# **#4 Preserving Public Access To Beaches and Landings During the Peak Season**

## Introduction

The Town of Brewster Coastal Committee (BCC) is charged with developing a plan to provide vision and direction for future management of Brewster's coastal resources. The *Brewster Coastal Resources Management Plan* will build on the *Coastal Adaptation Strategy* (CAS) developed by the Brewster Coastal Advisory Group and written by the Horsley Witten Group. The CAS assessed impacts to town landings and beaches from sea level rise and storm surge, and provided guiding principles for assessing future management actions.

This discussion paper is one of a series designed to highlight management issues that will be addressed in the *Brewster Coastal Resource Management Plan*. Each paper will be presented at a community workshop to engage stakeholders in discussing management issues and trends, and evaluating potential strategies and action items. The discussion paper topics and workshop dates are:

- 1. Sustaining our public beaches and landings in the face changing shoreline conditions Community workshop: **May 17**
- 2. Preserving the values and services provided by healthy coastal wetlands Community workshop: **June 14**
- 3. Providing access for water-dependent activities Community workshop: **July 19**
- 4. Preserving access to beach and landings for residents and visitors Community workshop: **August 16**
- 5. Protecting vulnerable infrastructure, visual access, cultural & historical resources Community workshop: **September 13**

Each paper discusses current conditions and future trends, and explores a range of potential management strategies and actions. Proposed strategies and actions could encompass physical improvements, policies and regulations, management practices, technical studies/analyses, or communications measures. All discussion papers may be downloaded at: <a href="http://brewster-ma.gov/committees-mainmenu-29/coastal-committees">http://brewster-ma.gov/committees-mainmenu-29/coastal-committees</a>.

This paper addresses peak season shoreline access for resident and visitors. Specific measures for enhancing beach access opportunities are identified and explored. Management actions explored include regulations, operational or management of facilities, and physical improvements.

## Overview of Public Access

Brewster's shoreline resource areas are its crown jewel. Consequently, the Town's eleven access points are heavily used and enjoyed by residents and visitors. Accessing and enjoying the Town's coastal resources are a key component of quality of life and a significant contributor to the local economy. During the past fifteen years Brewster has lost parking spaces across a number of town landings as a result of repeated storm damage. For example, the Paine's Creek parking lot was abandoned and replaced with parking spaces located further inland. However, parking spaces lost at Mant's and Ellis Landing cannot be replaced.



Summer beachgoers enjoy the Brewster shoreline

Photo courtesy of C Miller

Providing access without increased parking at the shoreline is a priority for the Town and is reflected in the vision statement of the Brewster Coastal Adaptation Strategy (CAS):

The Town of Brewster will preserve and protect the community's coastal resources and expand access to its public beaches through public consensus, and in ways that preserve the natural habitat and peaceful character of the coastal environment and coastal neighborhoods, respect the overall coastal and land-based ecosystem, and adapt to long-term projections for coastal change.

Maintaining and expanding public access is also identified as a priority in the Brewster Vision Plan, recently adopted by the Brewster Select Board.

In 2016, as part of the development of the CAS, the Town conducted a coastal beach access survey to gain a better understanding of how resident and non-resident taxpayers and visitors use the Town's beaches and landings. Nearly three-quarters of the 2,048 survey respondents indicated that they go to the beach at least once per week during the summer. The most popular beaches among those surveyed are Crosby, Paine's and Breakwater. The most popular activities among those responding include walking, swimming, sunset watching, and sunbathing, with activities such as shellfishing, paddling, and picnicking less frequently noted.

Most times of the year, it is not difficult to find a parking space at any of Brewster's coastal access points. However, during the peak summer season demand for parking increases, and beach parking permits are required for access to town beaches from 9am to 4 pm from June 15 through Labor Day. The permits are issued in accordance with the Town's *Rules and Regulations for Resident Beach Parking Permits (Residents and Real Estate Property Owners.)* 

As discussed below, high demand for parking during access points at peak times can place strains on coastal resource areas and create management challenges. Peak-demand parking pressures could be exacerbated if more of the current parking supply is compromised by erosion caused by storm surge or sea level rise. Erosion and coastal flooding from storms and surges may intensify in frequency and magnitude as sea level rises, placing shoreline access points at greater risk of erosion. The CAS notes that, "public parking areas do not provide the level of access desired by Brewster residents and visitors. The Town will need to adapt and strategize to meet the current and future needs and desires as continuing sea level rise, storm damage and erosion affect the Town's ability to maintain access."

