

Ogunquit Leads the Way:

Stewardship of “The Beautiful Place by the Sea”

A complete and detailed history of Ogunquit’s Barrier
Beach and Dunes

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Ogunquit is an old Abenaki word meaning “beautiful place by the sea”. The town, located in York County along the southern Maine coast, still bears the name it was given by its native population and lives up to the title in fine fashion. Its rocky coast



line, made up of dark and craggy, igneous dikes that tumble into the ocean, sang its siren's song and lured painters and artists there in the late 19th century. The dramatic natural forms of the coast made perfect subjects for their paintings, and the artists' renditions soon encouraged others to come to the shore to revel in Ogunquit's splendor.

Ogunquit's beach and tidal river are the crowning jewels of the town, and they have a story to tell. Aside from human development of the area over the years, (a hotel, parking lot, iccream stands and the like) your average tourist would find it hard to imagine that the beautiful and elegant forms of the beach and dunes have undergone drastic changes over the last half-century. The dune system is in fact just now retuning to its natural beautiful form that the earliest tourists and beach goers became familiar with at the end of the 19th century, a towering natural sea wall, 25 feet in height, covered in golden waving stalks of grass and sculpted by the eternal sea winds. A combination of storm surges and heavy foot traffic in the mid-20th century began the erosion and degradation of Ogunquit's dunes, sparking the need for conservation to save the town's most important natural feature.

The bulk of beach preservation literature lies in scientific reports and articles that study the effects of restoration and preservation efforts on various beaches around the globe. These have been integral to establishing a consensus on beach preservation strategies from reintroduction of native plant and animal species to ways to educate local people on environmental protection. There is however a void on the subject of dune protection within the genre of environmental history.ⁱ

Where scientists bring valuable insight for their technical knowledge, environmental historians have the potential for inspiring action. One of the first environmental histories written, Rachel Carson's *Silent Spring*, reinvigorated the modern environmental movement in the 1960's through its realizations of the detrimental effects of rampant pesticide use. Having received

Down East Magazine's 2015 Environmental award for instituting a town wide ban on pesticides, Ogunquit serves as a role model for other beach front towns across the country who are experiencing the struggle between tourism and development and environmental protection. Looking at the changes Ogunquit beach has undergone from a historical perspective synthesizes the scientific understanding of a fragile natural environment and the human element. Real people in real places make decisions that impact the well-being of the environment; understanding the human part of the equation both through place and time is vital to the continued improvement of our environmental protection habits.ⁱⁱ

The actions people have taken throughout Ogunquit Beach's history, combined with the natural history of the changing environment highlight how integral humans are to the equation of environmental change over time. The natural world and the cultural world of humans, try as we might to draw distinctions between them and separate them from one another, are in fact inextricable. Be it on a global scale, or local, as in the case of Ogunquit Beach, it is impossible to isolate the variables of change as they occur in the world around us. The combination of storms and wind that cause natural erosion, and the human element of walking across the dunes are both at play in discerning the cause of sudden drastic change in the state of Ogunquit's dunes.

Noted environmental historian Paul Sutter, addresses the inextricability of nature and man through the concept of "hybrid landscapes". He uses the example of damming a river to explain the shift in thought of American environmental historiography from its earliest forms to today. Where earlier historians and environmentalists would have viewed a dam as "an act of domination", current thinkers view it as something they call "second nature" or the "organic machine". This new view recognizes the interconnectedness of humans and their environment.

Both nature and man have agency in the shaping of events, and both have to be taken into consideration when analyzing why and how we conserve and preserve nature.ⁱⁱⁱ

Richard Judd connected the idea of second nature to the New England landscape in his book *Second Nature: An Environmental History of New England*. There is limited historical analysis however on the specific aspect of beaches and human use. Caroline Francis wrote and researched the change of Sydney's beaches in Australia, pertaining to their use and development as beach tourism grew in popularity. It examines how early beach goers set a precedent in their rights to public access to beaches and how beach culture has grown and changed over the past century. Her work takes a cultural focus, portraying the unique change in how people have used the beach over time. Aside from a fascinating look at the treatment of sharks off of the Australian coast, it takes into account little of the environmental impacts that humans have on beaches. Ogunquit Beach serves as an excellent case study to examine the environmental aspect of our cultural obsession with the sea shore due to the way in which conflict between use and preservation has played out on the dunes.^{iv}

Through a mix of serendipity, trial and error, and hard work and dedication, Ogunquit has honed its preservation methods. The story begins with King George II of England who issued an act in 1757 that prohibited the transporting or grazing of livestock on the dunes of Wells and Ogunquit beaches. It was after the beach became a "highway" of sorts for livestock herders that the harmful effects of heavily trampled dunes were realized: intensified erosion and eventually the loss of the dunes all together. This side effect would eventually be forgotten until livestock's hooves were replaced by tourists' feet and the resurgence of trampled dune grass.^v

