

CHAPTER 3.

HARBOR FACILITIES AND NATURAL RESOURCES: MANAGEMENT ISSUES AND RECOMMENDATIONS FOR THE SOUTHWAY

3.0 INTRODUCTION

The Southway encompasses the waterway between North Monomoy and South Beach, including Outermost Harbor and the Morris Island Cut (Figure 1). The Southway includes three areas within federal jurisdiction: the Cape Cod National Seashore (South Beach), the Monomoy National Wildlife Refuge (Monomoy barrier islands) and within the refuge, the Monomoy Wilderness Area. For more than forty years the Town, the National Park Service, and the U.S. Fish and Wildlife Service have managed their respective areas of jurisdiction with little overlap or interference. More recently, issues have arisen concerning how these management jurisdictions may overlap with each other and the implications for traditional activities undertaken in the area.

Several areas within the Southway have distinct identities.

Morris Island and Stage Island together comprises the landmass that separates Stage Harbor from the Southway. The islands were connected to Chatham's mainland by a causeway constructed in the late 1950's out of material dredged from the Stage Harbor channel. The Morris Island cut is the waterway that flows between the island and North Monomoy Island.

South Beach refers to the southern portion of Nauset barrier beach that was separated from the northern remainder of the Nauset spit (referred to as North Beach) when the Chatham breach formed in 1987. South Beach was deeded from private ownership to the Town in 1951. South Beach is within the boundary of the Cape Cod National Seashore, administered by the National Park Service. However the Town retained ownership of the beaches when the Cape Cod National Seashore was formed in the early 1960's. Although the rules and regulations of the Cape Cod National Seashore apply to South Beach, maintenance and management of the beach has largely been undertaken by the Town with little federal involvement.

Outermost Harbor. Outermost Harbor is a relatively small waterway located at the upper reaches of the Southway where South Beach joins the mainland at a point locally known as the South Beach tom bolo. This waterway is still referred to as Chatham Harbor on many maps, although it is currently separated from Chatham Harbor by the tom bolo.

Monomoy Islands were formed when severe winter storms separated Monomoy Point from the mainland (now Morris Island) in 1958. Twenty years later storms again severed the Monomoy spit forming North and South Monomoy Islands.¹ The Monomoy National Wildlife Refuge consists of North and South Monomoy Islands and approximately 40 acres on Morris Island. The refuge was established by the federal government in 1944 under the authority of the Migratory Bird Conservation Act for the protection and perpetuity of migratory birds. According to the U.S. Fish and Wildlife Service, the total size of the Refuge is 7,604 acres. This includes upland, intertidal areas, and deep-water habitats. In 1970 Con-

gress designated the Monomoy Wilderness Area, which comprises most of the Monomoy Islands to mean low water, and comprises 3,244 acres or approximately 97% of the refuge land mass. The U.S Fish and Wildlife Service administers the Monomoy National Wildlife Refuge and the Monomoy Wilderness Area.

3.1 HARBOR FACILITIES AND ACTIVITIES

Introduction

In 1992, following the 1987 breach of the Nauset spit, the detached northern end of South Beach attached to the mainland with the result of restricting direct access from Nantucket Sound to Chatham’s eastern waters. Access to the Atlantic Ocean from Chatham’s southern waters is now provided by either navigating around the southern terminus of South Monomoy Island, or through the highly shoaled, meandering and narrow navigation channel locally referred to as the Southway. Boat traffic through the Southway includes commercial lobstering, and shellfishing, tours, recreational finfishing, boating, and kayaking.

Town Landings and Access Points

Direct public access to the Southway is very limited. The only boating access to the Southway open to the general public is at landings within the Stage Harbor Complex. Public access points located along the Southway provide limited pedestrian access. These include South Beach (accessible at Lighthouse Beach), Morris Island Dike, and the public way at Bearse’s Lane. Crescent Beach, the rim of land extending from the Stage Harbor Channel to Morris Island, is town-owned and is only accessible by boat. Limited pedestrian public access is provided at Outermost Harbor Marine, and the Morris Island/Monomoy National Wildlife Refuge Headquarters (Figure 3).

