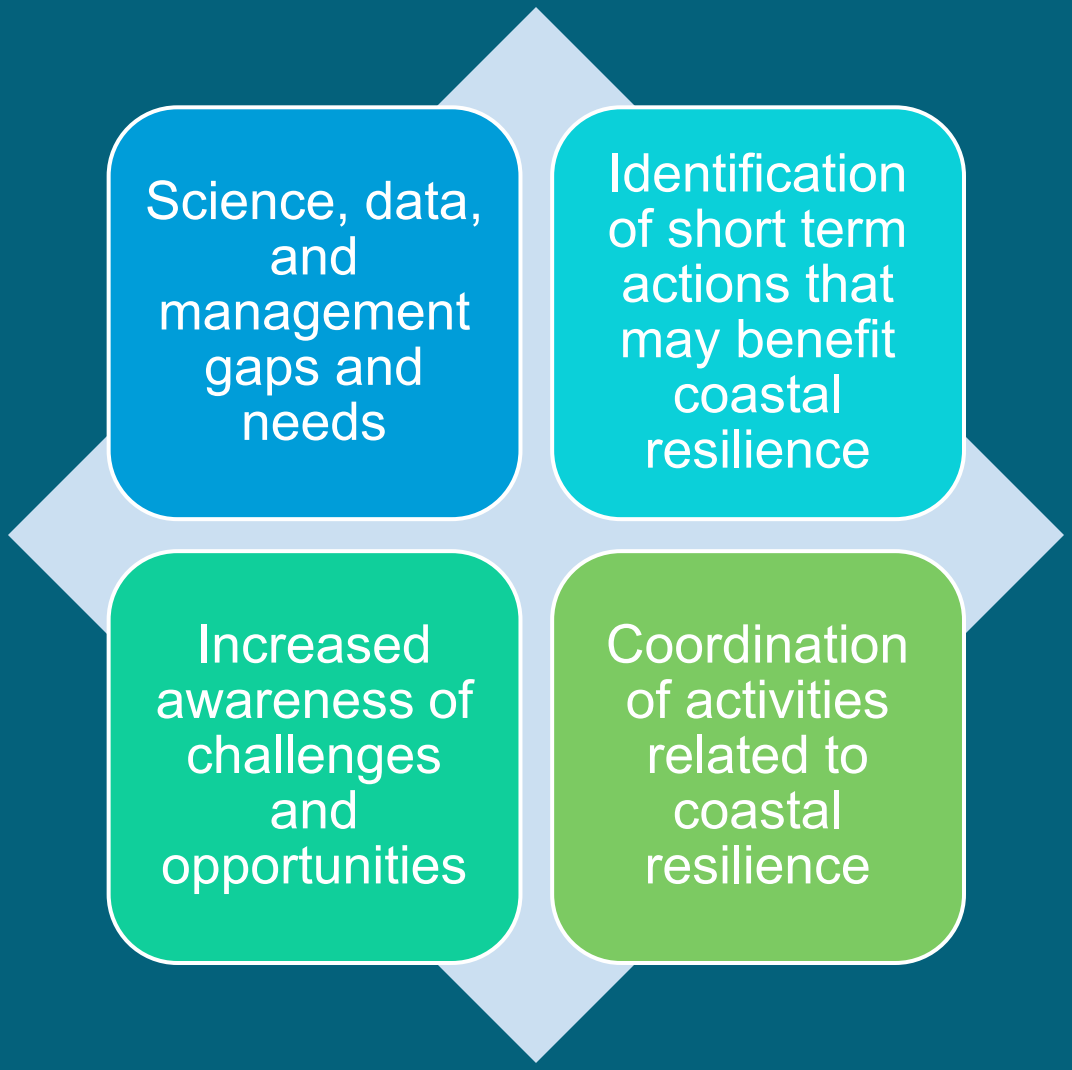
To develop a common vision and clear roles for parties to contribute to the improved resilience of marsh habitat and coastal communities surrounding the Hampton Seabrook Estuary

Coordinated short term investment in saltmarsh monitoring and assessment to help set the stage for long term monitoring, adaptive management, and restorations

Process & Outputs

- Virtual meetings
- Steering committee
- Stakeholder survey
- 3 Working Webinars: February-March
- Hampton Seabrook Estuary Collaboration Informal Framework & Workplan

How might this effort be helpful to the HBAC Master Plan?



Thank you

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