

# Cape Ann Fieldwork

*Perceptions of Climate Change Among a Coastal  
Population*



CRITICAL LANDSCAPES DESIGN LAB

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This project is a regional effort of the four Cape Ann municipalities of Gloucester, Rockport, Manchester-by-the-Sea, and Essex, with funding from the City of Gloucester and the Town of Manchester-by-the-Sea

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The Critical Landscapes Design Lab engages in critical design issues and landscape architectural projects and practices throughout the postcolonial and Islamic worlds.

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# Introduction

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This report captures a selection of Cape Ann’s residents’ various views on climate change through three-months of fieldwork. The project is a regional effort of the four Cape Ann municipalities of Gloucester, Rockport, Manchester-by-the-Sea, and Essex, with funding from the City of Gloucester and the Town of Manchester-by-the-Sea. The research was undertaken by the Critical Landscapes Design Lab (CLL) at Harvard Graduate School of Design (GSD) in collaboration with the GSD’s Office for Urbanization (OFU).

This report is based on landscape fieldwork and cognitive map-making workshops. The research process was reviewed and approved by Harvard University’s Committee on the Use of Human Subjects. Sohun Kang and Ayaka Yamashita, two research associates from the Critical Landscapes Design Lab, moved to Gloucester on February 1, 2022 and lived in downtown Gloucester for three months. They were supervised by the project’s Principal Investigator, Professor Gareth Doherty, who also visited Cape Ann periodically.

Landscape fieldwork includes interviews, observations, and interpretations. By walking, biking, using public transport, and taking part in everyday life, we explored and observed Cape Ann’s landscapes. Participating and engaging in various community activities was also an indispensable part of talking with community members. By flattening social hierarchies, the research encompasses voices from various aspects of society, from the most vulnerable to decision-makers.

In addition to casual conversations with over one hundred people, we conducted appointment-based, semi-structured interviews with forty-four Cape Ann residents. The conversations shared a common list of questions, though these questions were posed in a variety of ways. The interview appointments were made through introductions from Cape Ann residents, from participating in community activities, and through social media such as Facebook and Instagram.

Cognitive maps are a mental representation of one’s physical environment. Holding a workshop on cognitive mapping, as we did, can be an inclusive and interactive climate communication tool. It is a fun yet rigorous way to invite the community and share their point of view about their lives in place. The workshop was conducted on April 12 at Grace Center, a day resource center in Gloucester. Nine participants, consisting of the homeless, group home residents, and volunteers, spent three hours in the afternoon drawing or writing maps of Cape Ann today, probable futures, and preferred futures.

This report consists of four chapters. Chapter 1 describes Cape Ann’s

geography, landscapes, and human ecology. The report focuses on representing the lessons from the fieldwork instead of relying heavily on the existing databases. Chapter 2 summarizes the landscape fieldwork in the form of interviews with six fictional characters, who are composites from the interviews. Chapter 3 summarizes the various attitudes towards climate change into six categories. Chapter 4 offers some concluding remarks.

The report uses “we,” referring to Kang and Yamashita, instead of “they” or “the researchers” to emphasize our embodied and immersive experiences on-site and to acknowledge the subjectivity of fieldwork. Collective fieldwork allowed us to cross-check and reflect on each other’s prejudices and biases. For every hour we spent in the field, we aimed to spend four hours on interpretation. We recorded our interactions and observations in our fieldnotes. We wrote about three hundred pages of fieldnotes for the three months, with numerous sketches and diagrams.

We applied the same strategy to design characters. Our six storytellers, Miriam, Mario, Sally, Jonathan, Kathy, and Caleb, are composite representations of multiple interviewees, and “we” share the same time and place with them. If Chapter 1 provides readers with the background of the play “Cape Ann Fieldwork,” Chapter 2 introduces the cast.

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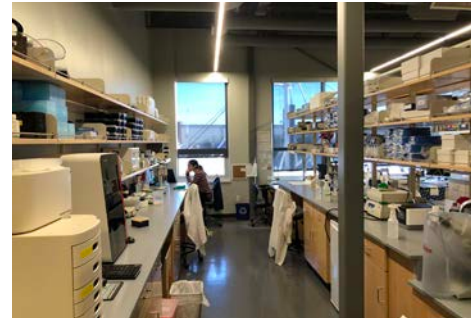
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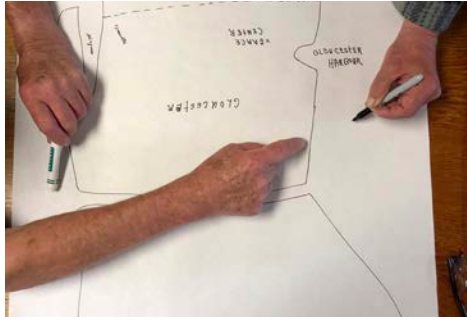
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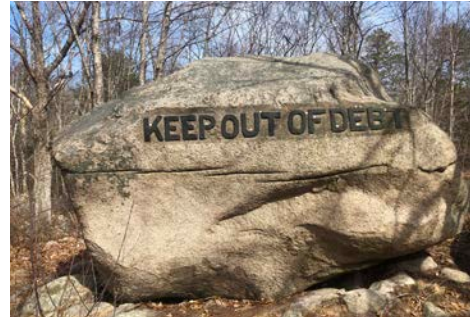
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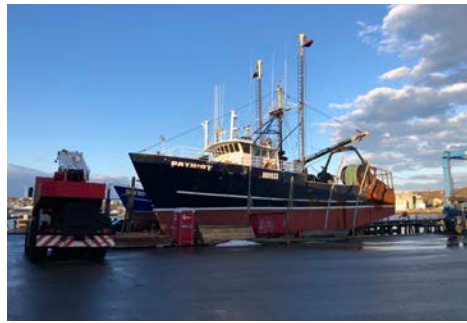
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# 1. Descriptions of Cape Ann

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Cape Ann as a Region, an Island, and Four Towns

Landscapes of Cape Ann

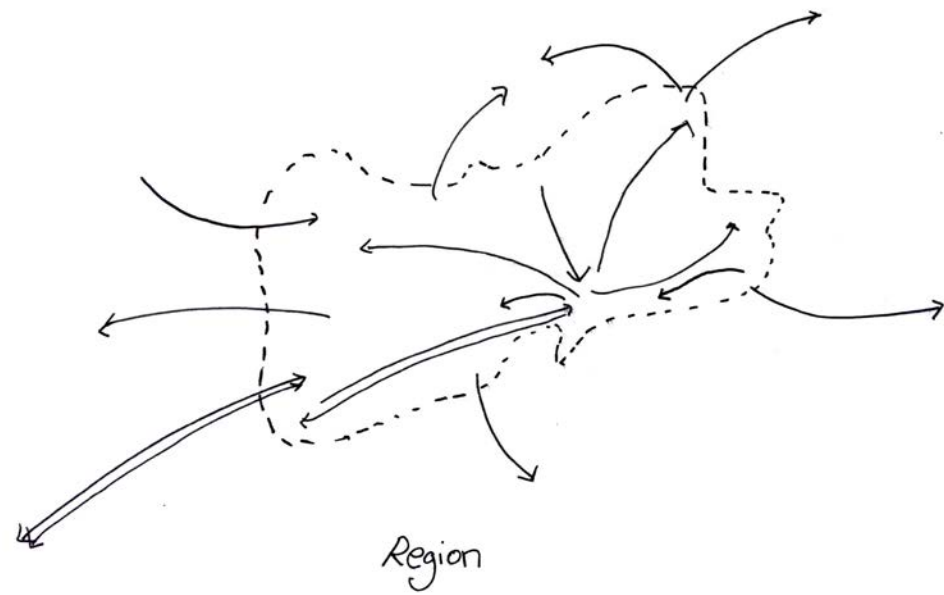
People of Cape Ann

Species of Cape Ann

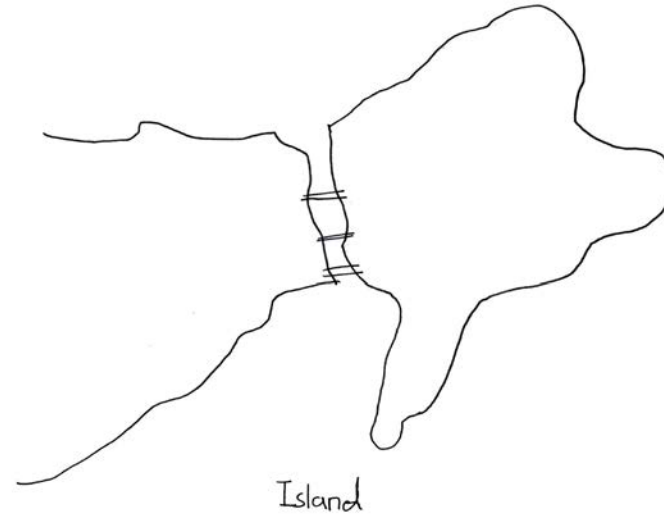
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## Cape Ann as a Region, an Island, and Four Towns

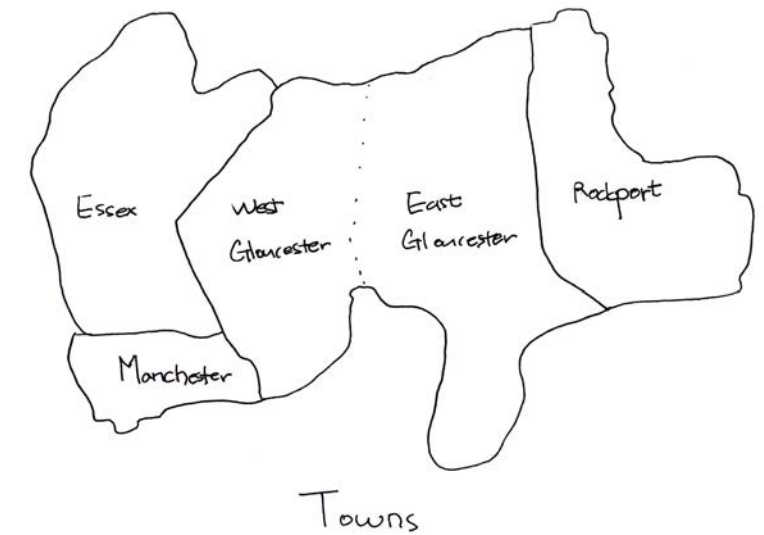
Chapter 1 features information about Cape Ann's geography, landscapes, and human ecology based on our fieldwork. Instead of relying heavily on the existing databases, we aim to represent how residents talk about their place.