Table 7. Public Access Points, Southway

Location	Waterway	Ownership	Features
Lighthouse Beach	Chatham Harbor/Southway	Town	Limited parking, beach access only.
Morris Island Road	Chatham Harbor/Southway	Town	Dike provides limited parking and pedestrian access only
Bearse’s Lane	Chatham Harbor	Town	Limited pedestrian access
Crescent Beach	Southway	Town	Accessible by boat only
Morris Island NWR/HQ	Southway	Federal	Limited parking and pedestrian access
Outermost Harbor Mar	Southway	Private	Limited pedestrian access

Boating Facilities and Activity

Boating facilities within the Southway include one private marina and a relatively small number of mooring permits issued by the town. Outermost Harbor Marine is a private marina providing 76 slips and 10 moorings on a rental basis. The town has issued 57 mooring permits within the Southway, most of which are located in Outermost Harbor and directly east of Morris Island.

Table 8. Boat Moorings and Slips, Southway

Type	Slips	Moorings
Private	0	57
Marina	76	10
Public	0	0
Total	76	67

Over recent years the Southway has become both a busy throughway and a popular destination. As noted above, most commercial and recreational boating activity traveling through the Southway originates within Stage Harbor. This includes commercial and recreational shellfishing, commercial and recreational finfishing and charters, and seal tours. Boating activity originating within the Southway includes commercial and recreational boats. Seal watching tours are launched from Outermost Harbor Marine. The U.S Fish and Wildlife Service issues permits to three companies to bring visitors to the Monomoy Islands. However only one ferry service is allowed by the U.S. Fisheries and Wildlife Service to operate out of the refuge headquarters. There is also a launch service from Stage Harbor, and one high-speed seal tour from Harwich. Despite strong currents, fly fishing and kayaking have emerged in recent years as increasingly popular activities in the area.

As a result of concerns about excessive speeding of vessels and congestion, the town extended the No Wake Zone in effect in the Stage Harbor Channel to include the area between the “F” buoy and the “A” buoy in the channel south of Morris Island referred to as the Morris Island Cut.

Navigation

The Southway has emerged as a heavily used waterway for recreational and commercial purposes. Commercial fishermen, charters, tours, recreational boaters and kayakers use the Southway as an access way to the Atlantic, or as a destination. However, continued shoaling could influence the navigational channel and limit access. Figure 4 shows the channel in close proximity to North Monomoy Island at the island’s northernmost point, as the channels curves around the shoal that has formed between South Beach and North Monomoy Island. Looking at the channel configuration, it is not difficult to imagine a scenario whereby continued westward growth of the shoal could close out the channel at that point. Under such a scenario, unless a new channel forms east of the current channel, access from Nantucket Sound to Chatham’s eastern waters could only be achieved by traveling around the southern tip of South Monomoy Island.

Heavy shoaling also occurs throughout the Southway, and notably in the upper reaches of the Southway at the entrance to Outermost Harbor. Figure 4 shows the channel leading in to Outermost Harbor last dredged in 2002. The channel is the only area within the Southway for which there is a record of public or private dredging.

3.2 NATURAL RESOURCE CONDITIONS

Introduction

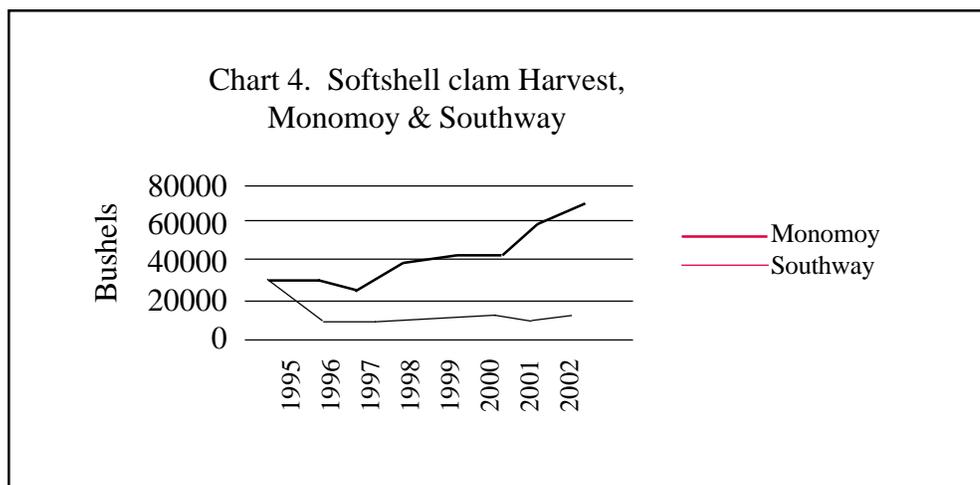
The Southway consists largely of a barrier beach and island system, which varies from the relatively protected and estuarine elements of Stage Harbor and Nantucket Sound. In many respects it is the natural forces and features at work in the area that play a stronger role in defining management issues than do human impacts.

