

Chapter 9

Marine Resources



A one in 2 million blue lobster, caught a few miles off Kennebunkport in September 2020. Photo Credit: Shawn Sullivan, Seacoastonline

Introduction

Kennebunkport is rich in marine resources. The diversity of the town's coastline provides a variety of marine environments, such as the sandy beach at Goose Rocks, extensive flats that surround the islands of Cape Porpoise, and the tidal Kennebunk River. The town is the site of productive clam flats and excellent harbors.

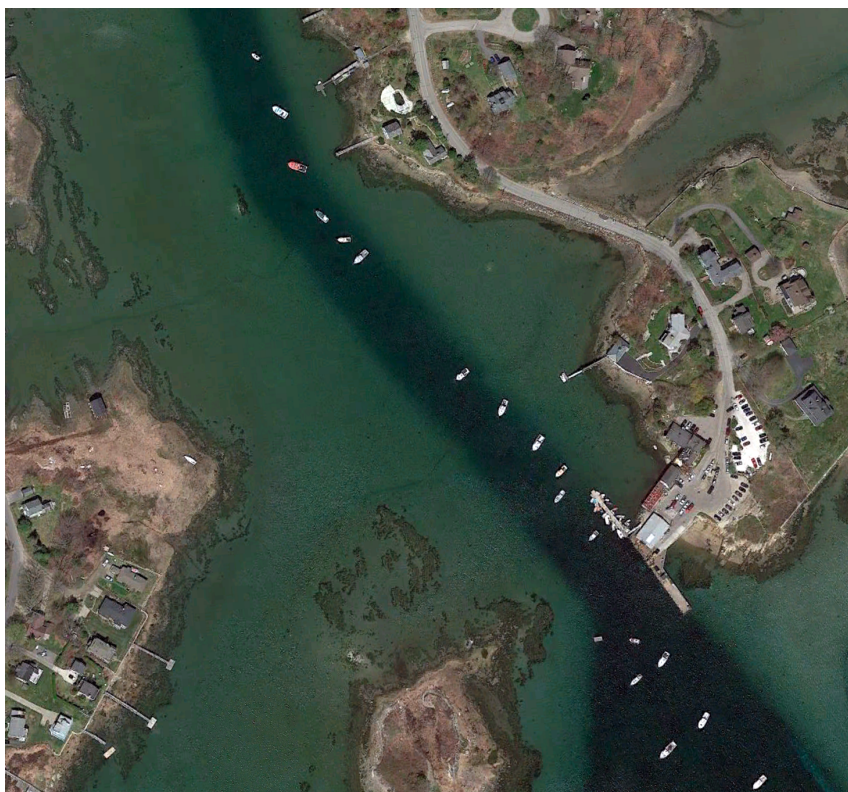


Photo above is of Cape Porpoise Harbor, courtesy of Google.

The reader is referred to Chapter 8 for a discussion on freshwater ponds, rivers, streams, and wetlands.

Marine resources in Kennebunkport include the following:

- Harbors and associated infrastructure, along with floating assets such as Kennebunkport's extensive and varied watercraft.
- Commercial and recreational fisheries.
- Opportunities for recreation such as beaches, scuba diving, kayaking, canoeing, stand-up paddle boarding, boating, and hiking.
- The salt marshes and eelgrass that play a critical role in supporting ocean fisheries.
- Flora & fauna such as shellfish and shorebirds.
- Habitat for rare & endangered species.
- Kennebunkport's 2,300+ acres of protected lands provide a variety of recreational opportunities, and capture and store carbon.
- Consistently strong winds in the Gulf of Maine offer enormous potential for renewable energy.
- Economic assets such as the town's historic waterfront, pedestrian scale, and ambience consistently draw large numbers of visitors who spend freely in local shops and in restaurants.

Resource Inventory

Kennebunk River Harbor

Maritime entry into the Kennebunk River Harbor is guided by a lighted bell buoy and two can buoys that mark the approach to the river. Two stone jetties at the mouth of the river serve as breakwaters.

The river has a dredged channel from the sea to 60 yards below the bridge at Dock Square. A 100-foot wide marked channel is marked by buoys and a day beacon, and is maintained to a nominal depth of five feet from the ocean to Government Wharf, a distance of 1,700 feet. For the next 2,300 feet, the nominal depth is four feet. The final 2,000 feet, to the bridge has a 75-foot wide channel and a nominal depth of four feet at mean low water.

Dredging of the river to depths specified above is mandated by an act of Congress, and is the responsibility of the U.S. Army Corps of Engineers. A partial dredging was conducted in 2016, and additional dredging in 2019 in response to damaging winter storms near the Colony jetty.¹

Once inside the breakwaters, the Kennebunk River provides excellent protection under nearly all weather conditions. Only in mid-winter do storms and ice occasionally cause damage to moorings, floats, and the breakwaters. There are two dredged anchorages. One is two acres and the other four acres, each 6 feet in depth.

As the harbor is bordered on the south by Kennebunk, this plan's description of the harbor includes both sides of this shared resource. The tidal stretch of the river is home to 13 marinas accounting for 300+ slips and 360 linear feet of dock space.²

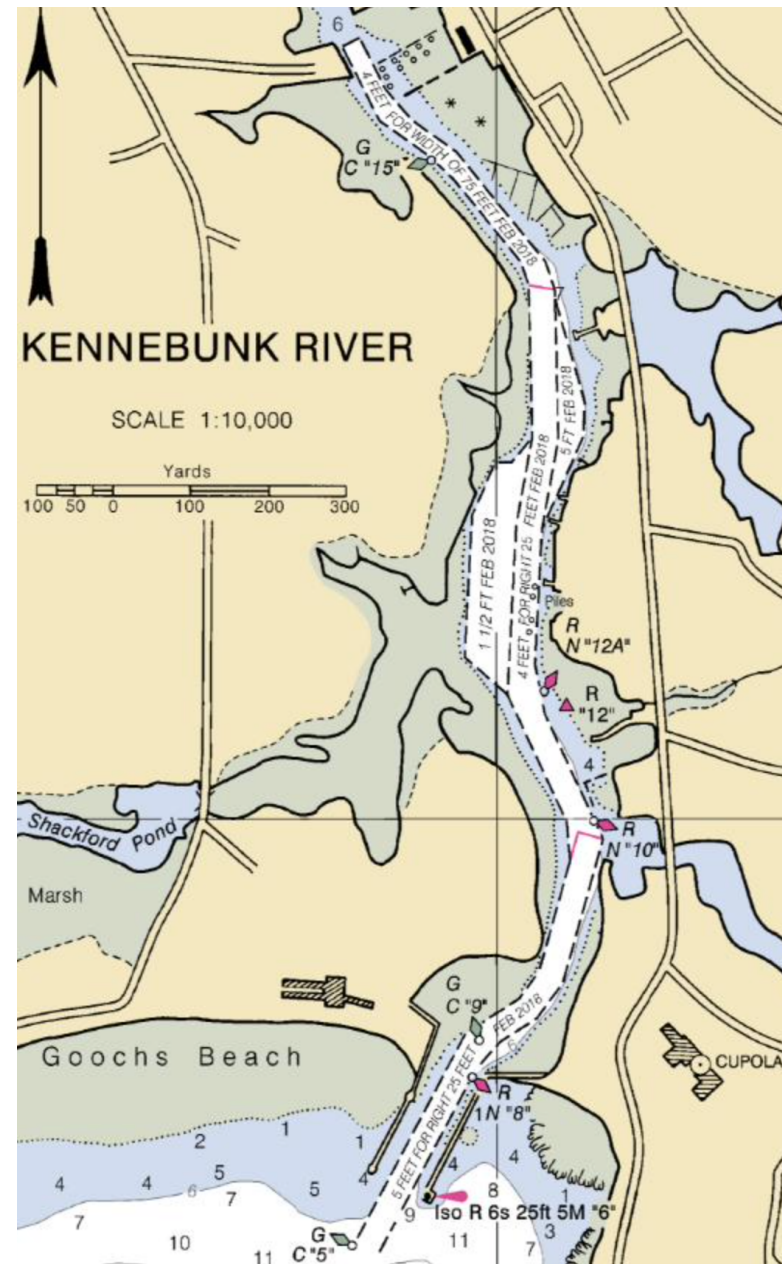


Figure 9-1 NOAA Nautical Chart #13286

Mooring allocation is specified on Table 9-1 below.