Cape Ann as a region



Cape Ann as an island



Cape Ann as four towns

In conducting our interviews, we noticed that people define Cape Ann differently depending on the context: a region and/or an island and/or a group of four towns (Gloucester, Rockport, Manchester-by-the-Sea, and Essex). In this chapter, we examine these various contexts as they pertain to Cape Ann.

Cape Ann can be defined as four towns delimited by their administrative borders—each with different people and landscapes yet shared infrastructures, cultures, languages, and concerns. One interviewee mentioned that she feels a connection to the sea through the tide. These invisible connections between the towns bridge from one side of the island to the other and form the region of Cape Ann.

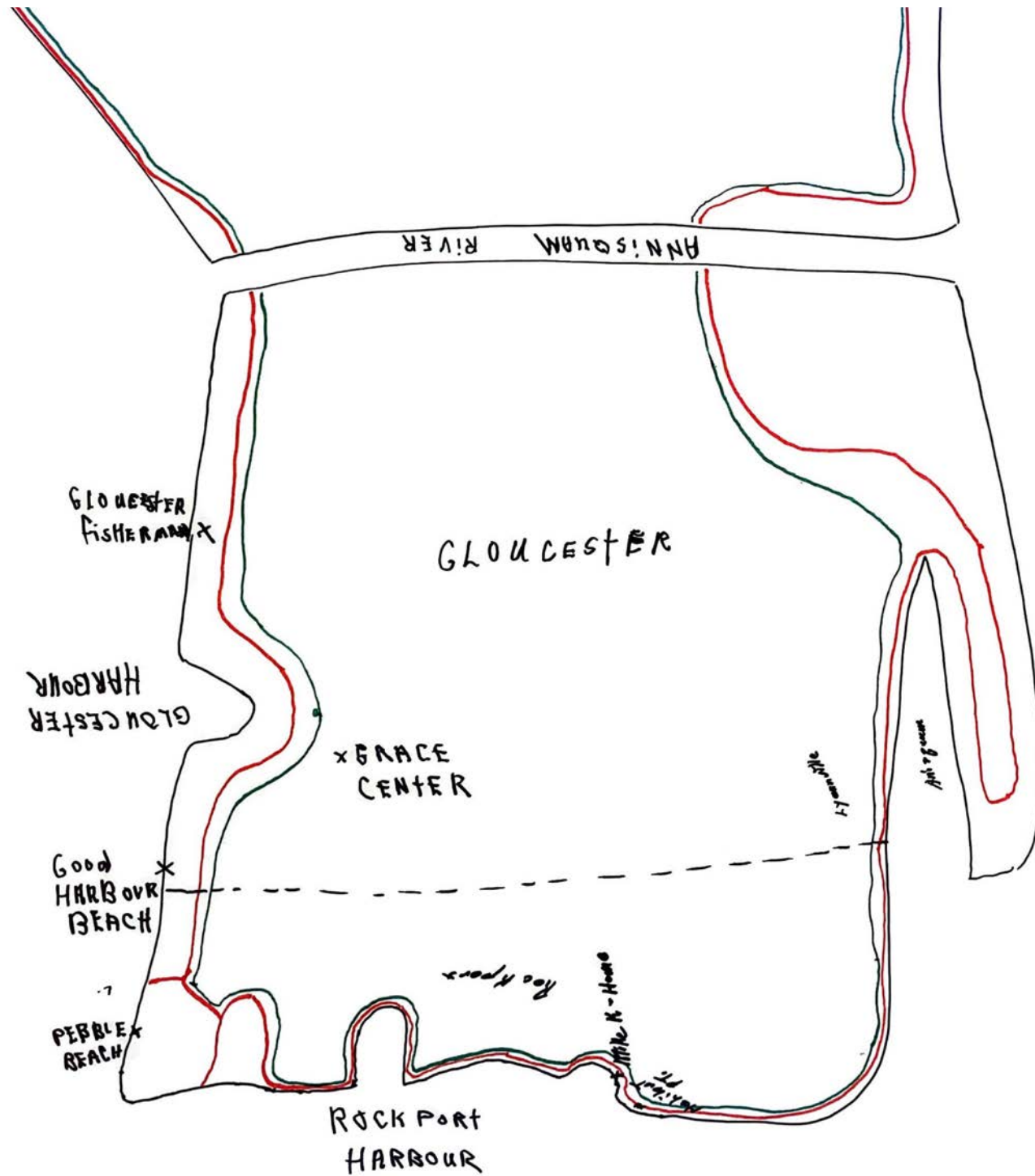
## Cape Ann as a region

Based on our fieldwork and interviews, we define a “region” as a historically constructed scale of land, including its inhabitants, where exchanges of materials and people connect to a broader geography. Cape Ann as a region is built upon a shared history of exchange.

When we first moved to Cape Ann in February, we drove on the 128 highway. Winter landscapes of Massachusetts were not much different from Boston to Gloucester. At the end of the highway is a rotary with a signage that reads: “Welcome to Gloucester, America’s Oldest Seaport.” The sense of pride and shared history is present in both the landscape and in residents’ perceptions. From landmarks such as Motif Number 1 or the Fisherman’s Statue to landscapes of beaches, marshes, forests, and quarries, histories of the residents of Cape Ann have been built and engraved.

When we arrived in Gloucester, we did not notice crossing a bridge. Crossing the Annisquam River was so smooth that it went unnoticed. This accessibility between Cape Ann and Boston, and within Cape Ann, is a critical regional factor. Many residents in Cape Ann commute to other towns for work, shopping, and leisure. One resident had a job in Boston and commuted back and forth. Another resident had a family home in Rockport, her own house in West Gloucester, and went to a yoga studio between East Gloucester and Rockport. Key socio-economic infrastructures are shared in the region. One interviewee from Gloucester went to school in Rockport through the CHOICE program. School systems are shared between Rockport and Gloucester. Cape Ann as a region is a concept that brings various municipalities, seasonal residents, commuters, and longtime residents together. For this reason, Cape Ann’s regional identity is often invoked by various organizations and institutions: the Cape Ann YMCA, the Cape Ann Climate Coalition, or even “Don’t Boston My Cape Ann.”

The Encyclopedia Britannica’s definition of Cape Ann supports its regional identity, writing that “the rocky, picturesque promontory, named for Queen Ann (wife of the British king James I), is noted for its quaint old fishing villages, resorts, and artists’ colonies” and that “Gloucester and Rockport (site of “Motif No.1,” an ancient fishing shed that has been the subject of many photographs and paintings) are [its] main towns.” The definition emphasizes the etymology of its name and its geological condition: a promontory, land that projects out into large bodies of water. Our first experience of Cape Ann was also in continuation from Boston.