Wetlands and Eelgrass

The Southway consists primarily of barrier beach and islands with more than 25 miles of coastline, consisting primarily of dunes and tidal flats and, to less of a degree, fresh-brackish wetlands² (Figure 12).

The eastern coast of Chatham, consisting of Nauset Beach and Monomoy comprises the southern portion of a series of barrier beaches, islands and spits that are formed of sediments ultimately washed down by waves and tides from the sandy glacial bluffs of Eastham and Wellfleet.³ The barriers help to protect Chatham's mainland from erosion, provide tidal flats and shelter harbors. However Nauset Beach and Monomoy are constantly changing in a 200-year cyclical pattern.⁴ The shifting landmasses and the currents that shape them largely determine the nature of wetland resources and aquatic vegetation in the area.

Despite cold water and swift currents, the Southway does support several significant stands of eelgrass (Figure 11). Unlike Stage Harbor or Nantucket Sound, where the observed loss of eelgrass is attributed to land use impacts, the observed decline in eelgrass in some parts of the Southway is more likely to be the result of natural conditions. Eelgrass thrives in areas where, among other things, underlying substrate is relatively stable. Highly mobile sediments and strong currents characterize portions of the Southway. Most notably, eelgrass becomes buried by sand during storms and shifting shoals.

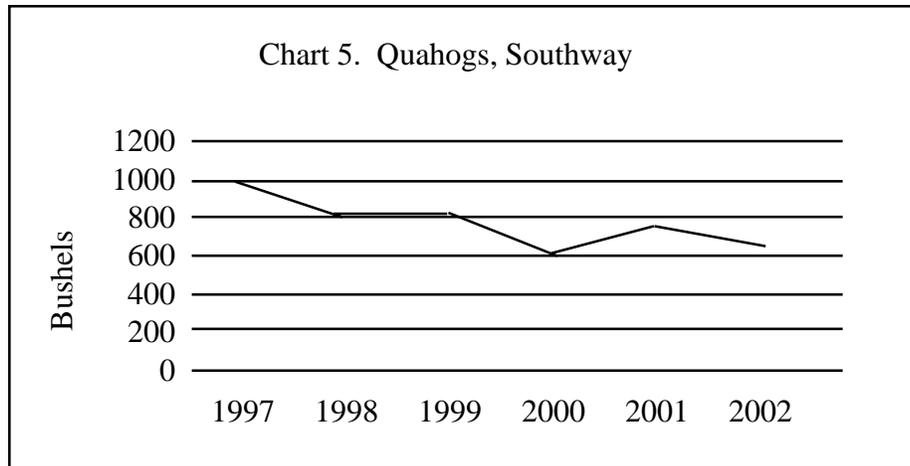


Source: Chatham Shellfish Department

Shellfish Resources and Commercial Shellfishing

The expanse of tidal flats within the Southway area provide habitat to a variety of shellfish species. As used in this report, the term habitat refers to areas that are conducive to the productivity of the species. These are areas where the species historically have been found or are likely to be found in the future. However, the dynamic nature of the flats means that the exact location of species and their density can vary from year to year. Recently the area has supported among the region's most prolific harvests of soft shell clams (Figure 8). Other selected areas provide habitat for mussels, quahogs (Figures 8, 9), and bay scallops (Figure 10). Lobster pots generally are located just off North Monomoy Island, Morris Island and South Beach (Figure 10).