Table 9-1 Moorings in the Kennebunk River

Registered Mooring Holders	Number of Moorings
Lobster boats	27
Charter fishing vessels	3
Transient boats no longer than 38'	1
Maine Marine Patrol	1
Non-commercial recreational users	36
Total	68

The towns of Kennebunk and Kennebunkport both require that at least 50% of the moorings be reserved for commercial fishing boats. When a mooring space is vacated, priority is given to commercial fishermen, with the result that there is little turnover in moorings for recreational boaters. At present, the waiting list numbers 30, six of which are commercial. The waiting period for a non-commercial mooring is approximately eight years.

Government Wharf is Town-owned and is maintained by the fishermen. It has about 200 feet of berthing space. Access is open to residents of both Kennebunkport and Kennebunk. Fishermen use the wharf to access moorings. In 2018 the wharf was extensively renovated, and the bait shed was replaced with a new structure. The renovations brought the wharf to an elevation above FEMA's surge zone. The wharf currently serves approximately 20 to 25 commercial fishermen, mostly lobstermen.³ There is no fuel for sale at Government Wharf, although fuel can be purchased at two marinas further up the river.

Other boating facilities on the Kennebunkport side of the river are noted below:

Table 9-2 Major Docking Facilities on the East Side of the Kennebunk River

Facility Name	Capacity
Kennebunk River Club	A private club used only seasonally. It has a pier with float landings providing 800 feet of berthing space.
Kennebunkport Marina	A commercial marina with piers and floats providing about 1000 feet of berthing space (approximately 50 boats). It has a launching ramp, but cannot park cars with boat trailers.
Kennebunkport Maritime Museum	A seasonal dock available. The pier is 5 feet wide and 260 feet long, with a zigzag.
Nonantum Motor Inn	Marina associated with a hotel/motel complex. Stone bulkhead with float landings
Chicks Marina	A full service commercial marina with 1,100 feet of berthing space (approximately 55 boats). Hydraulic lift and hoist launching. It has a launching ramp, but cannot park cars with boat trailers.
Yachtsman Motel	Seasonal dock associated with motel; pier with ramp to float landings; fuel available.
Arundel Yacht Club	Seasonal private club; dock 60 feet with 24 side floats, approximately 55 berths; launching slide for small craft.

Cape Porpoise Harbor

Entry into Cape Porpoise Harbor is guided by Goat Island Light, a lighted whistle buoy, a bell buoy, and two day markers. The channel from Goat Island to just south of the pier is 100 feet wide and 6 to 9 feet deep. At the head of the harbor, it is 100 feet wide and 15 feet deep.

The pier is built upon an earlier structure of dressed granite that had been squared off with a perimeter of steel beams resting on granite and steel piles. Improvements made in the 1980's include a dock structure about 20 feet in width that forms an ell and provides a berthing face that is 180 feet long, and situated in water that is about 12' deep where fish and shellfish may be unloaded, and equipment, fuel, and ice loaded onto vessels. The dock has a timber deck on heavy wooden timbers with timber fender piles along the berthing face. There are two small cranes and one large crane to facilitate bait and fish landings. Floats attached to the pier are available for members of the pier.

Recreational boaters are allowed to use the pier during evening hours if it does not conflict with fishing uses. Fuel and water are available at the pier. If fishermen wish to ice their catch, they must arrange separately for it. A paved area behind the shed on the pier provides parking for fishermen's trucks. Parking for the general public is available along the road approaching the pier.

In the spring of 1993, the Town renovated the pier. The wood deck was removed to allow replacement of the severely corroded steel beneath, and new decking was installed. The new dock structure is in good condition. In 2004, the Town replaced the small pier and restaurant.

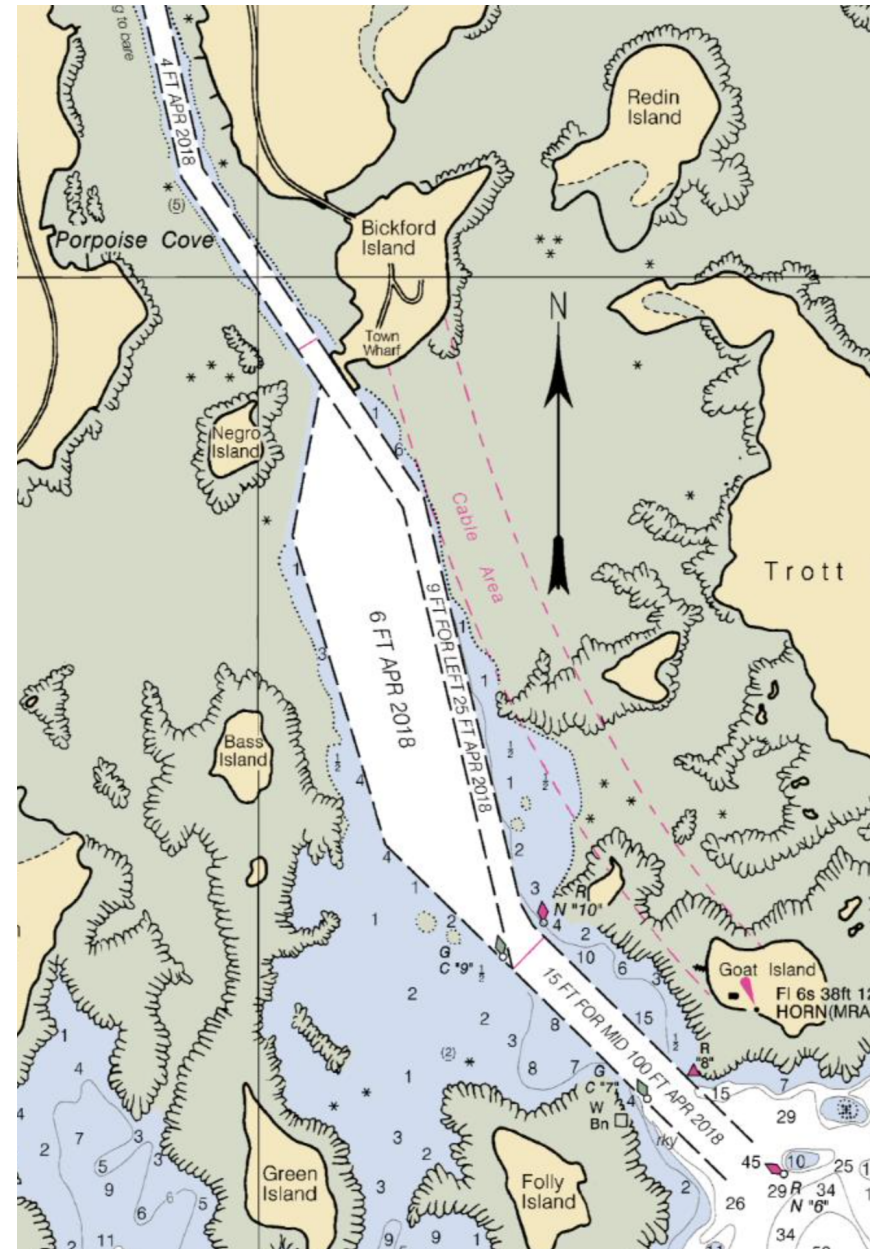


Figure 9-2 NOAA Nautical Chart #13286

Other Harbors

Just to the east of Cape Porpoise Harbor is Stage Harbor, which lies between Cape, Trott, and Little Stage Islands. The harbor has sufficient depth to accommodate a number of large vessels, and provides good protection under most weather conditions.