Ogunquit Beach is separated from the mainland by the Ogunquit River. It is no ordinary river for its direction of flow is tied to the ebb and flow of the ocean's tides. As the tide comes in the river is at its fullest, running northward behind the beach front. As the tide goes out, the direction of flow is then reversed and the river flows southward, emptying back into the sea. Beach goers had early access to the shore north of Ogunquit in Wells via a footbridge over the Ogunquit River. Residents of Ogunquit village were separated from the beach by this tidal river, having no footbridge of their own. In 1883 Ogunquit folk wanted a footbridge; however they faced stark opposition from their neighbors up the river.^{vi}

Ogunquit, though its own village, was still incorporated as a part of Wells until 1979. This meant that Ogunquit represented a minority in Wells town hall meetings. At the time of the proposed bridge building, Wells had begun to suffer losses in their tourist industry after two fires consumed the main attractions near the beach. A new bridge further south had the potential of diverting what few tourists might still head to Wells to Ogunquit instead, taking with them their pocketbooks. It took an appeal to the state legislature to make the bridge a reality, construction being completed in June of 1889. Accompanying the construction was the "most robust tourist season to date". The beach became Ogunquit's crown jewel, and the beach goers never stopped coming.^{vii}



Above picture taken from *Maine Memories* presented by Portland Press Herald.

The Victorian beach visitors depicted in the photograph from 1889 can be seen taking shelter from the wind against the side of the dunes. Where Ogunquit's town line meets with that of Wells further up the beach, visitors would be hard pressed to find a similar luxury. At this line, Ogunquit Beach ends and Moody Beach begins with its sub-divided plots of privately owned land, each with its own house built atop the dunes. Since the development of these privately owned plots, it has been contested on Moody Beach where private property ends and public enjoyment may begin. People who long for access to the beach argue for the property line to be set at the high tide water mark, making it so that during low tide, anyone may enjoy the beach in the inter-tidal zone. Property owners however hold that their ownership extends down to the low tide mark based on a colonial ordinance from 1647, prohibiting public use except for fishing, fowling, and navigation. A state Supreme Court case in 1989 upheld this ordinance,

sealing the fate for public access to this part of the shore. Despite the State of Maine having 3,500 miles of coastline, only 27 of those miles are made up of publicly-owned sandy beaches. Privately owned beach fronts are subject to greater development, like on Moody Beach, causing the balance within this hybrid landscape to shift from a greater natural element, to a largely human shaped environment, creating fewer stable and naturally sustainable parts of the coastline. Decisions like the one in the Moody Beach case do two things. They place higher demand for tourism on the few public beaches in Maine, and they also restrict the town and state's ability to ensure proper protection of the beach and dunes.^{viii}

The “tragedy of the commons”, an idea developed in a pamphlet from 1833 by William Forster Lloyd, is at play in the battle between private and public use of beach property. Lloyd was writing about animal herding in England, but the concept remains the same. He was refuting Adam Smith's “invisible hand” of economics by showing that herders acting in their own self-interest will inevitably degrade the shared grazing space at the expense of others, rather than follow practices that are beneficial to all. In the same sense, private ownership of beaches leads to a similar degradation of the space. Since the land is privately owned, it is a disservice to the broader population since they do not have equal access to enjoy the beach. It is an even greater disservice to the environment, especially on Moody and similar beaches because of the development. When cottages take the place of dunes, it depletes and endangers coastal species, as well as weakening the coastal barrier that protects the mainland from the sea.^{ix}

Ogunquit Beach would have faced a similar fate to that of Moody in the early 1900's, if not for a forward thinking group of villagers. In a letter to the editor from the early 1970's, a concerned citizen identified only by the initials G.B.G. wrote, “...property owners in Wells were building cottage after cottage on beach property. The line of cottages marched steadily from

Moody Beach south towards Ogunquit, until it became evident that if Ogunquit beach remained privately owned, there would be no public beach there.” Ogunquit Beach was divided into ten privately owned plots, each with the potential for further sub-division and development. The majority of the plots belonged to a Charles W. Tebbets, who leased several of them, and had plans for further development. Other property owners included Ann Lawton Smith, Walter Perkins, and Edward R. Hoyt who also leased two of the properties belonging to Mr. Tebbets. A board of Ogunquit Trustees, Nehemish F. M. Jacobs, Lucius B. Williams, and Charles L. Maxwell, decided that the beach should be acquired by the town for the purpose of a public park. They succeeded in this with the amount of \$45,000, excluding the land owned by Walter Perkins, creating the Ogunquit Beach District in the year 1925.^x



Plan of Land Taken by the Ogunquit Beach District recorded according to deed received April 16, 1925

Courtesy of Ogunquit Heritage Museum

In the above graphic, Lot 4 near the bridge was the plot of land owned by Walter Perkins and the only one not taken by the Ogunquit Beach District in 1925. The Perkinses were long-time residents of the town of Ogunquit, their name being the namesake for Perkins Cove (another beautiful and popular location in Ogunquit). There is a poem that is famous in Ogunquit written in 1920 by E. Dana Perkins, describing the abundance of Perkinses in town:

“A Perkins runs the grocery store, a Perkins runs the bank,
 A Perkins put the gasoline in everybody’s tank.
 A Perkins sells you magazines, another sells you fish.
 You have to go to Perkinses for everything you wish.
 You’ll always find a Perkins has fingers in your purse.
 And when I die, I think that I will ride a Perkins hearse.”