Commercial and recreational shellfishing along Monomoy and South Beach has a long history. Recently, questions surfaced regarding the continued access to the Monomoy Wilderness area for purposes of commercial shellfishing. The Town and the U.S. Fish and Wildlife Service are working together to address the issue of continued access for local commercial shellfishermen. At issue is a federal law that prohibits commercial activities within a designated wilderness area. The Town, through the Board of Selectmen, has taken a position that access to tidal flats off Monomoy and South Beach for purposes of commercial shellfishing must continue and has engaged specialized legal counsel to ensure the continuity of access.



Source: Chatham Shellfish Department

Wildlife

Birds. In 1999, Monomoy National Wildlife Refuge was designated a Western Hemisphere Shorebird Reserve Network site because of its value to migratory birds as a stop-over location.⁵ Massachusetts Audubon named approximately 3,000 acres of South Beach and Monomoy as an Important Bird Area (IBA). Massachusetts Audubon established the IBA program in 1985 to identify and protect areas that contain essential habitats for one or more species of breeding, wintering or migrating birds. According to Massachusetts Audubon the South Beach and Monomoy IBA has a long history of birds research and monitoring, including 50 years of tern monitoring, 25 years of International Shorebird Census data, and research on shorebirds, Short-eared Owls and Piping Plovers.

The refuge hosts the second largest common tern colony on the Atlantic Seaboard. Three species found on the Monomoy Islands are protected by the Federal Endangered Species Act: the piping plover, the roseate tern, and the northeastern beach tiger beetle. In summer, Monomoy has the distinction of having the largest Herring and Great Black-backed Gull nesting colony in North America. In winter shoals are home to some of the largest winter concentrations of Common Eiders on the Atlantic Coast. Hosts of breeding populations of more rare, threatened and endangered bird species than any other single location in New England. ⁶

Seal Habitat and Population. The presence of seals in the Southway is a source of wonder and concern. The region is among the most important seal habitats on the East Coast. The Massachusetts Audubon Society has documented a year-round breeding population located on outer Cape and Nantucket. A resident population of 3,300 gray seals inhabits the area of Chatham Harbor, South Beach and Monomoy. During the winter months, harbor seals and, to a lesser extent, hooded and harp seals, migrate to the area. The current seal population is believed to be stable.⁷ Figure 4 shows the approximate boundary of the summer seal habitat.

The robust seal population has been a boon to recreational boaters and tour operators who bring hundreds of visitors to observe the seals in their habitat each year. However, seals are a protected species under the Marine Mammal Protection Act (MMPA). The MMPA prohibits any action—including interaction and viewing—that results in harassment, injury or death of a seal or group of seals. Harassment includes anything that alters the behavior of a seal, such as “flushing” the seal from its resting place on the beach into the water where it feels more secure. Speeding boats, viewer encroachment, fishermen casting lures, and even kayakers are all potential sources of harassment and even injury. The Cape Cod Stranding Network (CCSN) is among the organizations nationwide that work with the National Marine Fisheries Service to collect data for the MMPA. Surveys conducted by CCSN in the Monomoy/South Beach area have revealed numerous instances of harm to seals including:

- entanglements in fishing lines, netting or ropes;
- injuries from fishing lines or lures, and aerobic frisbees;
- intentional or unintentional harassments; and
- collisions with boats resulting in blunt trauma and propeller wounds.

The CCSN has credited seal tour operators with being responsible viewers and helpful observers of seal activities and conditions. Recreational boaters who are often unfamiliar with seal behavior and federal laws unknowingly cause much of the harm to seals.

Horseshoe Crabs. The waters around Monomoy and South Beach are home to a prolific horseshoe crab population. According to the U.S. Fish and Wildlife Service, the taking of horseshoe crabs within the Monomoy National Wildlife Refuge occurred for many years. However, in 2002 the taking of horseshoe crabs for bait or for biomedical purposes was determined to be incompatible with the purposes of the Monomoy National Wildlife Refuge and is now prohibited within the Refuge.