The CAS recommends further exploration of adaptation strategies to augment public access to Town beaches:

- Provide access without increasing parking at the shoreline by:
  - expanding pedestrian and bike access;
  - o considering shuttle service options, and
  - o satellite parking within walking, biking and/or shuttling distance of a town landing
- Evaluate possible new access points and/or parking spaces;
- Continue to provide access in parking areas and walkways for people with limited mobility;
- Continue to provide access for beach maintenance, shellfishing and emergency access.
   (These issues were discussed at the July workshop: Preserving Access for Water-Dependent Activities)

This paper explores some of the key access issues and potential strategies for consideration and discussion.

# Public Access Issues and Strategies

## 1. Peak seasonal parking demand/capacity at beaches and landings

Brewster has eleven heavily-used public access points. With the exception of Spruce Hill and Wing Island, each access point experiences some degree of congestion during the summer. The most

heavily-used and congested among the access points are Paine's Creek Beach, Crosby Landing, Mant's Landing and Breakwater Beach. According to the beach access survey, nearly three-quarters of those surveyed drive to the beach, while 13% walk and 3% ride a bike.



Parking lot at Crosby Landing in the summer

Courtesy of C Miller

During the busy summer months, there is a significant mismatch between the heavy demand for access and the limited supply of parking spaces. There are approximately 400 parking spaces at the eleven access points. By comparison, in 2017 the Town issued 6,412 seasonal passes to residents and 4,850 day, week or seasonal passes to visitors. While not all stickers covered a full season or are used every day, the difference between the number of parking spaces and the number of permits issued demonstrates the potential for parking demand to greatly exceed supply on any summer day.

The demand for parking during the summer has a number of implications including:

- Residents or non-resident taxpayers may be unable to get a beach parking space when desired:
- Overcrowding may cause congestion on beach access roads, lead to illegal parking on town roads, or create safety issues for pedestrians or cyclists;

- Commercial and recreational shellfishermen and shellfish grant holders may not find parking when needed to access the flats;
- Lack of parking may deter seasonal visitors to Town, with a negative impact on local businesses.

To address parking issues, the Town has employed, evaluated or is considering a number of possible strategies:

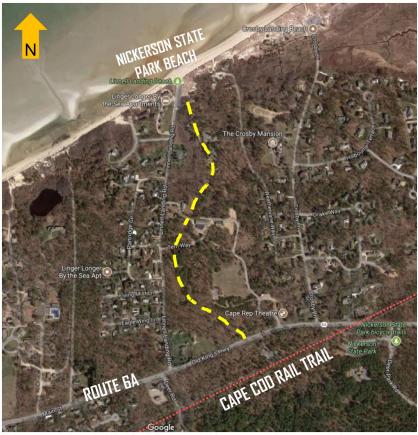
- Reconfiguring parking spaces. However, this must be balanced with emergency access and provision of spaces for handicap access. Assessment of this option at selected landings did not prove effective.
- Acquiring parcels near beaches and landings when they come on to the market, as locations for additional parking, in balance with resource protection and neighborhood impacts. For example, an additional 120+/- spaces were added off-site on land owned by the Mass Division of Conservation and Recreation (MassDCR) located within walking distance to Crosby Landing. This additional parking was developed outside the flood hazard area in cooperation with MassDCR.

Other means of improving access—such as bikeway enhancements, and a beach shuttle—are discussed below.