Walter Perkins was the owner of the Beach Casino and Pavilion at the time of the beach purchase. Perkins did not lose ownership of his beach property since he was the only one who had developed structures on the beach prior to the purchase of the land by the town, and perhaps because he was a member of such a prominent family in Ogunquit. The fact that this piece of property remained privately owned was quite fortuitous as it has grown to become a conveniently located storefront and hotel, encouraging tourism and the economic health of the town.^{xi}

Once the town made the beach into a public park, business boomed. “The success of tourism in the twentieth century was assured by the publication of *Richardson’s Guidebook*... Images of rocky cliffs, sandy beaches, rivers, fields, forests and pastures, and the scent of ocean and pines lured the summer guests.”^{xii}



This image, taken from the Maine Sunday Telegram, shows a typical July day on Ogunquit Beach. From in front of the Norseman Hotel and down the beach another quarter mile, it is difficult if not impossible to find a vacant patch of sand to set up camp for the day. Get there early and stay long is the rule if you want a spot there. Otherwise latecomers, and those who want a little more elbow room, must take a small hike to be able to sit down and soak up the sun. The people come in droves due to the soft fine-grained sand and the ease of access. To meet the demand, the footbridge that crossed the Ogunquit River was replaced with a road bridge connecting Beach Street to the beach, along with the installation of a parking lot for visitors.

The town enjoyed, or tolerated (depending on your attitude towards folks from out of town) the blooming of tourism without much regard to any environmental consequences. The fields, forests and pastures described in *Richardson's Guidebook* were torn down and turned over to make room for hotels, motels, and bed and breakfasts. People had free reign over use of the

beach. The tall dunes weren't off limits and people and their pets could roam about on top of them, even ski down them if they so pleased. All of this activity wreaked havoc on the dunes, breaking fragile dune grass stalks. The grass is what holds the dunes together and once it is broken it cannot regrow, leading to further deterioration. The wear and tear caused by beachgoers trodding about atop the dunes was making them vulnerable to erosion.^{xiii}

Ogunquit's beach, dunes, and tidal river make up the second largest salt marsh complex in the state of Maine. Many rare, endangered, and threatened species call this habitat home, and for this reason it is of tremendous ecological value. It is an essential wildlife habitat for species such as piping plovers and least terns, shore birds who utilize this space to nest and hatch their young. The dune grass, *Ammophila breviligulata*, which is the dominant plant in the dunes, requires a stable, naturally changing environment. The process of aeolian transport is the blowing of sand via the wind up the back-dune where it accretes at the crest of the dune, the fore-dune, adding height and stimulating healthy dune grass growth habits. When people walk across the dunes, or let their animals roam across them, it damages the dune grass and interrupts the process of aeolian transport. After decades of this type of trampling taking place unchecked, the dunes reached a state of high vulnerability.^{xiv}

This vulnerability became a serious issue when storms rocked the coast in the 1970's. One particularly powerful storm caused a washout north of the Norseman Inn on the beach. The storm surge washed the dune away in this section and flowed over the beach and into the Ogunquit River. The damage was tremendous. In 1973, the problem of dune erosion was recognized and efforts began to be made to improve the condition of the dunes. Where they once stood at 25 feet above the beach, residents noticed in '73 that they had lost an alarming 3 feet in

height. Plans began to be drawn to reverse this trend through bulldozing sand to replace the eroded material, and to plant dune grass.^{xv}

In order to correct the damage caused by the storm surge, and to return the dunes to a stable condition, a dike was built by the U.S. Department of Agriculture, Soil Conservation Service (not the Army Corps of Engineers as many falsely believe).^{xvi}



The dike was constructed by scraping sand with bulldozers from the beach and river basin. Residents were alarmed upon returning to the beach in the summer of '74 to find in place of the naturally flowing dune, a rigid perfectly straight dike with stubs of dune grass evenly spaced across it. The OG-1 dike had not solved the problem however and further, more intrusive construction had to take place in '77 to stabilize the deteriorated dunes. Another much longer dike was constructed further down the beach to correct areas where the dunes were being washed out by water flowing from the Ogunquit River. The OG-2 dike was constructed from glacial

gravel that was trucked in to build a solid impermeable barrier both to storm surge from the ocean and wash outs from the river side.^{xvii}



(The three images of the beach and dike construction were taken from Stephen Dickson's 2005 Maine Geological Survey report on Ogunquit Beach.)