Changes in Geomorphology of the Area

Due to strong and shifting currents, the geomorphology of Chatham’s eastern and southern outer coastline is in a constant state of flux. Numerous studies have documented the cycle of shore-

line changes along the Nauset barrier beach and the Monomoy barrier islands. Among these is a study conducted for the Town in 1978 by Dr. Graham Geise. In this study Dr. Geise developed a model for shoreline change based on the evaluation of 200 years of maps and data. Dr. Geise concludes that “[t]he major changes in form undergone by the Chatham east coast barriers over the past 200 years are cyclical. The period of the cycle is approximately 150 years. Assuming that the cyclical changes continue without interruption, the future form of the shoreline can be predicted.”⁸ Dr. Geise goes on to predict the formation of the Chatham inlet, which ultimately occurred ten years after this study. He also predicted that, when the new inlet is formed, the southern portion (South Beach) would break down and move landward as the northern portion continued to migrate south. “The previous barrier, south of the new “spit” [North Beach], moves onto the Chatham mainland, forming the peninsula of Monomoy. At this stage, the attachment of Monomoy to the southern Chatham mainland is secured by littoral drifting along this shoreline resulting from its open exposure to waves.” Eventually, as the northern portion of the barrier continues to move westward, “the barrier beach will stop at North Chatham, the coast from North Chatham to Morris Island will be exposed to ocean waves, and an ever widening barrier spit will extend southward from Morris Island.”⁹

Presently a scenario very similar to the one outlined above is being observed. South Beach is connected to the Chatham mainland and is migrating southward. A shoal is forming between South Beach and North Monomoy Island at the island’s northern tip. Further deposition of sand in this area is anticipated and would ultimately result in a connection between South Beach and North Monomoy Island and a filling in of the navigational channel running between South Beach and Monomoy Islands.

3.3 MANAGEMENT ISSUES AND RECOMMENDATIONS

MANAGEMENT ISSUE: CONTINUED ACCESS

The Southway encompasses areas under the jurisdiction of the Town of Chatham, the Cape Cod National Seashore, and the U.S. Fish and Wildlife Service. Recent changes in the geomorphology of the area that have occurred and that are expected to continue suggest that the clear boundaries of jurisdiction may be blurred. Specifically, the potential joining of South Beach and Monomoy raises the issue of who will have superceding authority over these areas, and what, if any are the implications for access to the area for navigation, boating, fishing, shellfishing, or recreation.

The potential connection between the landmasses would facilitate the movement of domestic and wild animals on to the Refuge. It is not clear how the increased access to Monomoy might affect wildlife and natural resources protected by the Refuge, and what management responses might be appropriate.

The question of federal jurisdiction in the event that Monomoy and South Beach join must be decided by the appropriate federal authorities. This process should balance the protection of natural resources with rights of public access and uses that are consistent with the community’s traditional uses of the area.

MANAGEMENT RECOMMENDATIONS: CONTINUED ACCESS

1. The Town should work with the National Park Service and the U.S. Fish and Wildlife service to evaluate the following issues:
 - The need to update data and studies concerning changes in the geomorphology of the area, in order to identify and address potential management issues;
 - The need to address rapid east facing erosion, including consideration of erosion barriers and beach nourishment activities at selected areas;
 - The need for policies to ensure ongoing access to Monomoy for commercial shellfishing;
 - The need for navigation management in the event that the Southway navigational channel fills in due to shoaling;
 - The need to address use policies and enforcement in the event that South Beach and North Monomoy Island are joined and there is continuous pedestrian access from the mainland to the Wildlife Refuge.
 - Areas currently under local ownership and management should remain under local ownership and management in the event that the landmasses are joined.
2. Town owned access points that are directly accessible the Southway are limited. An historical pathway exists between Morris Island Road and the upper Southway that provides access to the stretch of beach between Outermost Harbor and the south tip of Morris Island. The Town should seek to clarify and confirm its right of access and further explore the possibility of acquiring the land (approximately 22 acres) from the Quinnesett Association.

MANAGEMENT ISSUE: PUBLIC SAFETY

The Southway has become an increasingly popular boating destination. The area experiences heavy boat traffic, often with vessels operated at excessive speeds. The narrow channel and strong currents pose added challenges for boaters.