# 2. Bike And Pedestrian Access Improvements

Enhancing bike and pedestrian access to beaches and landings is another significant way to reduce demand for beach parking. A key recommendation of the CAS is to [e]valuate and expand safe bike routes to town landings, and develop additional walking trails and safe pedestrian access. This recommendation is consistent with goals set forth in Biking Brewster – A strategy to enhance biking in Brewster (Brewster Bikeways Committee, 2015). Goals of Biking Brewster include expanding recreational biking opportunities and access to key destinations, such as town beaches. The report notes that Lower Road provides cyclists and pedestrians with scenic access to Town beaches but that wetlands bordering the road make the construction of bike lanes infeasible.

The proposed Cape Cod Rail Trail Extension across Route 6A through state property to Linnell Landing will be a significant improvement in safe bike access to Brewster beaches. The project will create a multi-use, bicycle and pedestrian, off-road, pathway connection between the Cape Cod Rail Trail / Nickerson State Park and Cape Cod Bay and thereby help relieve parking pressures at Linnell Landing and Crosby Landing. The project had been discussed conceptually for many years, was designed and permitted in 2016-18 and could be ready for use in 2019. The BCC and the Bikeways Committee sent a joint letter to the Brewster Select Board, expressing support for this proposal, along with concern about the Route 6A crossing and urged the Select Board to pursue funding for a bikeways tunnel under Route 6A.



The proposed Cape Cod Rail Trail Extension will improve safe bike access to Brewster beaches

The BCC and Bikeways Committee, in cooperation with the Brewster Department of Public Works, DPW are exploring additional ways that safe bike access to the shoreline could be enhanced. Some of the strategies that have been discussed include:

- Creating a Lower Road Beach/Landing Bike Route;
- Creating safe walking routes to beaches that avoid dangerous areas;
- Using informational materials, signage, pedestrian/biking beacons, and/or striping to mark bike lanes and to direct pedestrians and cyclists (bike right, walk left), and let cyclists know they can ride on sidewalks;
- Considering improvements to road surfaces to enhance safety;
- Marking Route 6A sidewalks indicating bikers can share these with pedestrians;
- Identifying and marking safe parking areas for bikes and pedestrians.

# 3. Beach Shuttle Pilot Project

A key recommendation of the CAS is to [e]valuate public and public/private opportunities for satellite parking and shuttle access, including potential parking areas and proposed shuttle routes. The CAS strategy refers to satellite parking as "parking opportunities that may be in walking, biking or shuttling distance of a town landing,..."

The BCC is working with the Cape Cod Commission to explore beach shuttle alternatives and prepare a conceptual model for the pilot project. This analysis could include:

- Identifying potential satellite parking locations (i.e., within .5 miles or a 5-10 minute travel time);
- Selecting a desired shuttle route for a pilot project (based on number of potential users and in consideration of a landing/beach lot's ability to accommodate a shuttle without displacing parking spaces);
- Identifying an operational model for a pilot project:
  - Acquisition/use of shuttle vehicle(s) through lease, purchase or re-purposing;
  - Number/timing of trips per day;
  - Duration of service (ie, peak of July 1 August 15);
  - Town operated vs. operated by private vendor under contract with the Town;
  - Costs (lease/purchase of vehicle, insurance, driver, gas, operation and maintenance, other).

## 4. Access For Populations With Limited Mobility

The Town's access points serve a wide variety of user groups with differing access needs and/or limitations. This is particularly true for residents, non-residents and visitors who have limited mobility or other handicap that affects their ability to enjoy beach access.

In view of this, a key recommendation of the CAS is to [b]roaden and improve access (including visual access) for individuals with limited mobility.

The Town has made progress in improving accessibility at several locations. These improvements to handicap accessibility include a platform and path at Linnell Landing; an accessible platform at Mant's Landing; a roll out walkway at Breakwater Beach; a viewing area at top of stairs at Breakwater Landing); and an accessible roll out pathway installed at Paine's Creek spring 2018. A shed to store a beach wheelchair at Paine's Creek is expected summer 2018.

A shortage of parking places some limits on the Town's ability to expand handicap accessibility. Currently there are 16 dedicated handicap parking spaces at town landings and beaches out of a total of approximately 400 spaces.