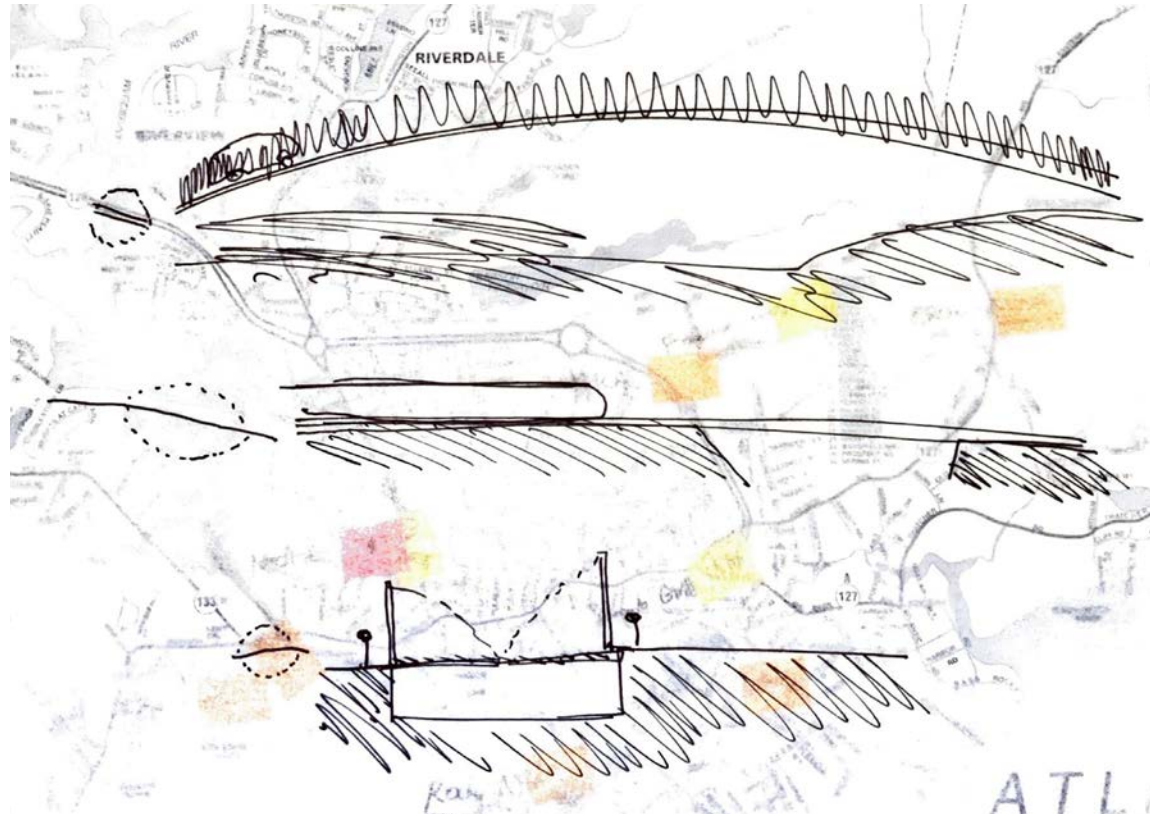


Cognitive map of Cape Ann by participants



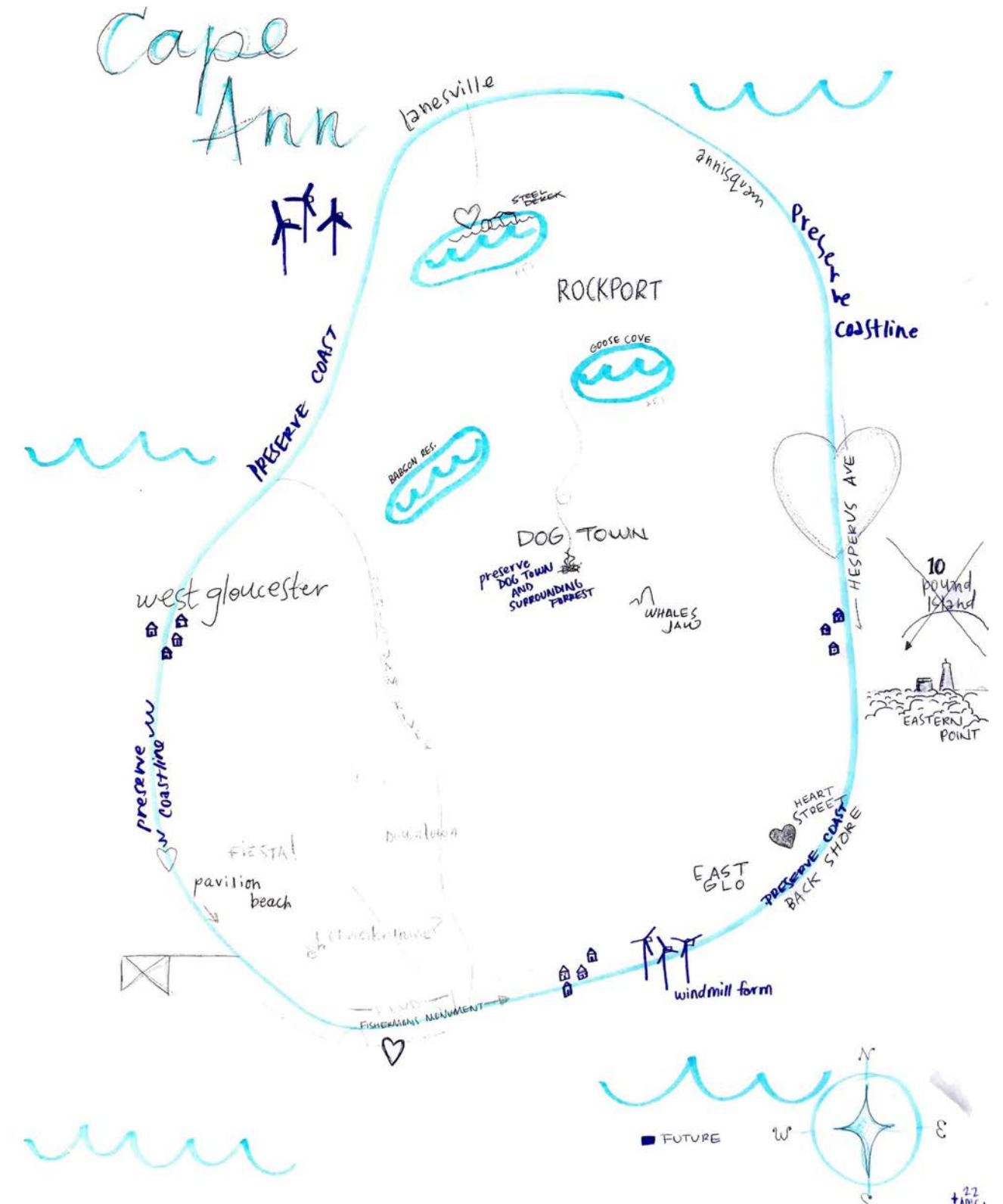
## Cape Ann as an Island

During the interviews, residents often talked about Cape Ann as an island. While the concept of a “region” implies no physical border, “island” refers to an isolated landmass surrounded by something different, such as water. Such a perception provides a clear boundary of inside and outside. If Cape Ann is an island, what belongs to the island and where is its border?

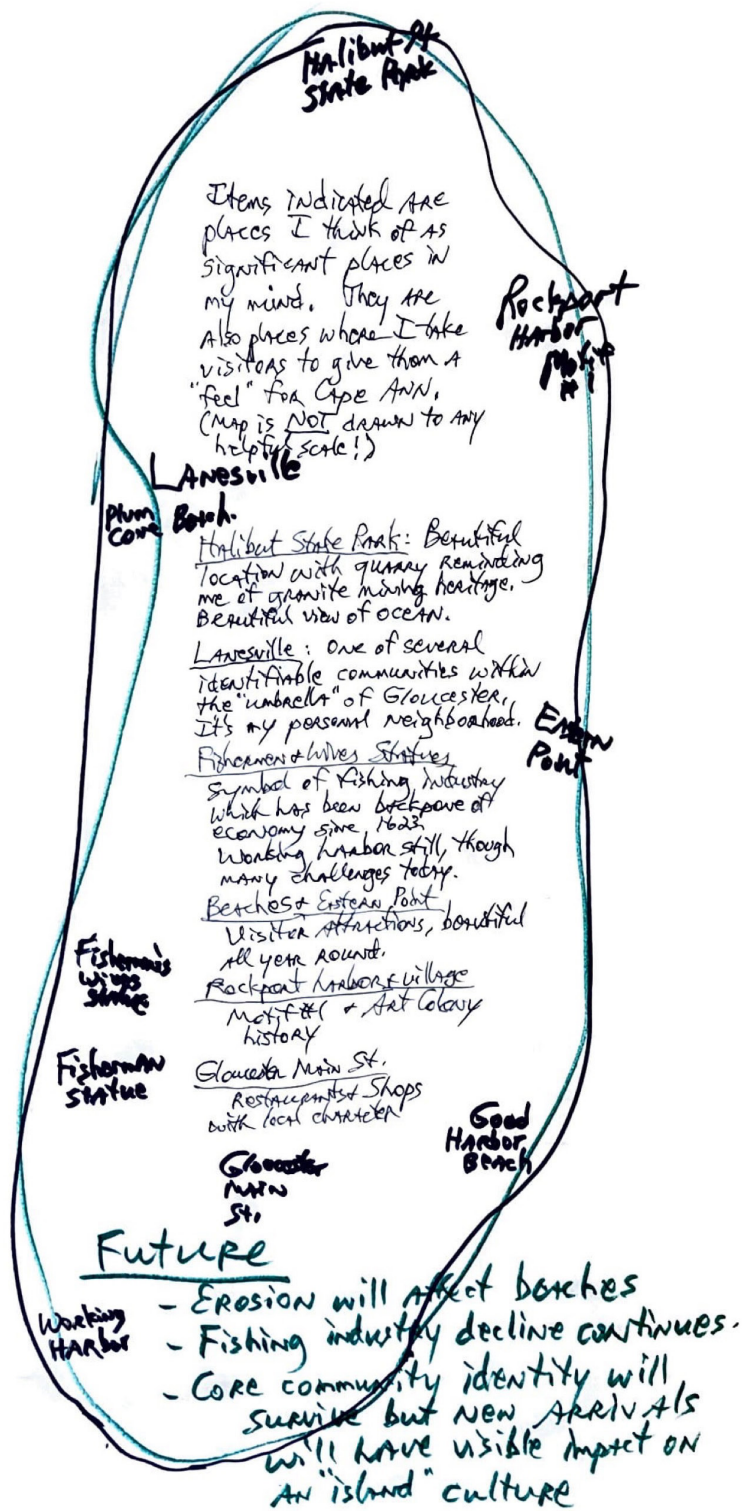


Three sections of the bridges

The most prominent psychological and spatial boundary is “the bridge” of 128 over the Annisquam River, even though there are two more connections over the river: Cut Bridge over Blynman Canal and Gloucester Drawbridge of the MBTA Rockport line, which is at the end of its replacement construction. The residents often talked about being on one side of the bridge versus the other side. Until the locals pointed it out, this spatial border was not clear to us because “the bridge” was a passage space. There was no moment of pause to experience the border or the river. On the other hand, Cut Bridge over Blynman Canal made the bordering experience obvious through various spatial and built conditions. The texture and material of the road change from concrete asphalt to steel plates with a cross-grain texture. Traffic lights, four barrier gate arms, a narrower bridge section, the sounds of cars passing on the steel plates, and the shaking of the bridge underneath one’s feet make the border obvious.



Cognitive map of Cape Ann by participants



Cognitive map of Cape Ann by participants

If Cape Ann is an island, what belongs to the island is part of Gloucester and Rockport. The rest of Gloucester, Essex, and Manchester-by-the-Sea is on the "continent." People who used the notion of island were from both the "island" and the "inland." For instance, residents mentioned the "island mentality" or "islandness" to describe the close-knit society of Cape Ann. Longtime residents knew each other, their families, and places. The concept of island and the sense of community create positive feedback with one another. It seems to us that the stronger the perception of the island, the more sense of community there is. One's belonging, or not belonging, was explained in relation to this border. Some Gloucester residents who did not live on the "island," even if they were living in Gloucester, associated themselves with the marsh landscapes more abundant in Essex. Both places had similar suburban density and predominant marshlands. The notion of island was present in residents' minds and often used to describe a psychological and spatial border between Cape Ann and the perceived outside.

### Cape Ann as Four Towns

While Britanica identifies two towns, Gloucester and Rockport, as the main ones, Wikipedia's definition of Cape Ann includes four: "Cape Ann [consists] of the city of Gloucester and the towns of Essex, Manchester-by-the-Sea, and Rockport." In the following pages, we attempt to compare the four towns based on our fieldwork and interviews.

During our fieldwork, we lived in downtown Gloucester. Some residents remarked on how "diverse" the community is. An interviewee described sending her children to Gloucester High School. She was happy that kids became friends regardless of their backgrounds. For example, she told us how a kid from a millionaire family was friends with a kid from a fisherman's family. Indeed, Gloucester has complex socioeconomic dynamics. Millionaires interact with members of the working class. People drive Mercedes to the local bagel shop. Despite this socioeconomic complexity, we, as two of few Asian residents in town, were struck by how the town is dominantly white. When we visited YMCA Cape Ann, we were surprised to see only white people and YMCA posters with only white people. It took time to understand ethnic complexity within the white population. Two of the most prominent ethnicities in Gloucester are Sicilian and Portuguese. Not only doe the built environment—restaurants, cafés, churches, and sculptures—represent those ethnicities, but also the food (rice balls, espresso, linguica, and Portuguese sweet bread) as well as rituals such as St. Peter's fiesta. Other races existed in a 'quiet' manner in various workplaces and landscapes of Gloucester. From a Chinese restaurant and Brazilian fashion store to immigrant workers in the fishing industry, many people of color live and work in Cape Ann, seen and unseen.

Season and off season: these are the two sides of Rockport. Three elements of the seasonality are laws, weather, and people. When we first visited in February, there were few people on the street. Restaurants, galleries on Bearskin Neck, souvenir shops, and the Shalin-Liu performance center were closed. It was so windy and cold that we retreated to Gloucester. Parking is free from November 15 to April 15. One definition of season based on parking lot regulation, therefore, is marked by these two dates. Weather also defines the seasons of the town. Only two weeks later, when we visited the town again, it was one of the warmer days in February. Some galleries, souvenir shops, coffee shops, and other stores were open. There were other people walking downtown—the last element of seasonality. Rockport has around seven thousand year-round residents. One interviewee said that the population triples during the summer season due to the influx of seasonal residents and tourists. Our impression was, in fact, the opposite. It is not the season which brings the people. It is the seasonal residents and tourists who make the town in the season. Shops open, sell things, buy things, and make things because of the visitors.