Despite the obvious need for improving the dunes, there was a strong backlash from Ogunquit residents due to the unsightly nature of the newly constructed dikes. G.B.G. who wrote about the development of Moody Beach in the unidentified letter to the editor wrote his piece in

protest of the Ogunquit Dikes. “The seawall does not belong on Ogunquit Beach any more than the dike belongs on Ogunquit Beach. In the long run it will protect nothing.”^{xviii}

“‘The SCS (Soil Conservation Service) maintains they were right and we maintain they weren’t,’ said Dorothy James, a grandmother and spunky leader of SCROD- the Special Committee to Restore Ogunquit Dunes. ‘That turned out to be a flood prevention dike which doesn’t belong on a barrier beach and doesn’t protect anything as far as flooding goes.’”^{xix}

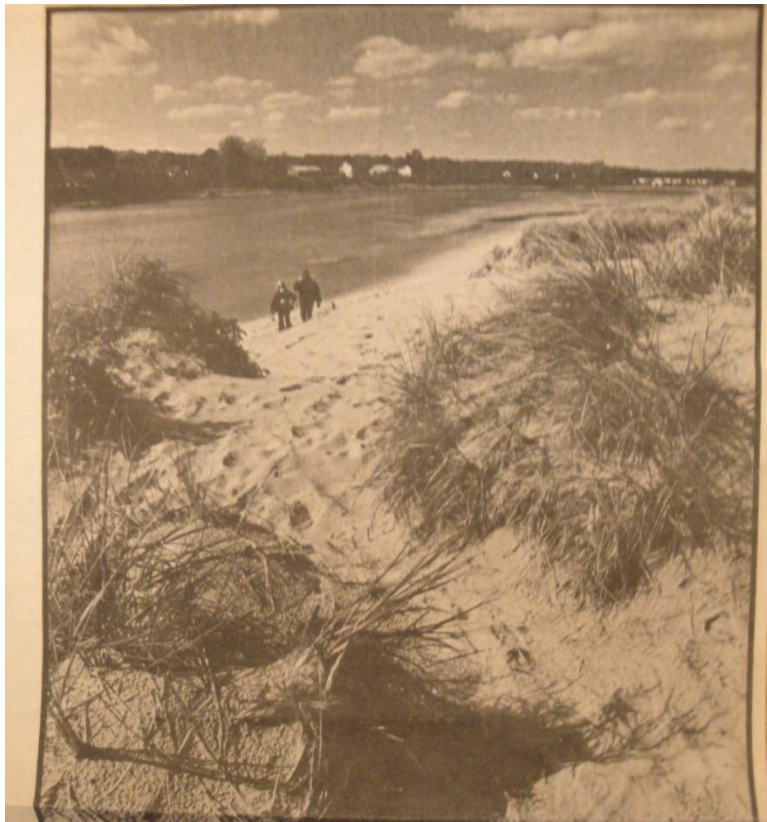
Ogunquit residents had a right to be concerned. The dikes and seawall in front of the Norseman were pitched to them as “flood control” rather than dune restoration. It makes sense that they became upset when these unsightly changes were made to their beloved beach. SCROD was formed in an attempt to undo the construction of the dikes and return the beach to “normal”. What these concerned residents found hard to understand at the time was that these dikes were necessary to the continuation of the beach and dunes. The lack of protection of the dunes early on, led to a dire situation beyond the bounds of nature to repair. This lack of a functioning hybrid space in the past created the need for a form of second nature in the future. This “second nature” took the form of restructuring Ogunquit’s dunes through building the dikes. Perhaps if Ogunquit residents and beach lovers knew that the dikes would one day evolve back into the more stable natural dune environment that they had been longing for all along, they wouldn’t have considered the project to have “ruined the dunes”.^{xx}

After the building of the dikes, the Town of Ogunquit hired a team of experts to assess the condition of the dunes to determine their condition and suggest plans to be implemented in the future. The initial team consisting of conservationists, geologists, and botanists, wrote a report in 1979 that highlighted three potential plans of action the town could take. The town

opted to follow the first plan, which was what the expert team determined would be the minimum amount of action that had to be taken. Two of the major plans that were suggested in this report were the building of fencing and signage to deter trespassing on the dunes, and to allow natural processes to take their effect on the constructed dikes, allowing nature to slowly return them to a natural dune-like structure through a “laissez-faire” policy. The report also included a description of what a theoretical natural dune system would look like had there been no human interference on Ogunquit Beach. This part of the report proves to be helpful in assessing the current state of the dunes and to what degree they have returned to a natural state. A great step forward was taken in the wake of this report; the dunes became fenced off during the tourist season and per Ogunquit Town Ordinance, a \$50.00 fine was put in place for trespassing on the dunes.^{xxi}