The Brewster Coastal Committee is interested in learning more ideas from the Town's All Access Committee and residents regarding ways to maintain and enhance physical and visual accessibility for residents and visitors.

### 5. Emergency Access

A key recommendation of the CAS is to [s]upport and protect coastal access for ...emergency access. Maintaining access along beach access roads and at town landings to allow emergency response is a top priority. The Brewster Fire Department has an all terrain vehicle and an inflatable vessel that can be launched off a beach or landing; and Fire Department vehicles can be used off of several landings.

# **Consistency With Brewster Vision Plan**

Many of the concepts for enhancing public access to Brewster beaches listed above are also discussed in the Brewster Vision Plan (Vision Committee, 2018). Among the Open Space goals of the plan is to improve public access to and expand the use of recreational areas by:

- 1. Working in collaboration with MassDCR to develop better public access to state-owned beach property;
- 2. Looking at existing town properties to create recreational opportunities such as walking trails, bike paths and a dog park, and encourage expanded utilization of Drummer Boy Park for recreational uses, Including the possible development of a walkway to Wing Island;
- 3. Pursuing land acquisition opportunities for additional recreational areas.

The Vision Plan also seeks to maintain and expand public access for all through public consensus and explore alternate modes of transport and access points by:

- 1. Exploring alternate transport methods including shuttles or trolleys from remote parking areas, and additional bike and walking paths.
- 2. Expanding beach access to areas such as Wing Island and the state beach between Linnell and Crosby landings. Investigate acquiring or developing agreements to use other areas.

# **Summary of Management Concepts**

- Continue to assess and monitor beach access needs.
- 2. Explore/Expand Beach and Landing Access Alternatives
  - a. Maintain or enhance Onsite parking
    - Assess opportunities for manage relocation or retreat (e.g., Paine's Creek, Breakwater Beach) or other measures such as use of articulated mats to protect existing parking areas
    - ii. Reconfigure parking areas to increase efficiency and the number of spaces (120 spaces added at Crosby landing)
    - iii. Acquire parcels near beaches and landings if they are suitable for additional parking, in balance with resource protection and neighborhood impacts.
  - b. Explore opportunities for offsite/satellite parking with shuttle service (identify potential satellite parking areas and shuttle routes)
    - Develop and implement a beach shuttle service pilot at locations with higher beach/parking space ratio (Paine's Creek/Mant's, Crosby/Linnell);Top preferred beaches for shuttle (Crosby, Paine's Creek Breakwater, Linnell)
  - c. Consider whether revisions to the Town's Beach Access Permit Requirements—such as resident only parking in some areas—would help address parking pressure
  - d. Bike and pedestrian access improvements consistent with *Comprehensive Brewster Bike Strategy* 
    - i. Addition of sidewalks (need to identify locations)
    - ii. Complete the CCRT Extension through DCR property to Linnell Landing

- iii. Signage marking biking and pedestrian lanes, no parking on shore access roads during summer
- iv. Create a Lower Road bike trail to beaches
- v. Create safe walking routes to beaches
- vi. Create new walking trails (Crosby, Linnell, Wing Island)
- e. Build/update infrastructure to encourage use of underutilized beaches and landings (Spruce Hill, Wing Island)
- 3. Preserve access for emergency/public safety vehicles
- 4. Preserve/enhance access for populations with special needs in coordination with Brewster All Access Committee
  - a. Continue improvements to enhance physical access
  - b. Preserve or expand the number of dedicated handicapped parking spaces
  - c. Identify measure to improve visual access in concert with vegetation management
- 5. Assess opportunities for new or expanded public access locations, including through state- and town-owned land, and future acquisitions in collaboration with Town Open Space Committee
  - a. Town or state owned land, targeted acquisitions, gifts, other

# **Suggested Discussion Questions:**

 Are there other access topics that we have not discussed above that you think should be included?