Manchester-by-the-Sea, on the other hand, is characterized by its year-long residents. When traveling from Boston by train, we usually got off at Manchester-by-the-Sea to transfer from an MBTA bus to a train or vice versa, due to the construction in Gloucester. The small downtown hosts five real estate offices, a bookstore, a library, and three cafés, including a Dunkin Donuts. The median selling price of housing in Manchester-by-the-Sea is above one million dollars. According to an interviewee, residents of these expensive houses are often professionals who are interested in their children's education and want to live within commuting distance of Boston. One interviewee said that it is not a very diverse community, mentioning that he could not see a single African American student in the school or among families in town.

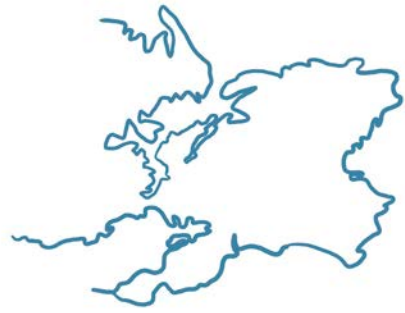
Essex is marked with the experience of the marsh. Driving through the marsh gave an illusion that we were on the water, since the roads were low and close to the marsh. The roads were at times only a few feet higher than the water. These roads, according to an interviewee, were susceptible to flooding. This meant the loss of access and electricity (and any other infrastructure built under the roads). One interviewee talked about how flooding in recent years was damaging the infrastructure, property, and lives. Essex and West Gloucester felt similar because of the dominant experience with the marsh. Walking on the marsh gave a different sonic and tactile experience. The ground softly embraced as we pressed our weight on, with sounds of birds chirping and water flowing. Time passed at a different speed.

*“In addition to the community we’ve been part of for so long, I love that my days are measured not only by the rising and setting sun but by the ebb and flow of the tide—a palpable connection to the sea which sustains life on this planet.”*

*– Interviewee from the marsh*

## Landscapes of Cape Ann

In Cape Ann, four types of landscapes are prominent: beaches, marshland, quarries, and forest (Dogtown). Given that we only experienced three months of the year, our observations of its landscapes are, of course, limited. Instead of providing holistic descriptions, we describe these landscapes with a series of vignettes through sketches, excerpts from our fieldnotes, and photographs.



Beach & Waterfront

Beaches and the waterfront were often mentioned in our interviews as a reason for liking Cape Ann. They were also described as a battleground for various forces: tourism, fishing industry, real estate development, privatization, and conservation.



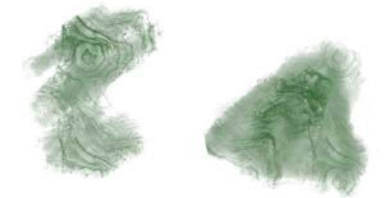
Marshland

Marshland is where various lives rise and fall along the tide. It is also the place where sea level rise is changing its rhythm.



Quarries

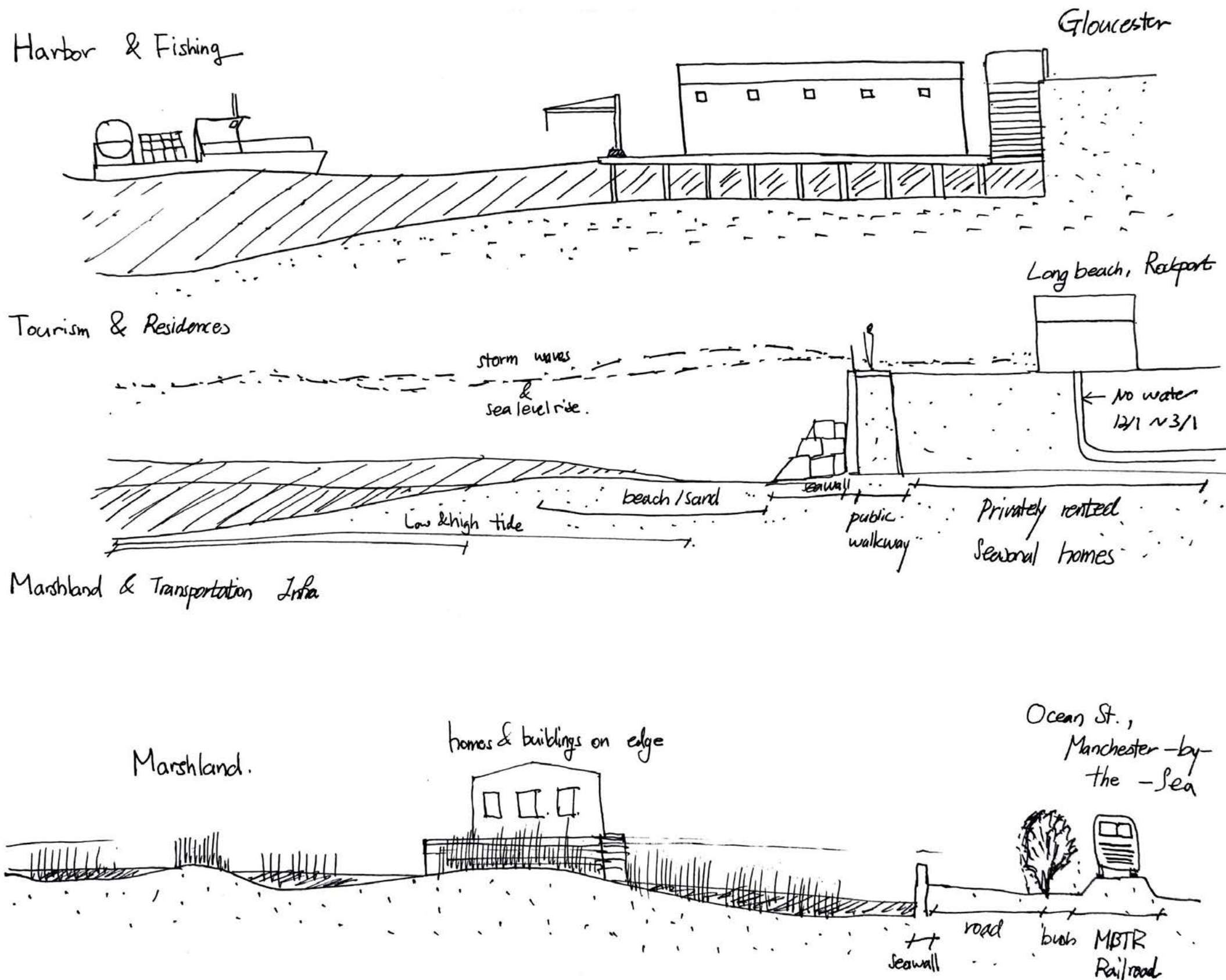
Quarries are places of extraction and recovery in the land. One can see the fall of the industry and how nature filled back in.



Forest (Dogtown)

Forest and Dogtown are the inner landscapes of Cape Ann. Dogtown is one of the earliest European settlements in America. Its landscape tells various stories: from the early days of the settlement and its disappearance to those of the homeless people currently living in the forest.

Beach & Waterfront



Section sketch of Gloucester, Rockport, Manchester-by-the-Sea

This hypothetical section shows three different moments in the waterfront. For instance, the working waterfront in Gloucester downtown is populated with various fishing industry facilities. Some residents mourned the decline of the industry and talked about how tourism is taking over the working waterfront.

Long Beach in Rockport shows how tourism occupies the waterfront landscape. Public access is limited to a narrow walkway while the private residents rent out the property. The city controls access to these properties by limiting water supply during the off season.

The privatization of the beach and waterfront was visible on the road to the Eastern Point as well. Although the Eastern Point was very close to the downtown and we only drove for about ten minutes, the houses were much bigger than in Gloucester's downtown.

We passed several "private property" or "private road" signs when in fact the roads were owned by the government. Some people put those signs on, keeping the visitors out. One has to know the "codes" in order to drive through.

Ocean Street in Manchester-by-the-Sea is close to the MBTA railway as well as marshland. Its proximity suggested how sea level rise could devastate the public transit system in Cape Ann.