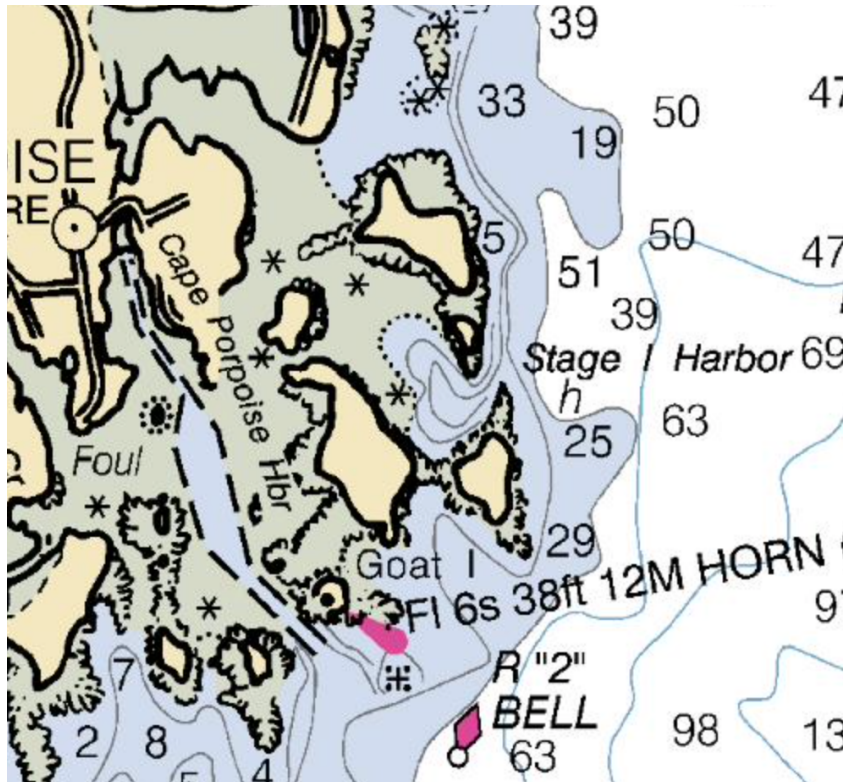


Figure 9-3 NOAA Nautical Chart #13286

However, the harbor has no shore facilities, and is at least half a mile from the nearest shoreline served by a road. In practice the harbor is a popular lunch stop for recreational boaters. There has been a substantial increase in the use of the facility as both a lunch stop and also for overnight stays.

There are also a small number of seasonal moorings at Goose Rocks Beach, in Paddy's Cove, and at Turbat's Creek. There are no maintained channels in these areas.

Harbor Access and Parking

Both Government Wharf and Cape Porpoise experience overcrowding. Parking is limited. The issue is more acute at Cape Porpoise. During the summer, parking in the pier area can be congested, however the congestion has not interfered with the fishermen's use of the facility. There seems to be few options for dealing with the situation as the land area is limited.

Other Areas Suitable for Water Dependent Use

A 1988 study by the State of Maine looked for areas along the coast that could be suitable for use as additional port facilities. The study examined features such as the suitability for parking and access, water depth, and shelter from rough seas. One such site was identified at the head of Cape Porpoise Harbor.

The study also identified several locations along the Kennebunk River, which it termed "available unused sites". Upstream of the Route 9 bridge, the River estuary is sparsely developed, and there are many areas where the coastal wetlands remain. Most of the river downstream from the Route 9 bridge is densely developed with wharfs and bulkheads.

The Local Fleet

A substantial segment of Kennebunkport's economy relies on the advantages provided by the town's shoreline and its harbors. A number of local households are engaged in the handling, processing, transportation, wholesaling and retailing of seafood.

In 2020, the Kennebunk River was home port to two dozen commercial fishing boats, all of which are rigged for lobster and/or bluefin tuna, save for one boat that is utilized for harvesting groundfish.⁴



Photo: Tom Morgan

The harbor is also home to a party fishing boat, a whale watch boat, a whale watch/eco-excursion boat, two boats dedicated to lobster cruises, and 4 to 6 charter fishing boats. The charter boats bring day-trippers out in search of Striped Bass, Bluefish, Mackerel, and Bluefin Tuna.⁵

In recent years, there has been a surge in the number kayaks and

stand-up paddle boards. Recreational vessels, both sailboats and motorized watercraft, number in the hundreds. All told, the harbor is a busy place during the height of the summer tourist season.⁶

At Cape Porpoise, the harbormaster estimates the number of commercial fishing vessels to be 40 to 45. There are 18 to 20 year-round fishermen, and 80 to 100 people who derive employment from the cape's commercial fishery.⁷

Many Kennebunkport fishermen venture out to sea in small craft, year round. The work is hard and dangerous,⁸ and it demands long hours and considerable stamina. A substantial percentage of the town's fishermen are 5th or 6th generation in the industry.



Photo: Tom Morgan

Outside of the Kennebunk River, there are 225 registered moorings. These are split roughly 50/50 between commercial and recreational vessels. In Cape Porpoise Harbor, there are approximately 150 moorings, split 80% commercial and 20% recreational.⁹ Cape Porpoise Harbor has no public berths, but has eight private high-water berths and one private low-water berth.

The Beaches

Although the shoreline of Kennebunkport is dotted with a number of small beaches, the most popular by far are Goose Rocks Beach and Colony Beach. The latter is actually three beaches. To the south of Colony Beach is a strip known as Breakwater Beach which adjoins the jetty and to the west of the road is a section known as Town Beach.

Slightly over two miles long, Goose Rocks Beach is a beautiful stretch of white sand extending from the Batson River to the Little River. There are no bathhouses, but toilet facilities are available, and food is available from a nearby store. Although more than a hundred seasonal homes adjoin the beach, the beach is so large that it seldom seems crowded.

Due to the many ledges that lie just offshore, the beach experiences very little wave action, making it especially attractive to the parents of small children.

Goose Rocks Beach is very popular. Many of the undeveloped lots are owned by the Kennebunkport Conservation Trust. Access to the beach is provided by several rights-of-way extending between Kings Highway and the beach. The former runs parallel to the shore. Rights-of-way to the beach are marked with signs.

The Town restricts parking to vehicles carrying Goose Rocks Beach parking stickers. Parking permits are available to both to local residents and visitors. A pamphlet is distributed to all those who purchase parking that includes information regarding endangered birds and seal rookeries.

The sand dunes at Goose Rocks help to buffer low-lying homes from coastal storms. The health of the dune grass is important because the grass keeps the dunes intact. The dunes would otherwise erode, thereby exposing nearby homes to potential flood damage. Another means of protecting the integrity of the dunes is by constructing elevated walkways from King's Highway to the beach.



Goose Rocks Beach. Photo: Tom Morgan

The Colony Beach, located just east of the breakwater at the entrance to the Kennebunk River, is partially owned by the nearby Colony Hotel. The Federal Government owns the remainder. The beach has no bathhouse or toilet facilities. The beach is small, little more than two hundred yards long, and is broken up by outcroppings of ledge. Nevertheless, its proximity to the center of town makes it popular.

The Colony Beach is open to the public. There is room for approximately forty cars immediately adjacent to the beach, and additional spaces can often be found along the nearby streets. No stickers are required, but on a hot summer weekend, it may be impossible to find a parking space within a reasonable distance.

An inventory of local beaches would be incomplete without a mention of Cleaves Cove. This is a small rocky beach, but it enjoys an unusually attractive setting. The beach is accessible through a pedestrian right-of-way off of Ocean Avenue, and is a good spot to view seals.

In 2004, the Town of Kennebunkport partnered with Maine's Healthy Beaches Program to monitor the water quality of recreational beaches. The goal of the program is to protect public health at coastal beaches through testing for disease-causing contaminants, assessing, and informing and educating the public.

In February 2021, the Healthy Beaches program released its long awaited report on the sources of pollution at Goose Rocks Beach.¹⁰ The report notes that "persistently elevated levels of enterococci (ENT) bacteria, particularly in the river mouths (Batson River and Little River) at each end of GRB, have resulted in beach advisory notifications and public concern regarding potentially unsafe swimming conditions.. Fecal contamination in the GRB watershed is likely a product of a diverse set of host sources including a combination of human, wild, and domestic animal waste.. dry weather monitoring efforts also revealed impaired water quality in portions of the watershed, suggesting possible issues with nearby wastewater disposal systems. Monitoring sites with elevated/positive results for multiple measured parameters were prioritized as locations warranting follow up investigative efforts by Kennebunkport.

The report goes onto note (page 4) that Kennebunkport has worked hard to address these issues. The Town "has investigated, identified, and removed sources of human wastewater discharges, continued to assess wastewater and stormwater infrastructure, expanded local public education and outreach initiatives, and hired interns to support these efforts. Ongoing

human fecal contamination issues underscore the importance of continuing investigative efforts to ensure the integrity of wastewater disposal systems and continuing education/outreach efforts to improve water quality throughout the watershed and better protect public health at GRB."