## **Parking**

- Should the town seek to expand existing parking lots?
- If a beach parking area can no longer be used, what are the alternatives for parking that would be acceptable to you?
- Under what conditions should the Town seek to acquire land for additional access points (i.e., satellite parking, increased pedestrian and bike access)?
- What actions can/should the Town take to retain access- parking lots and walkways- to public beaches?
- How do you feel about limiting parking at some/all access points to residents only?

## Shuttle

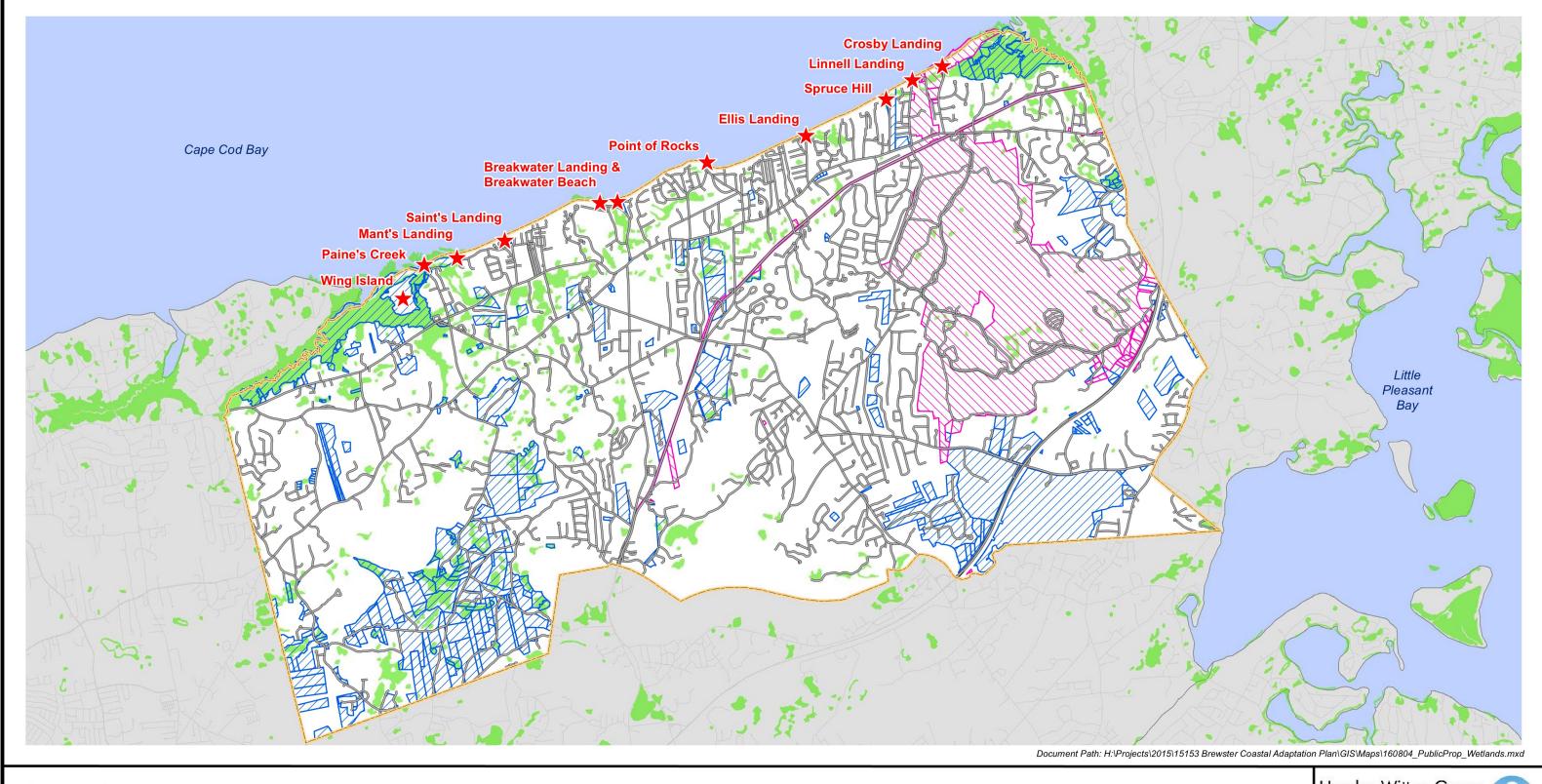
- What would make a shuttle successful to the user, to the beach neighborhood and to the Town?
- If we developed a shuttle what town owned parking lots are available?