Nearly a decade later, conservationist Raymond Voyer wrote a follow up report giving an updated evaluation of the state of the dunes that showed progress, but also areas that needed improvement. “Credit should be given to the Town for its efforts to protect the dune system in the past. The temporary fencing and increased patrols during the tourist season have certainly prevented accelerated damage to this fragile environment during the periods of heaviest use.” Despite this praise, Ogunquit still had a lot to learn about its methods of protecting the dunes. The most important advice given in this report from 1988 was to strengthen the fencing around the dunes, and maintain it year round in the hopes that the fencing could prevent some of the heavier erosion common during the winter months. In addition much of the fencing was installed too high on the frontal dunes. Instead fencing should have been placed at the toe of the dune. It had originally been placed so high to maximize the space pedestrians could have access to on the beach, however parts of the lower-frontal dune were being walked across, causing continued

erosion to take place. Voyer also noted that the beach grass that had been planted in 1974 still could clearly be seen in the neat rows in which it had been initially planted. A healthy dune system with hardily growing grass should have filled in the empty spaces long before the span of a decade, highlighting the fact that there were still too many people trampling the dunes and that more permanent and effective fencing was required.^{xxii}



Footprints through the dunes, courtesy of: Maine Times

That same year, Peter Baye, who had been a part of the initial Ogunquit Beach Study Team in 1979, wrote a follow up to Voyer's report to the town to correct some inaccurate information and bring his past knowledge of the project to the table. Baye argued against year round fencing on the dunes for two reasons. Winter storms can be much more severe than other storms throughout the year, meaning that a fence left in place during the winter would be at risk

of being destroyed and scattered about the beach, leading to a high cost clean-up. He also argued, “Placing permanent winter fences at the seaward limit of vegetation would rob the embryo foredune vegetation of fresh sand deposits, shifting the peak of aeolian sand deposition to a more seaward position on the beach profile.” In addition to these corrections, he also urged the town to continue the “laissez-faire” practice of allowing the dikes to naturally evolve back into a dune structure, and to make efforts to better protect the still natural backdunes. The back dunes play an equally important role in creating a habitat for a host of species as the dunes descend down to the tidal river’s edge. As with the height of the dunes, the lower dunes need protection from foot traffic to allow the entire system to strengthen and return to a natural equilibrium. After receiving the expert opinions from these reports, the town had to ramp up its efforts to conserve and protect the dune structures on the beach.^{xxiii}

Though the two are often used interchangeably, to conserve has a different meaning than to preserve. Conservation typically means the protection of natural resources for future proper use. Preservation on the other hand is the protection of the environment from being used. In the sense of conservation versus preservation, Ogunquit Beach displays a second hybridity other than the interconnectedness of humans and non-human nature. What is going on on Ogunquit Beach is in fact both preservation and conservation. The dunes and the wildlife who reside therein are actively being protected and preserved. Today, the dunes are fenced off with strict fines for trespassing. The natural environment of the dunes is being protected from use by people who visit the beach. However by ensuring that the dunes survive, it is simultaneously ensuring the survival of the entire beach. Without a sturdy thriving dune system, the Ogunquit River and the Ocean would become one and the beach would cease to exist. Since the beach continues to survive in its entirety, preserving the dunes is also an act of conservation since the rest of the

beach remains accessible to human use and enjoyment, enabling tourism and the profits associated with it to continue into the future.^{xxiv}

The piping plover (*Charadrius melodus*) is a small shore bird that makes itself at home among the rolling sand dunes of beaches all along the northeast coast. Plovers breed during the summer months and require the protection of sand dunes to lay eggs and hatch their young. Unfortunately for the Plover, this is the height of tourist season, and their desired habitat is the number one desired location of the tourists, who walk through, climb over, and let their dogs wander about said dunes. As a result, the piping plover is now listed as both an endangered and threatened species. The Maine Audubon Society and the Maine Department of Inland Fisheries and Wildlife, as well as the U.S. Fish and Wildlife Service have worked together since 1981 to protect and restore piping plover populations in the state of Maine. Due to the species' status as endangered, many volunteers over the years have contributed to studying and protecting the plover independently from the Town of Ogunquit's measures to protect the dunes.^{xxv}

From pedestrian traffic, to dogs, to fireworks, plovers have faced a host of threats to their ability to produce offspring. Thanks to volunteer efforts and new awareness of environmental concerns, this trend is reversing. In the summer of 2005, Ogunquit faced a difficult decision when four fledgling plovers hatched on the beach. Ogunquit is famous for its 4th of July fireworks display that draws crowds as large as 60,000 to the beach to watch the show. The fireworks themselves, as well as thousands of people milling about the beach in the dark create a dangerous situation for the new born plovers. 2005 would have marked the 25th anniversary of the fireworks show in Ogunquit, but due to the threat of fines and the closure of the beach, repercussions outlined in the Maine Endangered Species Act, town officials decided to cancel the show.^{xxvi}

Mike Horn of the Ogunquit Conservation Commission says it was less about the plovers and more about the town's budget. There are plovers there every year, if it were an issue of endangering the birds this would have been raised as a concern long before 2005. His theory is that the town could not afford to put on the show that year, and needed a reason to save face.^{xxvii}