Waterfront Access

There are numerous means to enjoy Kennebunkport's seashore on foot. Sidewalks and Parsons Way border most of the shoreline along Cape Arundel. Although there are no walkways for the purpose, much of the shore of Cape Porpoise Harbor can also be explored by foot, and a pedestrian can easily walk the length of Goose Rocks Beach.

Proximity to the sea is important to lodging and restaurant businesses. Spectacular views of the ocean and the shoreline serve as a strong magnet drawing visitors, and the town's many roads with water views are frequently lined with the parked cars of sightseers. Furthermore, many hotels, inns, and restaurants owe much of their popularity to locations overlooking the ocean or the river.

There are no public launch ramps in Kennebunkport. Boats may be launched at Chick's Marina and Kennebunkport Marina, for a fee. At Cape Porpoise, kayaks may be launched off of Pier Road about 100 yards before the end of the road, assuming the tide is sufficiently high.

Kennebunk River Fishery

In southern Maine, the Kennebunk River is the only watershed that has no dams on a significant portion of the main stem of the river. Hence this river attracts anadromous fish, i.e., fish that spawn in the headwaters of rivers leading into the ocean. The river supports spawning populations of alewives, blueback herring, American shad, sea lampreys, and rainbow smelt. In addition, the American eel utilizes the freshwater and tidal portions of the river as a feeding area, along with striped bass that are seasonally present in the estuary.



Maine Alewife. Image courtesy of the US Fish & Wildlife Service.

The Town of Kennebunk, in cooperation with the Department of Marine Resources (DMR), manages the river herring fishery. If the Days Mill dam at Days Mill near Route 35 were breached, providing access to Kennebunk Pond in Lyman, the DMR estimates the fishery could be increased from 4,000 to 70,000 pounds annually.

The American eel and sea lamprey are commercially valuable as food fish and are harvested by commercial fishermen licensed by the DMR.

Striped bass, American shad, and rainbow smelt are also species of major importance to recreational fishermen. Rainbow smelt dip net fisheries typically occur in early spring during the spawning runs in April and May. Rod and reel fisheries for American shad occur in May and June, while striped bass sport fisheries occur from May through October.



American Shad. Watercolor by Sherman F. Denton, 1904. Image courtesy of Wikipedia.

Aside from other sources of pollution, a possible threat to this fishing resource is stimulation of plant growth in the River by nutrients from the sewer outfall, resulting in reduced oxygen content in the River.

Shellfish & Warming

In 1967, the Maine Department of Marine Resources (DMR) classified the entire shoreline of Kennebunkport as unsafe for the taking of shellfish. Since then, many sources of pollution have been reduced or eliminated. Towns along the Kennebunk River have installed sewerage systems, and Kennebunkport's system was extended to Goose Rocks Beach. Hence restrictions on shell fishing are gradually being eased.

The DMR classifies some shoreline areas as “non-redeemable”, meaning that shell fishing is unlikely to be permitted there in the foreseeable future. One area so classified would be the shoreline near the outfall of a sewage treatment plant, even though such a plant is operating within its licensing standards. One reason for this policy is that toxins may linger near the outfall for a long time; another is that the plant might unexpectedly operate outside of its licensing standards. Other non-redeemable areas are those around marinas. In view of these restrictions, there is little likelihood that shell fishing will be re-instituted along the Kennebunk River.

East of Cape Arundel, prospects are considerably better. There are multiple

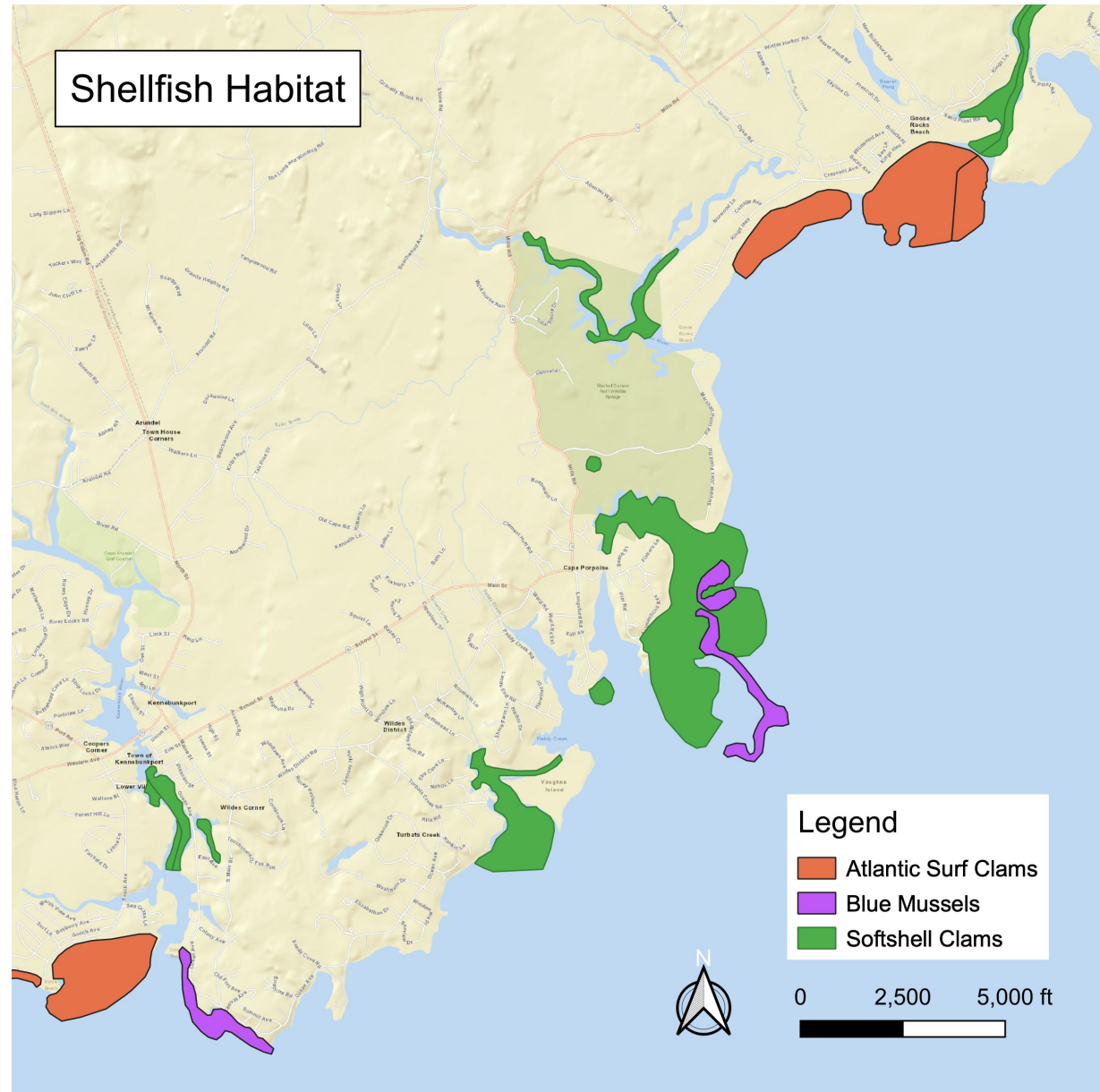


Figure 9-4 Shellfish Habitat (Source: The Nature Conservancy)