Beach sand

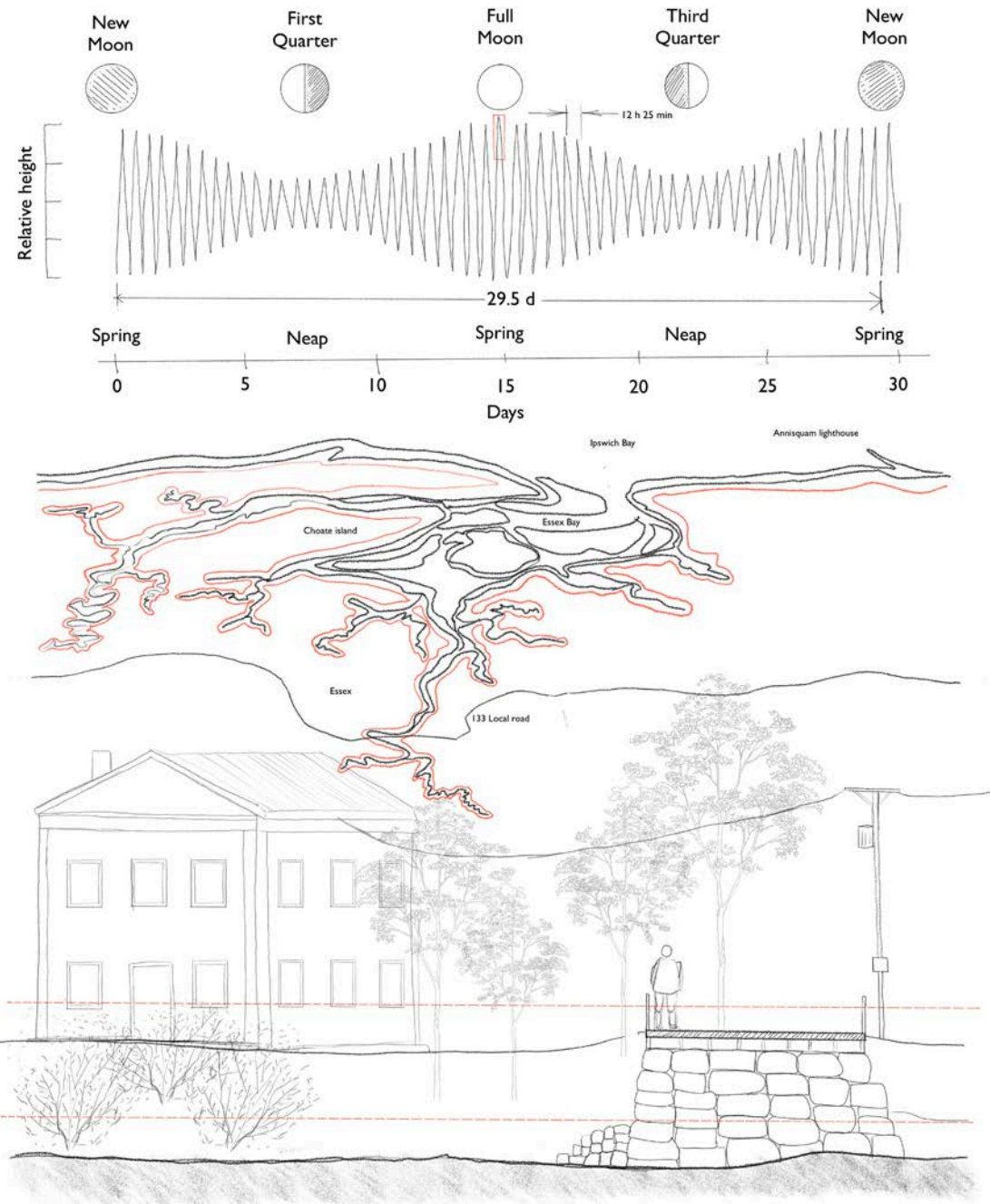
Breakwater

walkway(public)

Seasonal leasing  
property

The long beach walkway shows a clear contrast between public access and private access. Although the land is owned by the city, its homes are rented for the season. The city controls access to these homes by providing the water and sewage. One interviewee talked about how the seawall would need to be reinforced and made higher in order to protect the homes from the rising sea level. One of the reasons the renters were against the higher seawall was that it would block the view of the ocean—not to mention the cost. He talked about how absurd it was to just restore the seawall in front of the Gloucester High school. After the flooding and storm, the wall needed to be restored, but it was restored to the original level, not higher. The interviewee thought that this was absurd.

# Marshland



Marsh sketch

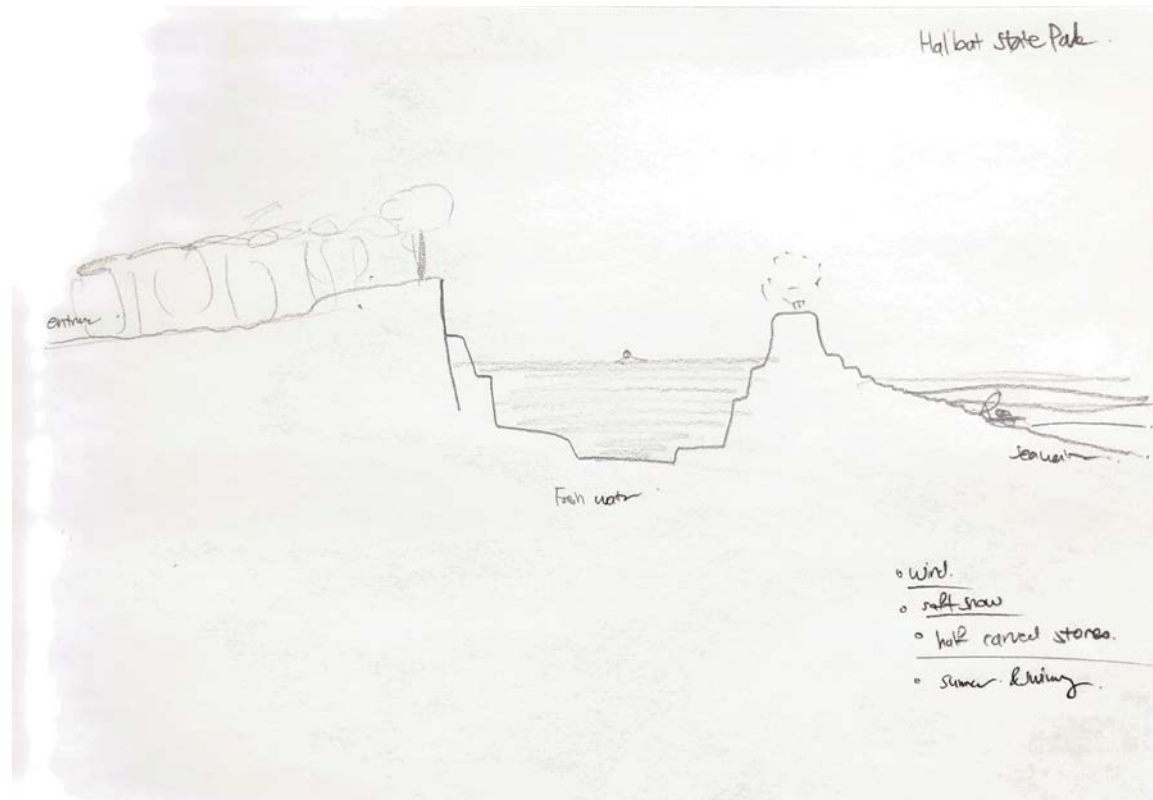
In the marshland, one interviewee talked about how unprecedented flooding is occurring in her neighborhood. For her, this is a sign of climate change. During one storm, the bridge at a nearby street was completely flooded. Her neighbor said that he has never seen something like this in his lifetime. She said that now, during the high tides, the tide comes in further upstream and stays longer.



Marsh during low tide

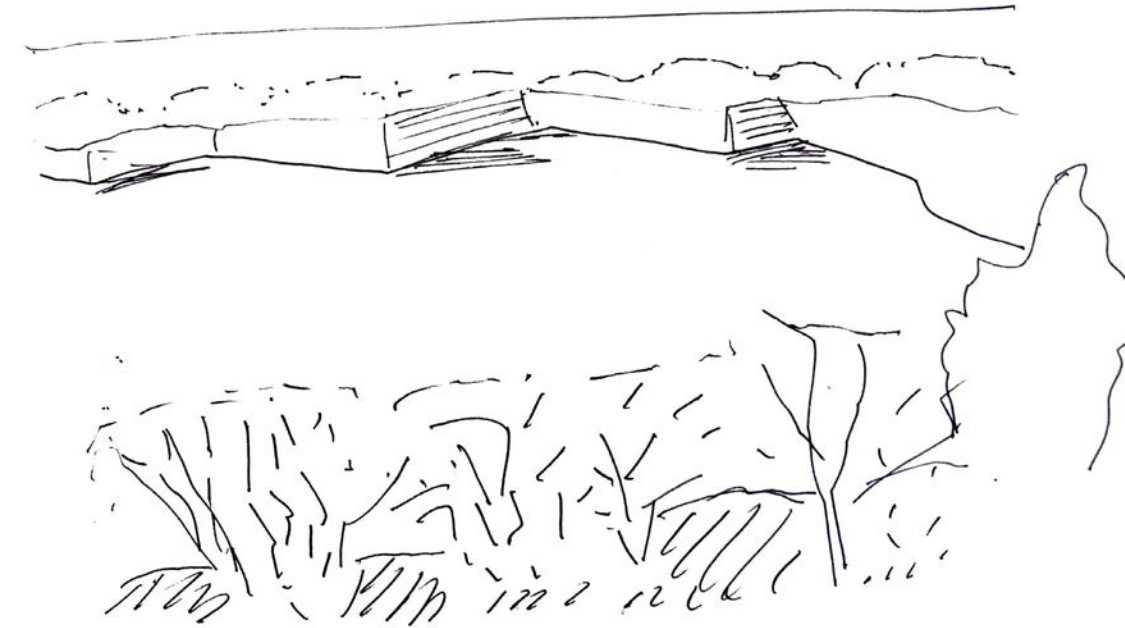
The temporality around marshland was affected by the ebb and flow. It created not only visual differences but also varying levels of access. During low tide, one could walk on the marsh, treading on the soft ground. While one could not walk on the marsh during high tide, some residents owned kayaks and other small boats and could use them to make the journey from their homes to the beach.

## Quarries



Quarry sketch

When we visited Halibut Point, we walked around the landscape. Some families visited together, and they were walking on the snow, finding their path towards the ocean. I followed the steps of others who walked before me. What used to be picturesque or romantic landscapes of ruins were covered, and I could no longer see the remnants of the quarries—granite half-formed into a circular column, rectilinear rocks with scars of chisels and spikes. Dogs ran around the paths, their passing marked with yellow spots of snow. The quarry at Halibut Point was still partly frozen. The straight cuts of granite into the landscape stood out. From the granite quarry, inside freshwater and outside saltwater were both visible.