Regardless of the real reason why the fireworks were cancelled, the positive thing that came out of the cancellation was increased awareness of the fragile situation of the piping plover. Since 2005, they have been on the up and up on Ogunquit Beach. In 2013, three plover pairs hatched four fledglings, and in 2014 the same three hatched seven! Despite the Audubon society running out of funds to maintain the plover project in 2015, more birds have hatched than any before. This suggests that Ogunquit's preservation efforts have paid off and the dune system is returning to its natural, sustainable state.^{xxviii}

The town has Michael C. Horn to thank for the most recent improvements in Ogunquit dune preservation and other environmental concerns throughout the town, including this year's environmental award from *DownEast* for the town wide ban on pesticide use. Mike Horn founded the Ogunquit Conservation Commission in 2003, and succeeded in attaining a \$25,000 stipend from the town to use on various projects of environmental concern. A long time resident of Ogunquit, Horn founded the commission with two aims: acquiring green space in Ogunquit to slow the expansion of development, and to preserve the integrity of the beach and dunes. In the beginning, the commission used these funds to fence off the dunes on both the beach side and the river side, and to post signage warning beach goers of the vulnerable state of the dunes and the species who reside there. With this initial success, the commission pressed onward. As Ogunquit has grown and developed, green space within the town has dwindled. By acquiring green space in the town, the Conservation Commission aims to slow the rate of development and preserve

natural landscapes in Ogunquit to absorb and slow some of the runoff and pollution that flows down to the river and beach.^{xxix}

U.S. Route 1 is a major road that runs up the coast of southern Maine. It goes right through the center of Ogunquit and runs parallel to the Ogunquit River and Beach up to Wells. Naturally it has been a developer's paradise. Running through the heart of tourist central, hotels, motels, restaurants, shops and attractions of every sort have sprung up along the route. With them have come parking lots, rooves, and other hard non-absorbent surfaces that increase the level of run off from the town into the river.

A program called Maine Healthy Beaches does annual testing of Maine's publicly visited shorefronts to assess the level of *Enterocci spp* bacteria contamination around these bathing areas. This project was set up and managed by the Conservation Commission in 2003. What they found in testing Ogunquit's waters was that in four of the five testing locations, bacteria levels exceeded the threshold of 104 col/100mL. The area on the western side of the parking lot, located on the southernmost portion of the beach, showed the highest levels of contamination. In addition to the water testing, sniffer dogs were brought in who were trained to locate sources of pollution. They too pointed toward the riverside of the beach near the parking lot as a source of contamination.^{xxx}

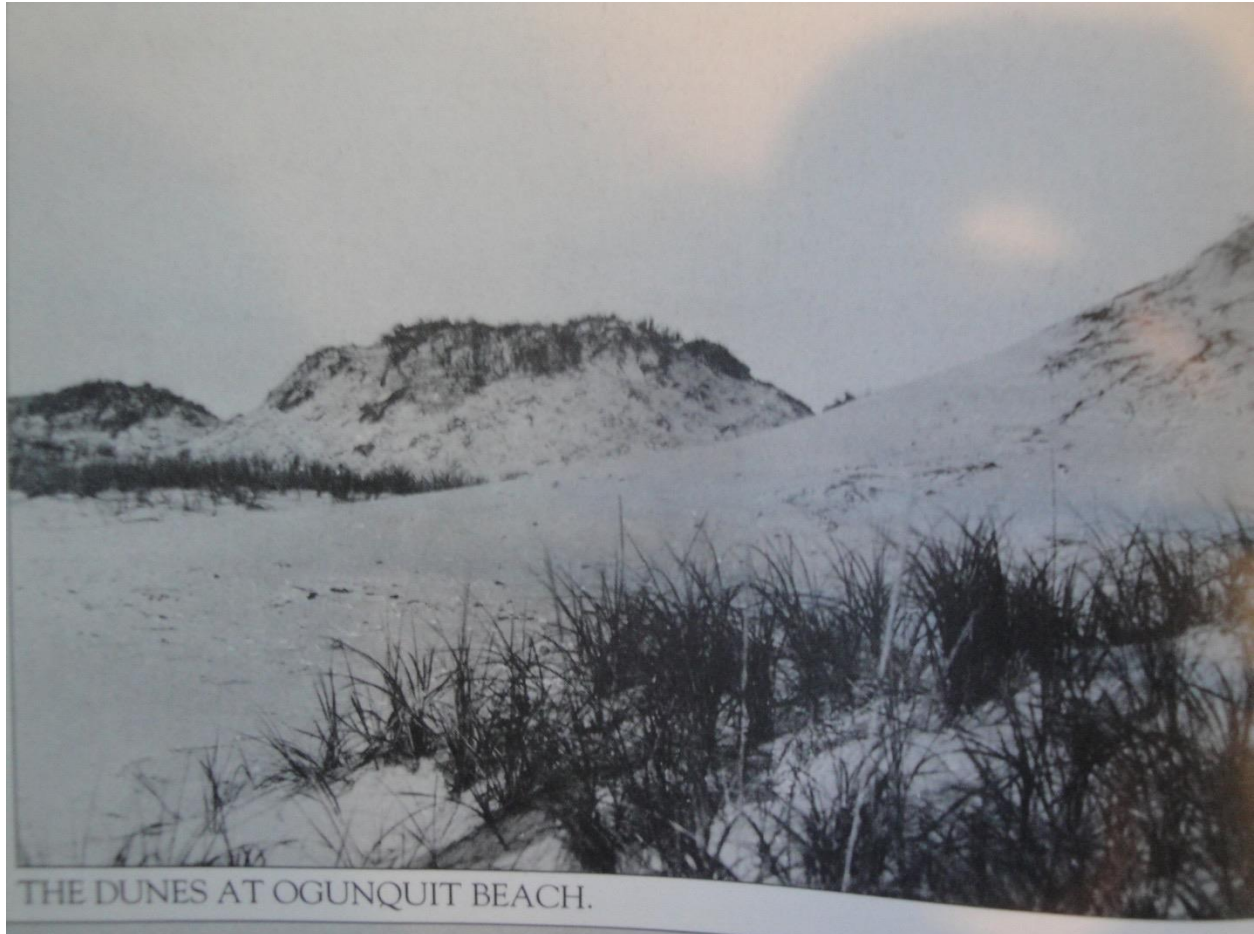
The likely source of this contamination was from the bathrooms and outdoor showers located within the parking lot. The showers were in that location as a service to beach goers who wanted to rinse their feet off before leaving the beach. Due to its proximity to the bathrooms, the runoff from the showers was carrying bacteria to the bathing areas. To correct this, an indoor shower facility has been built, as a part of the public restroom complex, which now drains into