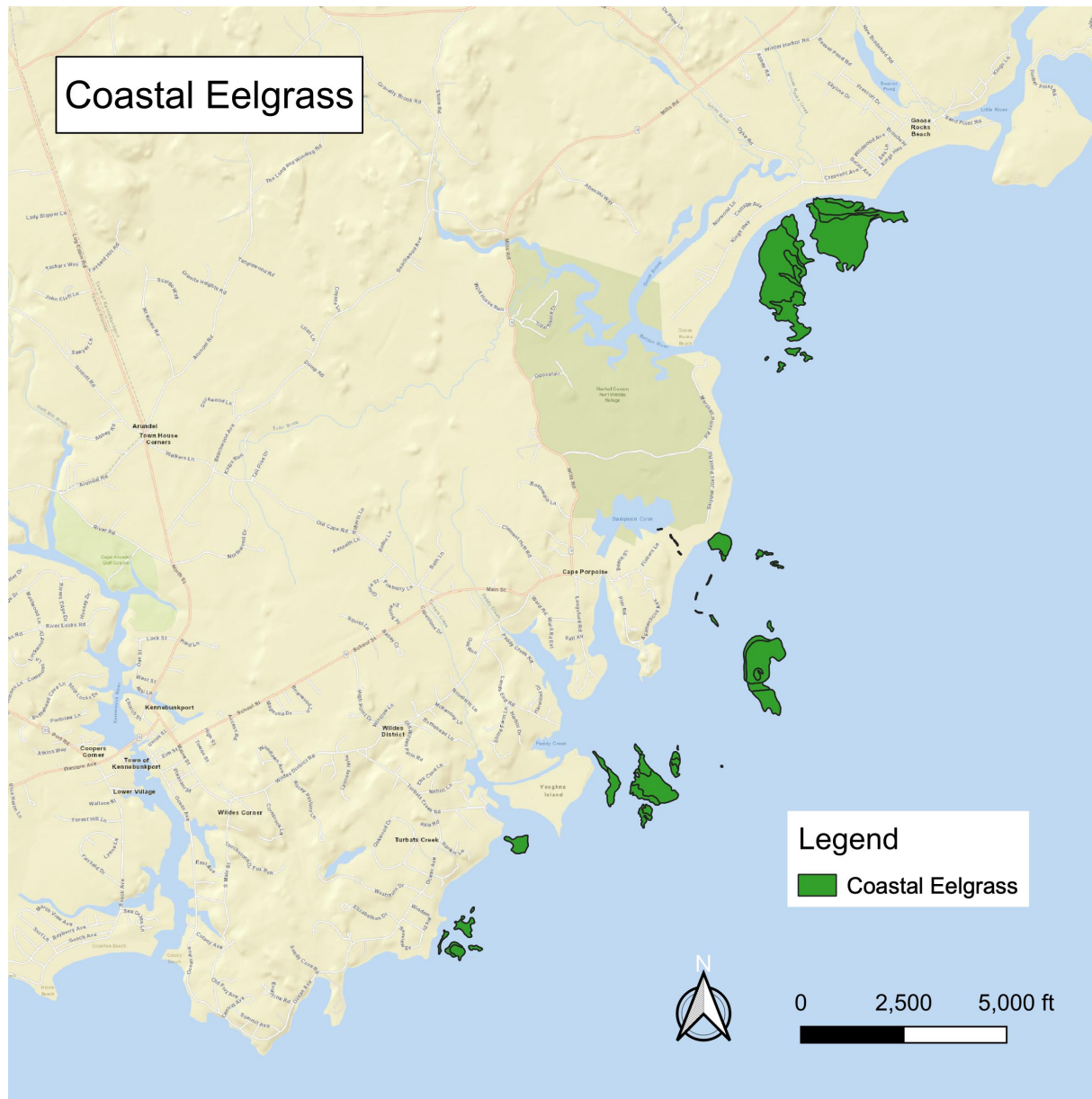


Figure 9-5 Coastal Eelgrass (Source: Maine Department of Marine Resources)

shellfish monitoring stations in Kennebunkport, including some open water locations.

In 2019, the Town issued 84 non-commercial licenses for shellfish harvesting, 75 of which were to Kennebunkport residents.¹¹ No commercial licenses were issued. Compare this figure to that in the year 2000 when 100 non-commercial licenses were issued, 10 of which were issued to non-residents.¹² The Selectmen have the authority to recommend limits to these licenses.

There is limited marine worm harvesting in the sand and mud flats between Cape Porpoise harbor and the islands surrounding the harbor.

Eelgrass

Marine seagrass (*Zostera*) is typically found in sandy substrates in an estuarine environment. The eelgrass serves important functions, including the stabilization of the substrate, and as nursery grounds for many species of economically important fish and shellfish.

Much of New England's estuarine eelgrass has suffered degradation and die-off due to the excessive discharge of nitrogen from wastewater plants and leaky septic systems. Additionally, the eelgrass is adversely affected by extreme storm events that bring a large volume of upstream sediment into the estuary.

Note that the eelgrass depicted in Figure 9-5 on the previous page is coastal eelgrass. Estuarine eelgrass data is not currently available.

Shorebirds

Kennebunkport's varied shoreland ecosystems attract a wide variety of shorebirds. The Goose Rocks Beach area is host to migrating Semipalmated Sandpipers, Semipalmated Plovers, and Sanderlings. As local residents are keenly aware, the beach is also a nesting site for Piping Plovers.