South Beach has become a popular spot for sunbathing, walking and, increasingly, swimming. In the past the town has posted signs warning of the risks of swimming off South Beach. Strong currents and changes in tide contribute to treacherous swimming conditions. Despite warnings, the Harbor patrol has had to respond to numerous swimming incidents over the past few summers, which dilutes time spent on other patrol activities.

MANAGEMENT RECOMMENDATIONS: PUBLIC SAFETY

1. The Town, through the Harbormaster, should continue to carefully monitor vessel traffic throughout the area and evaluate the need for further speed control measures, or other management actions aimed at reducing vessel conflicts or disturbance to nearby wildlife.

MANAGEMENT ISSUE: NATURAL HABITAT AND RESOURCE PROTECTION

The Southway provides important habitat to a wide variety of marine and terrestrial animals. The intrusion of recreational boaters is often harmful to these important habitats. Special efforts must continue to ensure the area's biodiversity.

MANAGEMENT RECOMMENDATIONS: NATURAL HABITAT AND RESOURCE PROTECTION

1. The Town, through the Health and Environment Department and Harbormaster, should pursue the federal designation of the Southway Sound within the three-mile limit of local jurisdiction as a No Discharge Area. The disposal of treated or untreated boat sewage is illegal within a No Discharge Area. Currently disposal of treated sewage in the area is permitted, although strongly discouraged. Disposal of untreated sewage is permissible in federal waters (beyond three miles off shore). The adequacy of pump out capacity at Old Mill Boat Yard in Stage Harbor will need to be evaluated as part of the application process. Information regarding the recent addition of pump-out capabilities at Outermost Harbor Marine will need to be better publicized and integrated into public outreach materials. The Town should identify and secure resources necessary to ensure adequate pump out capacity and public outreach and education activities to support the designation. (This recommendation applies for the Stage Harbor and Nantucket Sound complexes also.)
2. The Town should continue to work with the appropriate governmental and non-governmental agencies involved in marine mammal protection, such as the Cape Cod Stranding Network, and seal tour providers to take measures to prevent harassment or injury to seals, and to report and respond to events as they occur. Measures may include monitoring and survey activities, public education efforts, enforcement of speed controls in the area, and placement of signs.
3. The Town should carefully consider employing DNA testing, or other feasible method of determining bacteria sources, in areas where sustained high bacteria counts have been recorded on a frequent basis. If in those areas a bacteria source is identifiable, the Town should undertake or require responsible parties to undertake remediation efforts. (This recommendation applies for the Stage Harbor and Nantucket Sound complexes also. See discussion on bacterial contamination, Chapter 2.B, page 52.)
4. The Town should review the Coast Guard Area Committee Oil Spill Contingency Plan for Southern Massachusetts and Rhode Island and to evaluate whether it adequately addresses local emergency response needs. Recognizing that the Harbormaster must notify the Coast Guard of any fuel spill, the Town should develop a locally tailored emergency response plan to address spills that, while harmful to the area, may not trigger intervention by the Coast Guard. (This recommendation applies for the Stage Harbor and Nantucket Sound complexes also. See discussion on oil and fuel spills, Chapter 2.B, page 52.)
5. The Town should continue to monitor research and policy developments regarding Harmful Algal Blooms (HABs). Based on information generated from regional and national institutions, and based on local conditions, the town should develop a plan to address the prevention, mitigation, and control of HABs. (This recommendation applies for the Stage Harbor and Nantucket Sound complexes also .See discussion on HABs, Chapter 2.B, page 53.)

¹ Friends of Monomoy, www.friendsofmonomoy.org/history.html.

² MA Audubon Society, www.massaudubon.org, Birds_&_Beyond/IBA/sites/iba_sbeach.html

³ Geise, Graham, *The Barrier Beaches of Chatham, Massachusetts*, 1978, pp. 3-4.

⁴ Geise, p. 4.

⁵ Oliviera, Bud, *Draft Compatibility Determination Eastern Massachusetts National Wildlife Refuge Complex*, 2001.

⁶ Robert C. Humphrey, *Birding Hotspots: Monomoy NWR, Massachusetts*. *Birder's World*, February 1998, pp. 54-57.

⁷ Cape Cod Stranding Network

⁸ Geise, p. 31.

⁹ Geise, p. 28.