the sewer as opposed to running across the parking lot. Another project was started, again spear-headed by Mike Horn and the Conservation Commission, to perform GIS mapping of storm runoff in Ogunquit to determine further sources of pollution and to map out a storm water containment system that would lessen the impacts of storm runoff on the beach. Knowledge of the direction of flow of runoff down to the beach front helped to spur the ground-breaking passage of the town wide pesticide ban. Mike Horn wrote in a report on the Conservation Commission's recent activities, "By a heavy plurality at the November 2014 Town Meeting, Ogunquit residents approved a new town-wide ordinance banning the use of pesticides, chemical fertilizers, and herbicides on all public and private property. Ogunquit is the first community in the state to enact this restriction." First in the state and second in the nation, this is just one of the many ways that Mr. Horn and the Conservation Commission in Ogunquit have lead the way in beach front preservation.^{xxxix}

The 1979 report that established the earliest preservation methods for the Town of Ogunquit, also outlined within it what a healthy natural beach would have looked like in Ogunquit, had human interference never taken place. According to the report, the foredune ridge, "would be a largely continuous, well vegetated ridge of sand of irregular height." The backdune area," would be largely vegetated but bare areas might occur where deflation occurs naturally." Another part of the theoretical natural beach description was the plant community structure and succession. "The aforementioned sand transport processes would define the particular plant community structure and succession as well as the patterns of community zonation over the entire dunefield."^{xxxix}



This image taken in September of 2015 shows the backdune area, as described in the 1979 report, vegetated throughout the entire dunefield, with some bare spots as occur naturally. Fencing placed to keep trespassers off the dunes can be seen in the bottom right corner.



Photograph taken from *Ogunquit by the Sea*, compiled by John D. Bardwell

The above 1940's era image shows off the impressive height and naturally flowing slopes of the dunes, reflecting the description of the "well vegetated ridge of sand of irregular height" from the 1979 report. This is one of the earliest images depicting the dune's condition before the major changes of the 1970's.



This is another photograph from September of 2015. Though not as dramatic as the image from the 40's, this dune ridge boasts height and variation in addition to its healthy blanket of dune grass. Extensive dune profiling, a process that measures the height of beach dunes, has been done since 2009 along the coast of Maine. The 2013 Maine Geological Survey's report on the state of Maine's beaches shows Ogunquit at the top of the list of all the beaches for the healthiness of its profile with an overall score of 88. Long Sands Beach in York was the runner up with a summer score of 85. Ogunquit Beach was among the two of eleven beaches studied to be in the A-B overall range.^{xxxiii}

Ogunquit has come a long way in its conservation and preservation methods. From the truly invasive construction of the dikes to rebuild the dune system to today, the dunes have made

a tremendous recovery, nearly resembling their old natural glory. Due to the lack of proper environmental protection efforts early in the tourism boom, the need for a second nature arose in Ogunquit. Since humans so detrimentally affected the dunes in the past, it is naïve to imagine that they could naturally recover on their own. Ogunquit’s story highlights the need for a better understanding of the hybrid landscape, where humans and nature can coincide together in a healthy way that is beneficial for both. Ogunquit’s Beach through its recovery process and recent preservation efforts has proven that it is possible for such a landscape to exist and still be just as usable to beach goers as it was at the turn of the century. It is in this sense that Ogunquit is “leading the way” for other beach front towns in the U.S. Over privatization and development of these areas is putting at risk their longevity and accessibility, particularly as sea levels rise at their anticipated rate. Ogunquit’s model of both preservation and conservation through trial and error, while maintaining a beach open to public use has proved to be successful in protecting the wildlife, saving the natural beauty, and maintaining a space that is enjoyable and usable for humans.