## Bike/Pedestrian Access

- What measures could be taken on beach roads to improve safe access for bikes and pedestrians?
- Are there specific ways the Town could enhance accessibility to beaches and landings for people with disabilities?

## Attached:

Appendix A from the Coastal Adaptation Strategy, Developed by BCAG, written by Horsley Whitten Group, 2016.







Town Landing



Roads





State-owned parcels



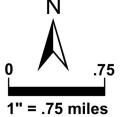
Town-owned parcels



Wetlands



Town of Brewster



Horsley Witten Group

Sustainable Environmental Solutions

90 Route 64 - Unit 1 - Sandwich, MA 02563
508-303-80400 - hornispyrillen.com

Town of Brewster Public Properties & Wetlands

Date: 9/30/2016

Figure 1

#### APPENDIX A – LANDING PROFILE MATRIX

This appendix provides a summary of information for the landings in a table format, where each line in the table is a landing, and the columns in the table provide the following information:

- <u>Landing</u>: name of the landing. The Town has added/continues to add sand at the landings marked with an asterisk (\*). Note: this is not an exhaustive list of Brewster's coastal resources, which also include:
  - o Drummer Boy/Eldridge (Cedar Hill Reserve),
  - o Indian Spring,
  - Ouivet Marsh Vista, and
  - Other conservation areas.
- <u>Parking Spaces</u>: approximate number of town-owned parking spots at each landing. Note: Bike racks are available during the summer season at all landings with public parking.
- Beach length (feet): approximate length of public beach (in feet) estimated at Mean High Water (MHW) level using geographic information service (GIS) aerial photography and town and state owned parcel information. At Linnell and Crosby landings, most of the beach area is owned by the State, so the beach length is separated between town and state owned property.
- Beach width (feet): Approximate width of public beach (in feet) estimated at spring high tide using Google Earth aerial photo (5/23/15).
- <u>Handicap</u> (✓ stands for Yes)
  - o **Parking**: approximate number of handicap parking spots at a landing.
  - Wheelchair access: whether the landing is accessible to wheelchairs and/or people with limited mobility. Note: wheelchairs that facilitate beach/beach and water access are available and can be borrowed from the Council on Aging in Brewster.
  - **Visual access**: identifies whether the landing has a view of the ocean/marsh accessible from either a parked vehicle or a wheel-chair accessible path or platform.
- Activity/ Use Type: swimming is available at all landings, and is not identified in the table.
  - o Commercial shellfishing: whether the landing provides a coastal access point
  - Recreational shellfishing: most landings are open for recreational shellfishing, except Wing Island and Paine's Creek.
  - o **Emergency Access**: to the beach for boats and vehicles (e.g., fire, rescue)
  - Other: trails, marsh access, anchorages, etc...
- Recent
  - Storm impacts: brief description of recent storm impacts to the landing. Note: impacts may be a recurring issue.
  - o **Adaptation**: recent efforts by the Town to mitigate storm impacts.

#### Threat

- Coastal erosion: brief summary of coastal erosion evaluation, including erosion/ accretion rates calculated using 1951 and 2009 shorelines from the MA Coastal Zone Management's Shoreline Change Project.
- Sea Level Rise: brief description of SLR impacts to parking, access, and the resource for the following scenarios:
  - MHW,
  - MHW + 2 ft (SLR or storm surge),
  - MHW + 4 ft (SLR or storm surge), and
  - MHW + 8 ft (SLR and storm surge).