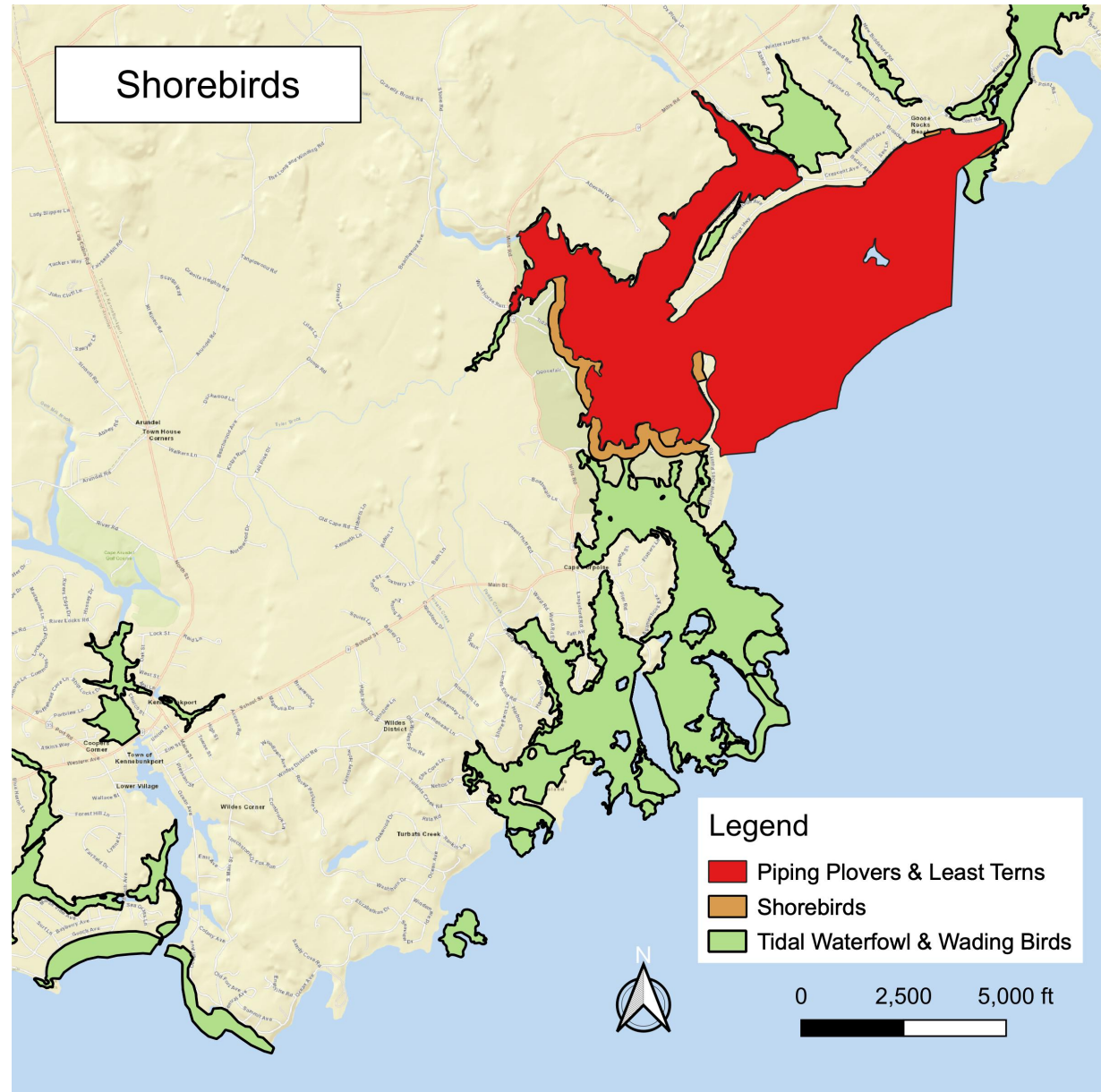
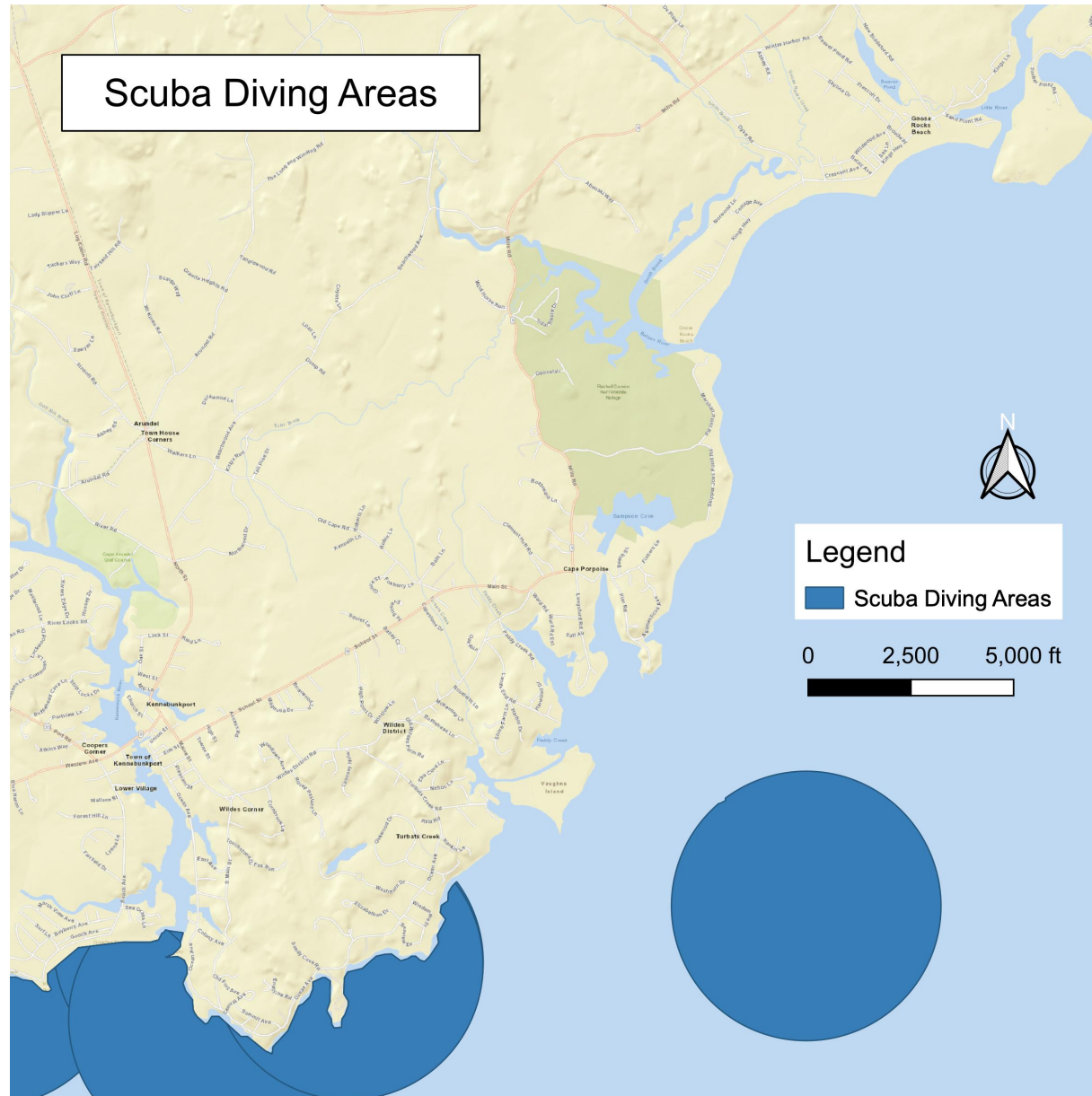


Figure 9-6 Shorebirds (Source: Maine Department of Inland Fisheries & Wildlife)



The Rachel Carson National Wildlife Refuge is particularly rich in bird life owing in large measure to its large expanse of estuarine habitat that is relatively undisturbed by human activities.

As for the avians that are designated as rare, threatened or endangered, the reader is referred to Chapter 7 for a discussion on that topic, as well maps depicting their Kennebunkport habitats.

Underwater Exploration

The map to the left depicts those areas in the immediate vicinity of Kennebunkport that are well suited for underwater exploration.

Figure 9-7 Scuba Diving Areas (Source: Northeast Coastal & Marine Recreational Use Characterization Study)

Protected Lands

Kennebunkport enjoys an unusually large inventory of protected lands due to the far-sighted vision of local residents over the course of the past half century. The lands preserve a variety of marine resources for the benefit of generations not yet born. Those lands with abundant vegetation do double duty by capturing and storing carbon.



Photo courtesy of Stefan Hillebrand via Wikipedia

Conditions & Trends

Depletion of Fish Stocks in the Gulf of Maine

The Gulf of Maine was once one of the richest fishing grounds in the world. During the 16th and 17th centuries, European fishermen boarded small vessels and ventured all the way across the Atlantic to harvest very large and plentiful codfish. The fishermen salted the fish, and returned to Europe where salted cod fetched the highest price on the market.¹³

In the late 18th & early 19th centuries, many a New England ship owner profited handsomely from the codfish trade. High quality codfish continued to command top prices on the European market, while low quality cod were transported by New England sea captains to Caribbean sugar plantations.¹⁴

By the 1820's, members of New England's codfish aristocracy sought to diversify their investments. The savvy speculators funneled their capital into the construction of sprawling new textile mills such as those in Biddeford and Saco, a development that marked the onset of the Industrial Revolution in North America, and one that catapulted the United States onto the world stage as an industrial powerhouse.¹⁵

In the late 1840's, the mill owners "upgraded" the technology that powered their mills from hydropower to coal-fired steam engines.¹⁶ This development was made possible by the arrival of a railroad that could transport inexpensive fuel from the coalfields of Pennsylvania. No longer were Biddeford's factories vulnerable to the Saco River's low water levels in late summer.¹⁷ Thus began in earnest the discharge of excessive CO₂ into the atmosphere.

It was industrial and technological innovation that would later enable an accelerated harvesting of fish in the Gulf of Maine. In the 1960's, foreign factory trawlers appeared on the horizon. New Englanders were slow to recognize the seriousness of the threat posed by these industrial-scale harvesters and floating processing plants.¹⁸

Congress eventually responded, belatedly, passing the Magnuson-Stevens Act (1977) that reclaimed the depleted fishery exclusively for American fishermen, one that extends 200 miles offshore. In a misguided effort to set things right, the federal government then offered generous subsidies to encourage the construction of new fishing boats, thereby putting many more boats on the water than the depleted fishery could possibly support. The fish stocks were decimated, again. By 1990, cod, haddock and yellowtail flounder were in steep decline. Congress responded by offering incentives to destroy the very same boats that had been built with generous government subsidies. Alas, it was too little, and too late.¹⁹

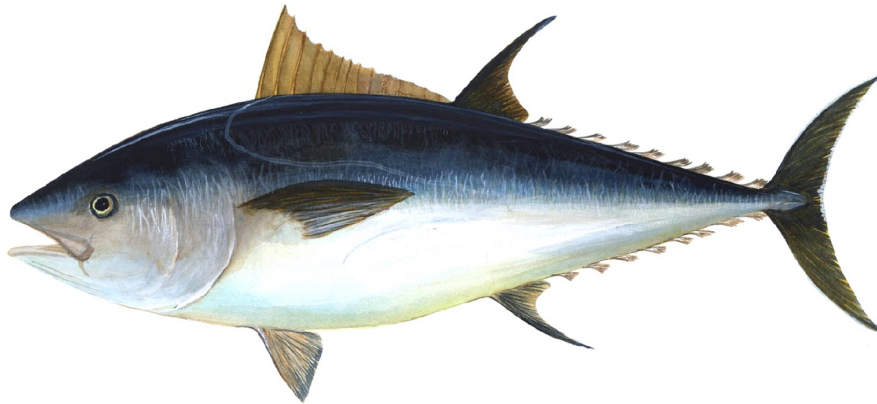
In 1994, the New England Fishery Management Council began to issue limits on the number of days that boats could be at sea. In lieu of addressing the fundamental problem, i.e. too many boats on the water, the council opted instead to spread the misery around.²⁰