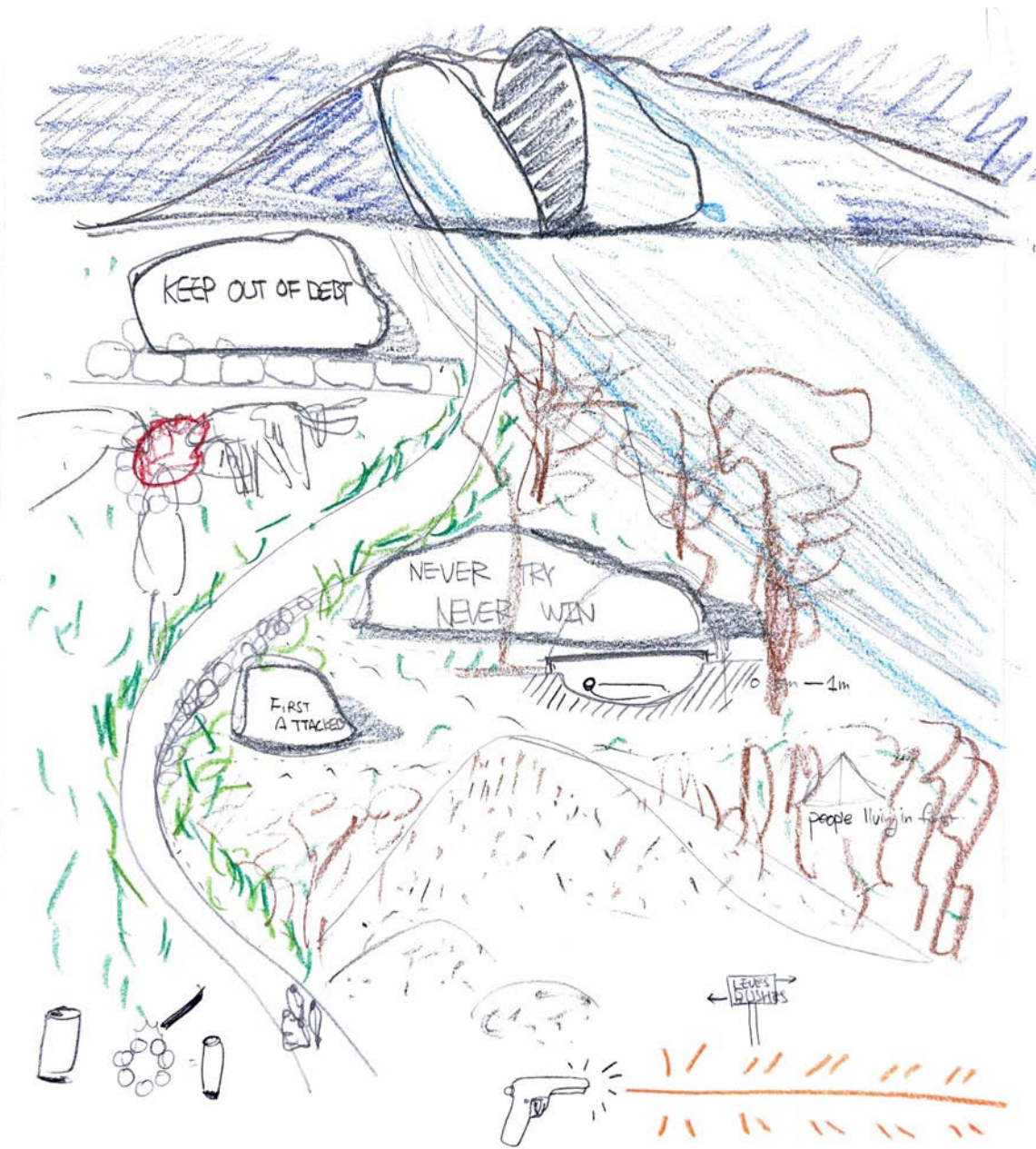


Sketch of quarry

One interviewee showed us a book with photographs of granite quarries at different times of the year. His photographs showed the same spots of the quarries in spring, summer, fall, and winter. Although they were in the same spot, depending on the time of the year and weather, the stones displayed different colors.

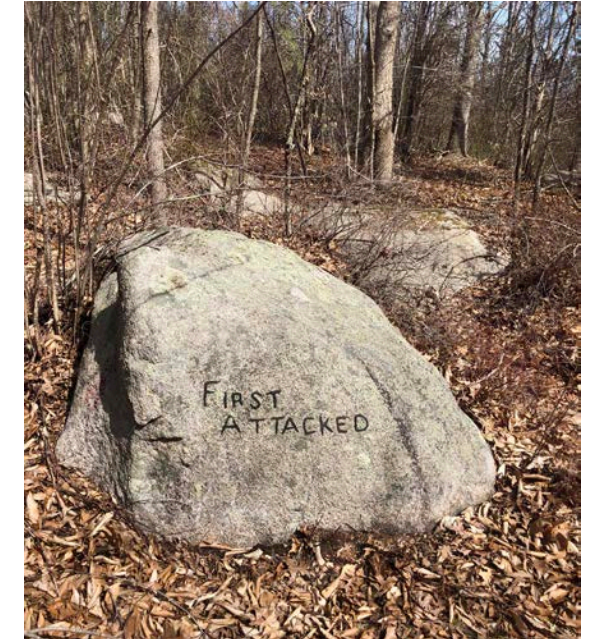


## Dogtown Forest



Dogtown

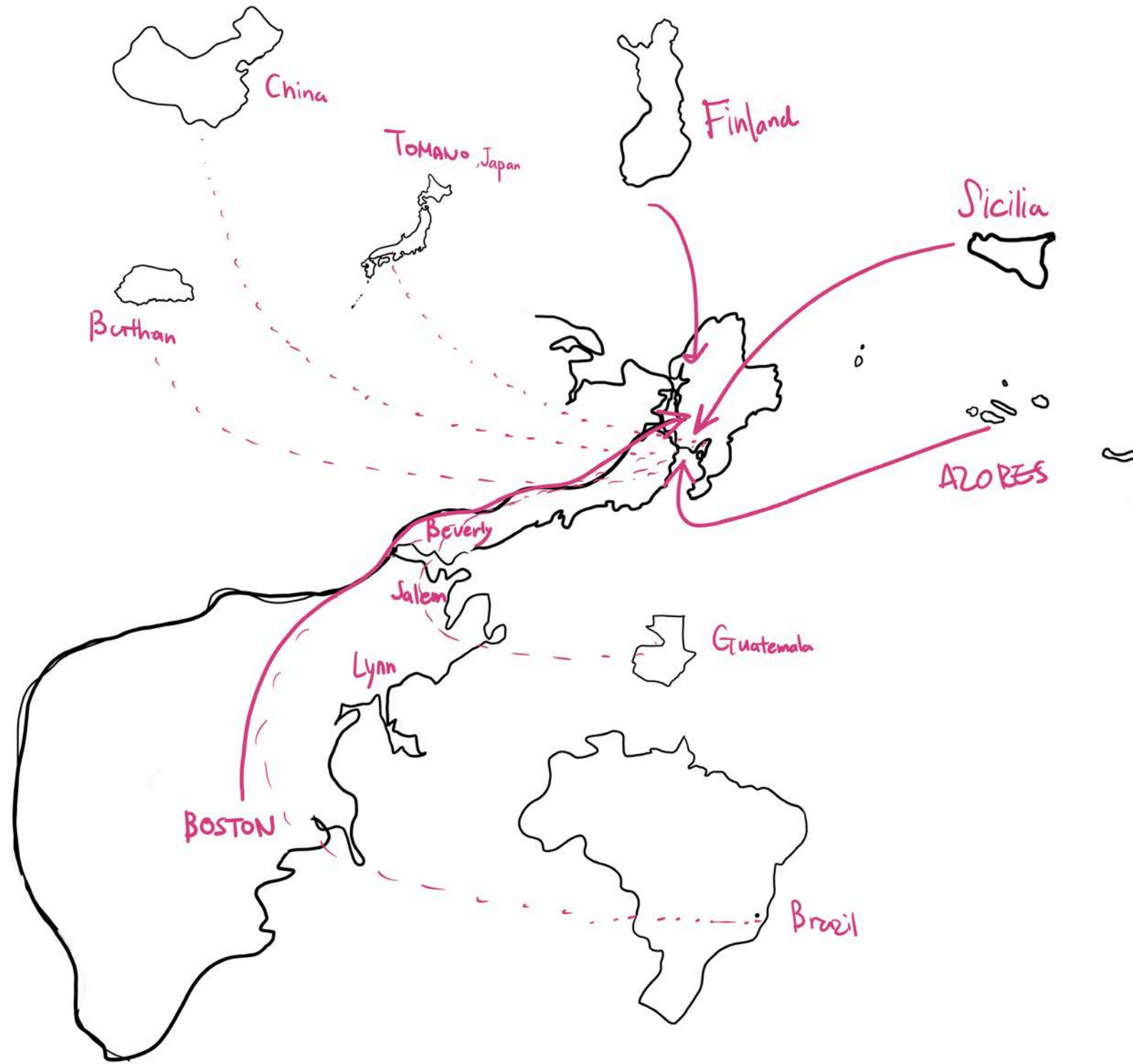
It didn't smell much, but the visual presence of the deserted landscape after hearing gunshot sounds from hunting nearby made the entry into this space eerie. Leaves collected throughout the city were dumped here and now waited to decompose. The mound was approximately twenty to thirty feet high, almost as tall as the trees. It was the end of the paved road into space. The white bags were half-buried under the dirt and leaves. I was shocked that people come here to walk. With those gunshots and this compost mound?



Dogtown

Boulders were engraved to mark the number of the settlements and also bore some axioms. These engravings were done by Roger Babson (1875–1967). Babson, who made a fortune through his entrepreneurship, accumulated significant estates in Dogtown. When donated the land to the city as a part of the reservoir system during the Great Depression, he commissioned a stone worker to carve approximately two dozen boulders. According to Helie, some people did not like what he was engraving, but he ignored them and did what he wanted. Those inscriptions range from “Keep Out of Debt” to “Never Try Never Win.” Some people placed coins on the ‘Keep Out of Debt’ boulder.

# People of Cape Ann

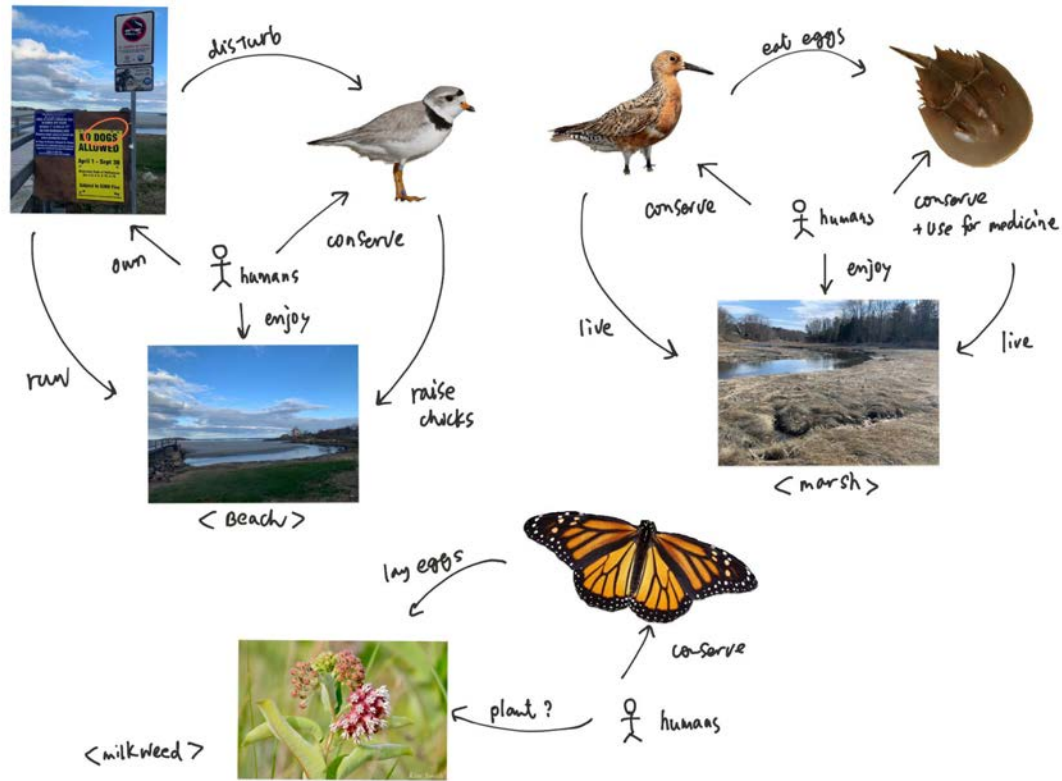


Map sketch

Cape Ann has been influenced by people with different cultural backgrounds since the first settlers from Dorchester, England, landed in Gloucester in 1623. As we explained earlier, we encountered people who have roots in the Aeolian (Sicilian) Islands (Italy) and Azores Islands (Portugal). There is an extensive Finnish-American community in Lanesville and an English-American one in Annisquam. Immigrants are mainly from Minas Gerais and the Governador Valadares areas of Brazil and from Guatemala. Recently, Cape Ann has also welcomed Afghan refugees.