## • Survey Results:

- o **2016 Beach Visitors:** Percentage of survey respondents reporting visiting past summer (2016) out of 2048;
- o **Favorite beach** (%): Percentage of survey respondents who ranked the beach as their favorite public beach out of 1838; and
- o **First choice for shuttle**: Those who answered the survey question about what beaches they would shuttle to identified, as their first choice: Paines, Mant's, Breakwater Beach, and Crosby. It should be noted that approximately 45% of respondents said they would not use a shuttle, and of those who would, 33% would if the trip were 5-10 minutes in duration.

	Parking	Beach	Beach	Handicap			Activity/ Use Type				Recent		Threat		Survey Results		
Landing	Spaces	length (feet)	width (feet)	Parking	Wheelchair access	Visual Access	Commercial shellfishing	Recreational shellfishing	Emergency access	Other	Storm impacts	Adaptation	Coastal erosion	Sea Level Rise	2016 Beach visitors (%)		First choice for shuttle
Wing Island	No dedicated town parking	> 3,000'	~30'	0	No	No	No	No	No	<ul><li>Two trails</li><li>Marsh access</li></ul>	1	Replaced missing damaged boardwalk planks	<ul> <li>Greater sediment</li> </ul>	<ul> <li>Island footprint may shrink</li> <li>Access to path may become flooded</li> </ul>	24.8%	2.3%	No
Paine's Creek *	19	> 500' along revetment	~30'east of revetment	2	In 2016: Boardwalk, Dedicated wheelchair stored in shed	<b>✓</b>	No	No	<b>✓</b>	<ul> <li>Small boat ramp</li> <li>Anchorage on flats</li> <li>Kayak racks (~50-60)</li> </ul>	Old parking damaged in storm     Erosion of beach area	<ul> <li>Retreat (parking)</li> <li>Removal of tidal restriction</li> <li>Beach nourishment</li> </ul>	<ul> <li>Erosion likely to continue</li> <li>Scour of inner creek mouth</li> <li>Revetment will provide limited protection</li> </ul>	<ul> <li>Access to beach floods at 4ft</li> <li>Beach underwater at 8 ft</li> <li>Parking impacted (50% at 4 ft, 100% at 8 ft)</li> </ul>	59.7%	15.5%	Yes
Mants	37	~1,000' from Paine's Creek revetment to end of parcel	~40'	1	✓ (small boardwalk)	<b>✓</b>	Access point for aquaculture	<b>√</b>	<b>✓</b>	<ul><li>Anchorage on flats</li><li>Kayak racks</li></ul>	<ul> <li>Dune destroyed most winters</li> <li>Pavement at risk</li> </ul>	<ul> <li>Rebuilt dune</li> <li>Dune/beach nourishment</li> <li>Removed sand from parking</li> <li>Fixed parking</li> </ul>	<ul> <li>Significant historical erosion (~1.7 ft/yr 1951-2009)</li> <li>Inland migration of western barrier beach to continue</li> </ul>	• Flood impacts parking (~50%) & access @ 4ft • Flood prevents access & parking (100%) @ 8ft • Beach underwater @ 8 ft	32.0%	9.0%	Yes
Saints *	38	~180'	~55'	2	No (steps)	(vegetation trimmed to 3 ft)	No	(summer stocking program for shellfishing)	<b>✓</b>	Small anchorage on flats	• Steps erode • Bank getting steeper	Stormwater improvements: • Infiltration galleries • Pipe for overflow	Past erosion (~0.7 ft/yr 1951-2009) likely to continue Groins may eventually be undermined at landward end	No expected impact to access or parking until after 8 ft (surge + SLR), unless erosion continues	34.4%	6.0%	No
Breakwater Landing *	~5	~ 80'	~10'	0	Viewing platform	<b>√</b>	No	<b>√</b>	No	Small anchorage on flats	Erosion of foot of bank causing some slough	<ul> <li>Replaced foot path with stairs &amp; viewing platform</li> <li>Bank nourishment</li> <li>Plants &amp; fences</li> </ul>	<ul> <li>Limited past erosion may increase</li> <li>Marsh shrinking</li> </ul>	<ul> <li>Flood prevents access @ 4ft</li> <li>Beach underwater at 8 ft</li> </ul>	28.0%	1.6%	No
Breakwater Beach *	62	~280'	~60'	2+1 spot near picnic area	<b>✓</b>	✓	Coastal access point for aquaculture	<b>√</b>	<b>✓</b>	N/A	• Dune erosion	<ul> <li>Dune restoration</li> <li>Retreat (parking)</li> <li>Sand fencing and plantings to protect dune</li> </ul>	Significant     historical erosion     (~1.8 ft/yr 1951- 2009)     Beach & dune     likely to continue to     retreat	<ul> <li>Beach increasingly floods</li> <li>Parking lot floods @ 8ft</li> </ul>	45.6%	12.9%	Yes