By the 21st century, the impacts that result from placing too much carbon dioxide in the atmosphere were unmistakable. Ocean acidification, caused by unprecedented levels of CO₂ in the atmosphere, adversely affects many fish species in ways that scientists are scrambling to understand.²¹ Concurrently, global

warming is raising the temperature of the oceans. In few places on the planet has the water temperature rose quite as dramatically as it has in the Gulf of Maine.²² Cold water species such as lobsters are migrating elsewhere to waters that are still cold, as are many of the Gulf's whales.²³ Warm water species are venturing into the Gulf of Maine more than ever before.²⁴

Bluefin Tuna

Bluefin Tuna (*Thunnus thynnus*) all but disappeared in the early 1990's. The International Commission for the Conservation of Atlantic Tunas (ICCAT) intervened and imposed strict limits on tuna harvesting. It took a while, but by 2015 the tuna were making a comeback.²⁵



Bluefin Tuna. Image courtesy of NOAA

Each year, the tuna follow schools of herring and mackerel to the Gulf of Maine from two disparate points of origin, the Gulf of Mexico and Spain's Balearic Islands. Some of the tuna are quite large, reaching 300 to 1,000 pounds.²⁶

When not harvesting lobster, approximately ten Kennebunkport lobster boats pursue tuna. One commercial boat at Cape Porpoise is dedicated fulltime to tuna. Two dozen recreational boats based in the Kennebunk River are also catching Bluefin Tuna.²⁷

The fish are caught 5 to 40 miles offshore in an area that stretches from just north of Jeffrey's Ledge to the shipping lanes into Portland.²⁸

The International Union for the Conservation of Nature (IUNC) classifies Bluefin Tuna as Endangered (in a global context), however as of 2020, this fish was plentiful in the Gulf of Maine.

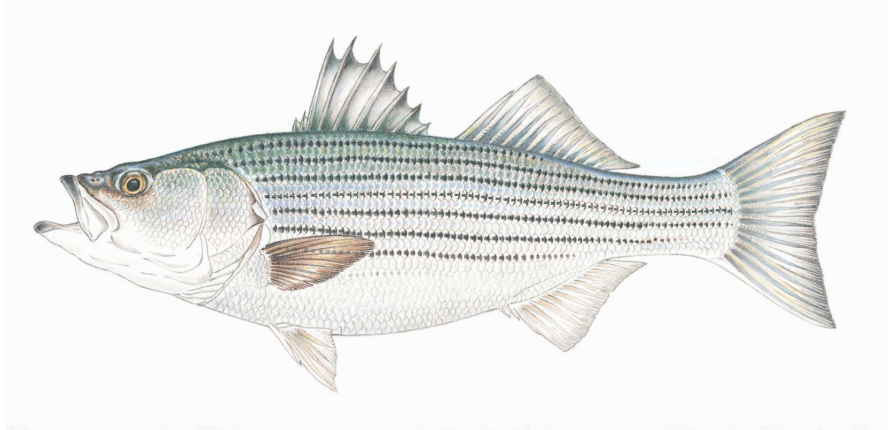
Kennebunkport's burgeoning tuna industry suffered a setback during the COVID-19 pandemic of 2020-2021. Air transport to Japan was curtailed due to the virus. This transportation problem resulted in a shortage of tuna in Japan, and a surplus in Maine. Alas, the price Mainers were able to fetch for their tuna catch plummeted from \$20 to \$3 per pound because they were unable to get the fish to market.²⁹

Shrimp

The rising water temperature decimated Maine's shrimp industry. In 2000 there were six shrimp boats based in Kennebunkport.³⁰ By 2020, there are none. The shrimp are not coming back.

Striped Bass

This species (*Morone saxatilis*) is also known as Atlantic Striped Bass, Striper, Linesider, Rock, and Rockfish. The fish spawn in the Chesapeake Bay, Hudson River, and Delaware River before making their way up to the Gulf of Maine in the summer.



Striped Bass. Image courtesy of MA Division of Marine Fisheries

IUNC classifies the Striped Bass as a species of Least Concern. Half a dozen charter boats operating out of the Kennebunk River bring day-trippers out in search of Stripers. The fish is popular with shore-bound anglers as well.³¹

New Arrivals

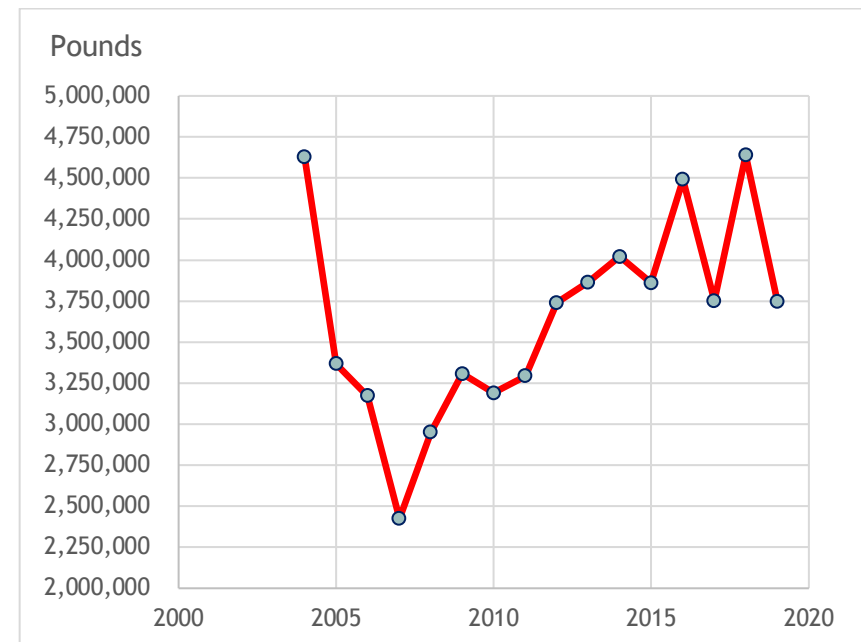
Black Sea Bass (*Centropristis striata*) are typically found off the Carolina's, but have lately started to make an appearance in the Gulf of Maine. One local boat captain recently caught a Spanish Mackerel (*Scomberomorus maculatus*), a species that prefers the warm waters of Florida, and historically did not wander north of Cape Cod. IUNC classifies both as of Least Concern. As temperatures in the Gulf of Maine trend upward, we can expect to see more new and unfamiliar species.³²

Lobster

American Lobster (*Homarus americanus*) can be found off North America's Atlantic coast, chiefly between New Jersey and Labrador. It is this crustacean that is harvested by the overwhelming majority of Kennebunkport's commercial fishing fleet.

Since the 1990's, Mainers have been quite successful in growing an overseas market for lobster. Most of Maine's catch is exported. Indeed, lobster represents the largest Maine export by value, 14% of the state's exports.

Figure 9-8 Commercial Lobster Landings in York County



Source: Maine Department of Marine Resources

In early 2018, the Maine lobster industry was on track to enjoy one of its best years ever in terms of exports, valued at \$87 million in the first six months alone. Regrettably, the federal government initiated a trade war with China. That nation's retaliatory tariffs caused lobster exports to China to plunge 84%.³³ The Canadian lobster industry quickly filled the vacuum, and substantially increased its exports to China.³⁴

At about the same time, a trade agreement between Canada and the European Union (the 2017 Comprehensive Economic and Trade Agreement) placed Mainers at a disadvantage in the European marketplace, for the US had failed to negotiate a comparable agreement with the Europeans.³⁵

Since the turn of the century, warming temperatures in the North Atlantic proved to be both beneficial and harmful to Maine's lobster industry. The warming sea destroyed the lobster fishery in Long Island Sound and decimated the industry in southern New England. The surviving lobsters migrated north to the Gulf of Maine seeking temperatures to which they are accustomed. This migration contributed to bountiful harvests by Maine lobstermen, particularly those operating Down East.³⁶

It is only a matter of time before the planet's ongoing warming trend drives lobsters out of the Gulf in search of a cooler habitat.