According to the United States census, Gloucester's population is 2.2% African American and 1.9% Asian. This means some of our experience here might have commonalities with that of ethnic minorities. For example, we were often asked where we were from. When we told residents we are from Japan and Korea, they often shared their connections to those countries. Since Gloucester and Tamano in Japan are sister cities, some residents had experiences in hosting Japanese students at their homes. Some residents who work at Gorton's, a Gloucester fish processing company, told us that Gorton's parent company is Japanese. We also heard some stories from veterans, especially Navy veterans. One told us that he worked in Hawaii and he got to know some Japanese people there. The other shared that he was stationed in Iwakuni, Japan when he was serving as a Marine.

## Species of Cape Ann



We came across many different species during our fieldwork. We directly observed some of them, and others were mentioned during the conversations and interviews. These species can shed light on how humans interact with nature because human behavior directly or indirectly influences habitats of those species.

For example, stories of piping plovers, dogs, red knot birds, horseshoe crabs, monarch butterflies, and milkweed plants were brought up by residents working on habitat conservation. Piping plovers, red knot birds, and monarch butterflies are all migratory and Cape Ann landscapes are integral part of their migration journey. Piping plovers come every year and raise their chicks at Good Harbor, a public beach where many residents enjoy walking their dogs. Dogs are a predictor of chicks. The relationship of the red knot bird and horseshoe crab is that of predator and prey: red knot birds eat horseshoe crabs' eggs. In this case, humans are also a predator of the horseshoe crab. Their blue-colored blood contains a substance called



Collage/sketch of species

Limulus Amebocyte Lysate (LAL), which is used in medicine. The monarch butterfly and milkweed plant illustrate the way humans judge aesthetic and ecosystem values in certain landscapes. Milkweed plants can provide monarch butterflies a place to lay eggs; however, they are not generally deemed to be aesthetically beautiful.

In the case of ocean resources such as fish and lobster, Cape Ann's human involvement is much more obvious. America's oldest seaport has been long been a center for seafood supply chains. We encountered several local initiatives to make this food system more sustainable. For example, waste products from seafood processing are now being used as a fish fertilizer. Bycatch fish are locally sold, with recipes being introduced through events and books.

## 2. Perceptions of Climate Change — 6 Characters

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Chapter 2 introduces six characters. Each character has been constructed based on the patterns found during the fieldwork, including interviews.

Miriam

Mario

Sally

Jonathan

Caleb

Kathy

## Miriam

### Q. Could you tell us about yourself? Why do you live in Cape Ann?

Hello, I am Miriam. I was born and grew up here. Then I lived in Boston and raised my family there. I used to visit Cape Ann during the holidays with my family. And after I retired and my parents passed away, I moved to this house. It was twenty years ago. I always wanted to come back. And now here I am! living in my home where my ancestors lived for generations. I used to work in garden design. After retirement, I have been enjoying gardening and making artwork. My other passion is bird watching. Cape Ann landscapes attract birds, too!

### Q. What do you like about living in Cape Ann?

Beautiful landscapes. Like beaches and marshes. Those places are habitats for migratory birds, butterflies, horseshoe crabs, and more. We also have unique places like the quarries and Dogtown. Have you been to Dogtown? It is one of the earliest European settlements in America and the local history is fascinating. Cape Ann carries its heritage as a fishing port and art colony, but we should not forget Dogtown, which was a home for eighty families in the 1600s but has been abandoned since 1830. Also, old granite quarries have a long connection to the Finnish-American community in Lanesville. I like how the rocks show different colors and textures season by season. Some locals like to swim in the quarries too! Have you seen the movie CODA? It won an Oscar this year! There is one scene where the actors swam in our neighborhood quarries.

Our community is quite active, and I love it. I have been helping my friends who are into protecting shorebirds like piping plovers at Good Harbor beach. We changed local rules! We changed the starting date of banning off-leash dogs on the beach from May 1 to April 1 next year. This way, we can protect piping plovers' nests and chicks, which usually hatch in April. Unleashed dogs chase shorebirds, messing up their nests and scare chicks. Some people who felt unsafe with the unleashed dogs supported this change as well.

### Q. What do you not like about Cape Ann? Do you have any concerns or hopes for the future of Cape Ann?

I am concerned that people might destroy nature more in the future. Humans should not bother nature. I have one story. When I was a child, there used to be a windshield cleaning service in gas stations because there were too many bugs around. But now, as you know, there is no such service. Humans started to use pesticides and killed those bugs. You might think it is a good change. But think about birds. What would they eat if there were no bugs? We have been intervening in nature too much. I like how my house keeps its private ambience. You have to pass a dirt road to reach here, so there are not so many houses here. But there were even fewer before. People have cut down trees and destroyed nature to build houses and make

roads. Imagine how much more disturbance to nature humans would create when more people start to move here. The denser the area, the more harm to nature. I like Cape Ann the way it is now and I want to keep it as is.

### Q. Tell us how you feel about climate change. Do you think the climate in Cape Ann is changing?

The weather is changing. Winter has been warmer. The amount of snow in recent years, compared to ten years ago, is definitely less. During the high tide, I see water coming higher and staying longer. I see different kinds of birds these days. I wonder if it is because some birds are moving more north because of climate change.

### Q. What is your greatest concern for the future of climate change in Cape Ann? What can be done to better prepare Cape Ann for the impacts of climate change?

I want Cape Ann to stay as it is. Look, I worked my entire life and retired. I have a small house and my family, with a garden. I am satisfied as it is. Climate change is hard to stop, and there aren't many things I can do. I am not sure how much time I have. I will leave these problems to the next generation.

Mario

Q. Could you tell us about yourself?

I am a third-generation fisherman. My parents moved to the United States from Sicily after the Vesuvius volcano erupted in the 1950s. I have brothers and sisters who are all married and raised their families here. We still keep some Sicilian traditions. You should stay till June to see our St. Peter's Fiesta and watch the Greasy Poles. St. Joseph's day is fun, too. We celebrate by making pasta together. Well, I heard that you guys are interested in climate change. Do you have questions regarding that?

Q. Do you think the climate in Cape Ann is changing?

There used to be many horseshoe crabs on the beach. My brothers, sisters, and I used to catch them as a child. But, now they are gone. Even sardines and mackerel can't be found anymore. It was so abundant back then.

Q. What is your greatest concern for the future of Cape Ann?

I'm concerned about the fishing industry. There used to be 917 fishing boats in this town in 1991, but we only have seventy fishing boats now. Fishermen are losing their jobs. And it is not just about fishermen, it is the entire industry that is at stake here. I often see obituaries of local fishermen in the newspapers. Every year, we are losing the knowledge and skills of these fishermen. And not many young people are interested in continuing this profession. We fed America. But now the government has imposed so many regulations that it is almost impossible to continue fishing. They buy off permits every year. So we have fewer and fewer fishing boats in the water. We need to protect the generational pipeline. If we don't do anything, it will be all lost.

Q. Do you think the decline of the industry has to do with climate change?

I am not sure if it was government regulation or climate change, actually. The government and scientists talk about fish stock assessment as if they are solid facts. However, fish move. Even if it is not there, it doesn't mean that they are all gone. Maybe it is somewhere else. For instance, cod seems to have a ten- or fifteen-year cycle. In the 1990s, they were completely gone, but in the 2000s, the population came back more than ever. What I am trying to say is that no one fully understands how the ocean works. The government has put many regulations "to protect" the ocean and fishery, but have they made our ocean better? Fishermen used to catch what was abundant based on the season. However, nowadays, the government regulates the type of fish we can catch and its amount. If we catch too much, then we would have to either pay a fine to bring it in or throw it away. Isn't it absurd?

One time, we allowed scientists to be on our boats for the Sea Sampling Program. We were trying to share our knowledge of the ocean. We knew where we could find more cod. I thought they would reflect our voices in the

stock assessment. Actually, in my opinion, it is impossible to properly assess the fish stock based on sampling technique because "fish move." Some fish are even in abundance! Anyways, this later turned into a monitoring program. Now we have to pay out of pocket to bring the observer on board. Our cooperation was used against us. They say they make regulations for the fishermen to work less and earn more, but they don't listen to us. Those government officials listen to lawyers and scientists, but not people like us who actually spend time in the ocean. Now I feel like giving up this fight.

Q. What can be done to better prepare Cape Ann for the impacts of climate change?

What the fishing industry can do is modernize the fleet and train young fishermen. If we can reduce our carbon footprint by changing the fishing vessel engines and introducing gutting machines, the industry can be sustainable and protect our ocean. Some people suggest that we should build an offshore wind farm. I think it is a nearsighted proposal. They argue that this is for the ocean and Earth. However, what they don't talk about is the environmental destruction caused by this construction. These wind turbines are often built on the swath of fertile fishing land. They pour an immense amount of construction materials into the ocean to build these facilities. Then the Coast Guard will block any access to fishing vessels nearby. Why? Because if your boat sinks, they can't send the helicopters because of the wind turbines. Also fish can feel the electricity through their organs. They will move away from the high-voltage cables in the ocean. Some people might think that the fishing industry is evil to the ocean. But this is where we made our living and fed the American people and the world. Why would we harm our ocean?

Q. What are your hopes for the future of Cape Ann?

What I loved most about living as a fisherman is the sovereign life. We roam free in the ocean, following the stock, and work when we want to. And it seems that that is the nature of many fishermen. I have a friend who just retired recently. You know what he does now? He drives around the town collecting recycles and electronics. He says it is like fishing on the ground haha. But seriously, I wish this way of living—sovereign life on the water—can be passed on to the next generations. I will also do my part to train more younger fishermen to continue this tradition.