	Parking	Beach	Beach	Handicap				Activity/ U	se Type		Red	cent Threat			Survey Results		
Landing	Spaces	length (feet)	width (feet)	Parking	Wheelchair access	Visual Access	Commercial shellfishing	Recreational shellfishing	Emergency access	Other	Storm impacts	Adaptation	Coastal erosion	Sea Level Rise	2016 Beach visitors (%)		
Point of Rocks	3+8	~ 100'	~20'	No	No	<b>√</b>	Access point for aquaculture	✓	<b>✓</b>	Small anchorage on flats	<ul> <li>Limited erosion from stormwater</li> <li>Dune &amp; plantings provide water quality buffer</li> </ul>	Repair catch basin	Accretion 1951- 2009 (~0.7 ft/yr), more recent erosion     Shoreline retreat likely to continue     Low dunes likely to migrate landward	<ul> <li>Limited impact, other than beach floods</li> <li>Access to beach floods @ 8 ft</li> </ul>	26.9%	4.9%	No
Ellis *	15	~ 65'	~30'	1	Limited mobility ramp, but no wheelchair access	✓	Access point for aquaculture	(popular location) Public shellfishing events spring and fall	✓	N/A	Erosion caused parking and catch basin damage	Fall 2016	<ul> <li>Beach erosion likely to continue</li> <li>Scour at end of revetment</li> </ul>	<ul> <li>Limited impact, other than beach floods</li> <li>Access to beach and parking (~15%) flood @ 8 ft</li> </ul>	30.1%	5.3%	No
Spruce Hill	~12	~650'	~30'	No	No (long path to beach/ water)	No	No	✓	No	Trail	<ul><li>Dune erosion</li><li>Washed out stairs</li></ul>	Access & stairs rebuilt	Historical erosion     (~0.8 ft/yr 1951 –     2009)     Wetland behind     barrier beach     system may be lost     to erosion	Limited impact, other than beach flooding	10.8%	1.3%	No
Linnell	25	~60' (Town owned) ~1,200' (State owned – east of Crosby)	~50'	2	✓ (handicap platform, boardwalk, seating)	<b>√</b>	<ul> <li>Access         point for         aquaculture</li> <li>Possible         aquaculture         grants north         of adjacent         state beach</li> </ul>	✓	✓	N/A	Erosion	Beach nourishment     Project for capture & infiltration of stormwater runoff	Moderate erosion 1951-2009 (~0.3 ft/yr)     Recent accretion (>5 ft/yr)     Long term eroding trend may continue	• Low-lying parking area subject to flooding and sand accumulation from dune • Access to beach and parking (~60%) flood @ 8 ft	39.0%	10.3%	No
Crosby	60	~180' (Town owned) >2,500' (State owned – west of Crosby)	~50'	3	No	✓ (salt marsh)	No	<b>√</b>	<b>√</b>	<ul><li>Anchorage on flats</li><li>Marsh access</li></ul>	Active dune regularly buries access	Dig out excess sand from parking area	<ul> <li>Significant accretion historically (~1.5 ft/yr 1951-2009) and recently (&gt;6 ft/yr)</li> <li>Accretion may continue on long term, but potentially impacted by storms and SLR</li> </ul>	<ul> <li>Access to parking and parking (~50%) flood @ 4 ft</li> <li>All access and parking flood @ 8 ft</li> </ul>	56.4%	30.8%	Yes