ⁱ For examples of scientific articles on Beach and Dune protection see: Bocamazo, Lynn M., William G. Grosskopf, and Frank S. Buonaiuto. 2011. “Beach Nourishment, Shoreline Change, and Dune Growth at Westhampton Beach, New York, 1996-2009”. *Journal of Coastal Research*. Coastal Education & Research Foundation, Inc., 181–91; and Micallef, Anton S., and Allan T. Williams. 2003. “Application of Function Analysis to Bathing Areas in the Maltese Islands”. *Journal of Coastal Conservation* 9 (2). Springer: 147–58; and Roig-Munar, F.X., J.A. Martín-Prieto, A. Rodríguez-Perea, G.X. Pons, B. Gelabert, and M. Mir-Gual. 2012. “Risk Assessment of Beach—dune System Erosion: Beach Management Impacts on the Balearic Islands”. *Journal of Coastal Research* 28 (6). Coastal Education & Research Foundation, Inc.: 1488–99.

ⁱⁱ Virginia M. Wright "Ogunquit Leads the Way" *Down East*. N.p., 11 Mar. 2015.

ⁱⁱⁱThe term “Hybridity” has been coined and developed by Environmental Historians. Paul Sutter, Richard White, and Richard Judd are leading figures in the discussion on hybrid landscapes: Paul Sutter, “The World with Us: The State of American Environmental History,” *Journal of American History* 100 (June, 2013) 94-119. Richard White, “From Wilderness to Hybrid Landscapes: The Cultural Turn in Environmental History,” *Historian* 66 (2004) 557-564. Richard Judd, *Second Nature: An Environmental History of New England*. (University of Massachusetts Press. May 2014)

^{iv} For examples of Beach History see: Caroline M. Ford, *Sydney Beaches: A History* (NewSouth 2014). Michael M. Geary, *Ramparts of Sand: An Environmental History of Great Sand Dunes National Monument and the San Luis Valley*, (Colorado State UP 1997).

- ^v Stephen M. Dickson, *Ogunquit Beach and Dunes Over Time*. Rep. Portland: Maine Geological Society, 2005. Print.
- ^{vi} Sharon Cummins, "Conflicting Interests Between Wells and Ogunquit in 1883." *York County Coast Star* 5 August, 2010: B7. Print.
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- ^{ix} Garret Hardin, "The Tragedy of the Commons" *Science* 162 (December, 1968).
- ^x Quote from unidentifiable newspaper clipping/letter to the editor, G.B.G. "Something of Value". Chapter 105 Laws of Maine, 1923. Kathryn M. Severson, Susan Day. Meffert, and Marie D. Natoli. "The River and the Beach." *Ogunquit*. Charleston, SC: Arcadia Pub., 2009. 85-95. Print.
- ^{xi} Thomas Allen Perkins, "Perkins Genealogy". Haverhill, Massachusetts, Record Publishing Co. 1948, 130.
- ^{xii} Hope M. Shelley. *My Name is Wells, I am the Town*. Rockport, Maine: Penobscot Press, 2002.
- ^{xiii} "Dune Protection and Improvement." *Delaware Department of Natural Resources and Environmental Control*. The State of Delaware, n.d. Web. 1 Oct. 2015.
- ^{xiv} *Focus Areas of Statewide Ecological Significance: Wells and Ogunquit Marsh*. Rep. Maine: Beginning with Habitat. Baye et al, *Management Strategies for the Ogunquit Barrier System*. The Ogunquit Beach Study Team, November 1979.
- ^{xv} Lynne Langley. "Saving the Dunes" *Maine Times* 23 November, 1973: 1-3. Print.
- ^{xvi} Stephen M. Dickson, *Ogunquit Beach and Dunes Over Time*. Rep. Portland: Maine Geological Society, 2005. Print.
- ^{xvii} Ibid.
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- ^{xix} Associated Press. "Ogunquit dike called 'obscene'," *Bangor Daily News*, October 23rd, 1979, 29.
- ^{xx} G.B.G. "Something of Value".
- ^{xxi} Baye et al, *Management Strategies for the Ogunquit Barrier System*. The Ogunquit Beach Study Team, November 1979. Ogunquit Town Ordinance Title IV, Ch. 4, Sect. 403.1.3.
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