Other Finfish

Many popular species of finfish in the Gulf of Maine have suffered severe depletion during the last several decades. However, the draconian regulatory measures imposed by government have driven so many small fishermen out of business. The relatively small number of those who are still fishing are able to engage in a

de facto sustainable harvest of many traditional species, notably small Haddock (Scrod), Pollock, Hake, Redfish, among others. The Maine Department of Marine Resources reports that groundfish accounted for just 1% of statewide commercial landings in 2020. Menhaden accounted for 12%, and herring accounted for 6%.³⁷

The Gulf still enjoys large stocks of tasty fish that go unharvested because consumers have yet to develop a taste for species that are unknown to them. Until that happens, harvesting such fish would be a losing proposition for the fishermen. The challenge at hand is one of education and marketing.³⁸

In the meantime, that "fresh" cod and haddock that local consumers see in supermarket display cases has in all likelihood been caught in the cool waters off Iceland, and frozen for its long voyage to US markets. This trend is a losing proposition for both Maine fishermen and those who value fresh seafood.

Industry Consolidation

In recent years, much of what remains of New England's commercial fishing industry evolved into big business, as struggling family fishing enterprises sold their assets and permits to well-financed corporate interests. The permits in some areas are now quite expensive, ranging from \$25,000 for a lobster permit to \$200,000 for finfish. This trend favoring larger enterprises makes it challenging for young people to enter the industry as independent operators, for they typically lack the requisite capital and credit history.³⁹

The corporate world has the resources to successfully push back against government regulations. Consider, for example, the recent controversy over regulatory protections for the Right

Whale (only 400 remain in the world). Most of the whale strikes involve large cargo ships, not the small fishing vessels that operate out of ports like Cape Porpoise. Yet the bulk of the regulatory burden is borne by small independent operators.⁴⁰

Policies

Protect the Working Waterfront

Kennebunkport residents are well aware that the demand for waterfront real estate for purposes other than fishing threatens the continued viability of the town's commercial fishing industry. The Town has responded with regulatory measures to protect the local fishing industry. To date, those measures have been largely successful. The town should periodically revisit these regulations to ensure that they remain effective in achieving the policy goals.

Strategies

Community Supported Fisheries

The disruptions caused by the COVID-19 pandemic highlighted the vulnerability of Kennebunkport's fishing industry to marketplace upheavals and unanticipated difficulties in getting the product to market. What can the community do to help the local fishing industry become more resilient?

One option to consider would be a Community Supported Fishery (CSF). There are approximately fifty CSFs in the US. The organizational structure was modeled after Community Supported Agriculture (CSA). Those innovative enterprises have a well-established record of delivering freshly harvested produce from local farms to local households.



Cape Porpoise sunrise. Photo: Tom Morgan

The CSAs and CSFs eliminate the middlemen from the supply chain. The CSF benefits local fishermen by guaranteeing a market for their catch, and benefit the consumer by guaranteeing fresh seafood that was harvested just hours earlier.

CSFs have operated out of Portsmouth and Port Clyde since the early 2010's. A spinoff of the NH CSF, the Gulf of Maine Sashimi, commenced operations in Portland in 2019. Were Kennebunkport residents to demonstrate sufficient interest, the Portsmouth and Portland CSFs might be persuaded to include Kennebunkport in their network.⁴¹



The NH operation engages fishermen in NH and southern York County. The CSF delivers whatever species happens to be harvested in any given week. In addition to a dozen species of finfish, the CSF provides lobster, oysters, scallops, and Jonah Crabs.

During the COVID-19 pandemic, when local fishermen struggled to get their product to market, the NH CSF more than doubled its volume.⁴² Not surprisingly, CSF's enjoy strong support within local fishing communities.⁴³

Another strategy for efficiently moving fresh seafood directly to local consumers is to encourage informal sales on the waterfront. The Town could review its regulations so as to ensure that such sales are not inadvertently impeded by well-intentioned municipal ordinances and health codes.

Who We Are

"NH Community Seafood (NHCS) is a cooperative of NH commercial fishermen and consumers who have joined together to sustain New Hampshire's fishing industry, promote locally sourced, sustainable managed, 100% traceable fish and seafood, while supporting the local economy.

We also promote eating all of the underutilized species of fish and shellfish found in our abundant Gulf of Maine. This is called eating with the ecosystem and promotes local fishing industry, your health and the local economy!"

Salt Marsh Migration

Scientists recognize salt marshes to be among the most biologically productive habitats on the planet, rivalling tropical rainforests. They are also among the most highly efficient carbon sinks in the natural world.

Sea level rise will eventually inundate Kennebunkport's 570 acres of salt marsh. In light of this ecosystem's importance in supporting ocean fisheries, it is well worthwhile to explore the feasibility of marsh migration. The marshes may require a little assistance in order to move out of harm's way.

Scientists express cautious optimism that such migrations can succeed, assuming that suitable land is available nearby (at a slightly higher elevation), and that physical obstacles such as roadways, buildings, and undersized culverts do not block the migration.⁴⁴ The challenge for the Town is to remove such

obstacles, and to amend its land use regulations so as to prevent the erection of new obstacles.

The Nature Conservancy (TNC) has done considerable field work intended to facilitate marsh migration. TNC would be a valuable resource should the Town opt to tackle the migration challenge.

Aquatic Barriers

Chapter 8 of this plan (Water Resources) identified the locations of many culverts and two dams that prevent anadromous fish from reaching ancient spawning grounds. Were the barriers removed, these species would be able to substantially increase their population.

Town officials could examine the feasibility (and the desirability) of removing some of these aquatic barriers, and engage the community so as to get a sense of the public's support for barrier removal.

Nitrogen

The excessive discharge of nitrogen into Kennebunkport's estuaries threaten the eelgrass, which is to say, it poses an indirect threat to ocean fisheries. As sea level rise forces a corresponding rise in groundwater, more septic systems will fail, and leach nitrates into estuarine waters.

The Town could consider two strategies to mitigate this pollution: 1) The municipal sewer system could be expanded in the vicinity of the estuaries, and the Town could explore the feasibility of oyster farms in estuarine waters, as the oysters' remarkable filtration

systems remove an enormous volume of nitrogen from their habitat.

Offshore Wind

The Gulf of Maine possesses enormous potential for generating electricity. Unlike wind generators in other regions, gulf waters are too deep to permit the mounting of these facilities on the sea floor. Rather they must be designed to float.

Maine's fishing industry is generally wary of what is perceived as yet another potential obstacle to a successful harvest. As the offshore wind industry gathers momentum, some New England fishermen are lobbying hard for a seat at the table. They seek solutions that allows both industries to thrive.

The Town could advocate to support the interests of the community's fishing industry. An organization that could prove helpful with such an effort is the Responsible Offshore Development Alliance (RODA).⁴⁵

Protected Lands

The Town could continue to support the efforts of the Kennebunkport Conservation Trust to protect the community's open spaces, and to expand the inventory of such lands. The benefits of doing so include an enhancement of the public's access to the waterfront, as well as new recreational opportunities.

Expand the Definition

The Town's waterfront ordinance and the Cape Porpoise Pier regulations offer some protection for the interests of commercial fishermen. It should be noted however that the definitions in these regulations are lobster-centric. As climate change and an evolving market force Kennebunkport's fishing industry to adapt to new challenges, the regulations should anticipate change and keep pace, so as to continue to offer the same level of protection the industry enjoys at present.



Cape Porpoise. Photo: Tom Morgan

Public Education

The Town could commence a public education campaign to drive home a few basics:

- 1) Seafood is a healthy choice. Several local fish species are rich in Omega-3. Eat more of it. It's good for you!⁴⁶
- 2) Encourage residents and visitors alike to experiment with local species that are plentiful, yet underutilized. Monkfish, for example, is an ugly fish, yet the texture is reminiscent of that of lobster. Recall that as recently as a century ago, lobster was viewed as the "cockroach of the ocean" and deemed suitable only to feed prisoners and the very poor.⁴⁷ Perceptions change over time, as do tastes.
- 3) Build personal relationships with the local fishermen, and then arrange to buy from them directly.
- 4) Patronize local seafood restaurants, for they play an important role in supporting the local fishing industry.
- 5) The Kennebunkport Climate Initiative (KCI) is working hard at engaging young people. The KCI could potentially be quite effective at educating the public on marine resources.⁴⁸

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