Sally

Q. Could you tell us about yourself? Why do you live in Cape Ann?

My name is Sally. I am a pastor.

Q. What do you like about living in Cape Ann?

The sense of community. Community ties are quite strong here.

Q. What do you not like about Cape Ann?

I can't think of any. I haven't lived here long enough to say something. Most of the residents here are longtime residents—over forty years. I hear people joking that 'he lived here for seventeen years but still some of his neighbors say that he is a visitor.'

Q. Do you have any concerns or hope for the future of Cape Ann?

The lack of a young generation concerns me. People living in Cape Ann are mostly the elderly and not many young families. Our church members are mostly elders, too. It is problem for many other churches here. Seriously, we need to start thinking about how to invite young people to our community.

Q. Tell us how you feel about climate change. Do you think the climate in Cape Ann is changing?

Climate change is a real thing. Many people in this congregation believe in climate change as well, but many of them aren't active. They are retired, maybe taking care of their grandchildren. Sea level rise is real. The shorelines are receding, and the tide is getting higher. It's time for humans to rethink our relationship with nature and earth. I stepped into this religious world after I studied and worked in other fields. I think the role of religion is to approach this global issue spiritually. So, I often preach about climate change and how we can be connected to nature. I also incorporate the topic into my prayers. Every week, just keeping it in front of people. Let people be aware of climate change and its impacts.

Q. What can be done to better prepare Cape Ann for the impacts of climate change?

I think the first step is to slow down. Climate change action is not just about doing or changing. Instead, it is understanding our relationship to the environment. All creation has a spark of life, and we are one part of the whole. But we have lost our connection to nature. We have cut down trees and polluted our water and air. Our actions have consequences. We can reconnect to nature through our bodies and spirituality. It is important for everyone to take small actions which can be done on a daily basis.

Q. Is anyone doing anything about climate change in Cape Ann?

Some churches and religious groups in this area collaborate often. Our church organizes together with other churches to do beach cleaning. There are also other local volunteer groups doing similar activities. It may seem futile in the face of global climate change, but it is a small but visible first step. We also collaborate on other social issues. Recently we marched together against the war in Ukraine and for the Black Lives Matter movement as well as climate change and more!

Jonathan

Q. Could you tell us about yourself? And why do you live in Cape Ann?

Hello, my name is Jonathan. I married, got divorced, and now live with a new wife. We have two sons, a teenager and the other one is in his early twenties. I have lived here for almost twenties years now. I came to Gloucester because my relatives from the same village immigrated here and invited me to come. Actually, Gloucester has a long history of immigrants and, interestingly, each immigrant ethnic group not only belongs to the same nationality but also the same town. Many Italians here are from Sicily. The Portuguese are from Azores Island and a lot of Brazilians are from around Governador Valadares in the Minas Gerais state.

The immigrant community has strong ties within, so I was not really worried about coming to the USA. Oh, it was easier coming to the states then. Now the visa process is more complicated. Since my immigrant community has been here long enough, we were able to establish some businesses like landscaping and house cleaning.

Q. What do you like about living in Cape Ann?

I like beaches. I still remember so vividly when I arrived in Gloucester in the early summer in June of 2001. The ocean was shining gorgeously, so I thought I had come to a paradise. People are nice here, too! People here are really caring and independent. During the pandemic, the old YMCA gym was used as a temporary shelter. Then the community helped bring in blankets, underwear, socks, and food. By the time they closed the shelter as Covid cases lowered, my friend who worked as a shelter manager there gained weight. He joked that he went to live in the gym but ended up gaining weight because they received so much food from the community. Also, many community safety-net systems are working effectively. There are day resource centers, food pantries, shelters, ESL classes and more. The city's human rights committee is active, too. They are trying to change the existing driver's license system into a more immigrant-friendly one.

Q. What do you not like about Cape Ann?

There are very few non-white people here. Quite a white community. My son's best friend at high school is Asian. When he visited my house once to see my son after he had gone to a college near Boston for a year, he shared how shocking it was for him to encounter Asian people so often in his new environment. I also have a neighbor. She is Black and living in a group home. I got to know her because I see her almost every day at the same time passing in front of my house. She once shared to me that how she wishes she would have black friends, though she really like her current white friends who she sees every day at Grace Center.

Q. What is your greatest concern for the future of Cape Ann?

Housing. Rent keeps increasing. We are now living in one big house and

share other floors with other immigrant families. The rent is already high. I'm afraid it will keep increasing. So I hope we will have more affordable housing options so that people here can keep staying in the area. Also so new populations can move here more easily.

Q. Tell us how you feel about climate change.

I am worried about sea level rise. My house is on the hill so we will not be affected. But I wonder about billion-dollar houses in Eastern Point. We sometimes do landscaping and cleaning work for those huge summer houses. Those houses are very close to the shoreline.

Q. What can be done to better prepare Cape Ann for the impacts of climate change?

Maybe tree planting? I heard from our client that there are active tree planting groups like the Friends of Manchester Trees and Project Elm.



## Caleb

### Q. Could you tell us about yourself? Why do you live in Cape Ann?

Well, my name is Caleb. I have been in the field of marine science for more than thirty years. I am originally from New England. I did my bachelor's and master's on the West Coast. After my studies, I worked in various countries. Marine research eventually brought me to Cape Ann, and now I have lived here since 2015.

### Q. What do you like about living in Cape Ann?

Nature. Not only are we close to the ocean, but there are also nice hiking and mountain bike trails. I also like kayaking in the marsh areas. Not to mention the innovator spirit historically embedded in this area. Did you have a chance to visit Hammond Castle? The castle was the home of John Hays Hammond, Jr., known as the inventor of remote control. Also, in my opinion, what the science community offers here is new and attractive. There are several programs offering new opportunities in this town. For example, my scientist friends working to accelerate tech-driven innovations—like drones for whale research—share a makers' space. Some genomic research groups on marine resources like sea urchins, Jonah crabs, seabed sediments, and fish offer summer science programs for school children. There is also a program that provides lab technician training programs for young adults and high school students. After the training, many go to work in the biochemistry and biomanufacturing industry in Massachusetts. Some of them come from fishermen's families, so their relationship with the fishing industry can be another potential way to bridge the fishing industry and the science community. It's also surprising most of the graduates want to stay in the area. I hope this becomes a new trend in Cape Ann so that we will have more young generations. I remember at first some residents were skeptical about the science community's role here. But as we give back to the community through these various ways, they started to open their minds more. Now, some have an understanding of our research itself, too. One time, a fisherman brought us a righteye flounder which had its eyes on the opposite side. He thought we would be interested in seeing it. And we loved it!

### Q. What do you not like about Cape Ann?

I can't think of any. One thing that surprised me, though, is how the town looks so different in the summer and off season. The summer population increases significantly with visitors and people who have summer houses here.

### Q. What is your greatest concern for the future of Cape Ann?

It is the destruction of the ocean ecosystem in this area. Marine scientists like us are, all in all, working to sustain a healthy ocean ecosystem and hoping to contribute to the blue economy. I hope the scientific data we provide can be useful for people and nature. The ocean is an incredibly

complex ecosystem, and there are many things we don't know yet. For example, this year, the number of Jonah crabs increased in this area. It was so abundant that I saw some fishermen giving out Jonah crabs to his friends for free. They were bycatch of lobster traps, but there were just so many these days! We do not know exactly if the Jonah crabs have increased or why, but our primary observation is that it has increased.

### Q. What are your hopes for the future of Cape Ann?

I think the scientific community has huge potential here for a sustainable blue economy. Each organization's approach differs, but I am sure we, as a science community, share the same goal: we want to contribute to the Cape Ann community and its blue economy. So let me introduce some ongoing initiatives I know. There is a program to diversify career opportunities for younger generations by offering technical training, which connects ocean science to biomanufacturing and biochemistry. There is another one to foster an innovative mindset and tech literacy through a makers' space. I know that the fishing industry is in need of modernizing the fleet and installing new machines for ice-making and gutting that can ease the labor-intensive character of the industry and maybe invite young generations. Maybe tech education can help those move some way or another. So, yes, I do hope the relationship between the fishing industry and the scientific community continues to grow.

### Q. Tell us how you feel about climate change. Do you think the climate in Cape Ann is changing? What is your greatest concern for the future of climate change in Cape Ann?

First, I have to say that I am not an expert. But, at least I can say that storms have been getting stronger. The flooding of Gloucester High School a few years ago was big news. I can tell the stronger storms cause erosion. But building seawalls, or other kinds of large infrastructure, has to be carefully discussed because it will impact the ecosystem around the waterfront and beaches. Also, the sea temperature is rising. The Gulf of Maine is one of the fastest-warming waters and its ecosystem has already been impacted. We would have to be concerned about lobsters, which Gloucester relies on a lot because as the water gets warmer they would move deeper or north. Imagine if lobsters disappear. It would be detrimental not only to the industry itself but to the entire local economy.

### Q. What can be done to better prepare Cape Ann for the impacts of climate change?

I think "climate change" can, and should, bring people with different views together. We have tried to create connections with the local community. I wouldn't say it was easy, but I don't think our institution would have been the same without them. It is hard to engage various groups in the decision-making, but it is worth it.

Kathy

Q. Could you tell us about yourself?

Hi, my name is Kathy. I am a mother of two children: an eighteen-year-old son who is in his first year of college and a fifteen-year-old daughter who goes to Gloucester High School. I have lived in West Gloucester for the past twenty-one years. I used to work in Boston, commuting by train, but I got a job in Cape Ann around ten years ago. Now I work in a community charity organization as an administrator.

Q. Why do you live in Cape Ann?

My family is from this area and I grew up here till high school. I moved to Boston for college and work. But I always wanted to come back here. It is such a nice community here. When we had our first child, I decided to come back to Gloucester.

Q. What do you like about living in Cape Ann?

Of course, the beautiful beaches and landscapes like the ocean, the quarries. It's a nice place to raise kids. I also like that Gloucester has a history of a hardworking fishing community and a mixture of diverse cultures. Not only are there Sicilians, Portuguese, and Finns, but also Brazilians, Guatemalans, and some Asians. As diverse as the occupations here—from fishermen, artists, to scientists, there are groups of people with different wealth. Both of my children went to Gloucester High School. It is a large school. The children of million-dollar families in Eastern Point and hardworking immigrants study and hang out together. I really like how the school exposes my kids to various groups in society, instead of siloing them in homogeneity. We really have good both public and private schools in the area. Rockport is known for being a smaller school with a quality education. I also have some friends sending their kids to the Waldorf school in Beverly.

Q. What do you not like about Cape Ann?

How can you not like this town?

Q. What is your greatest concern for the future of Cape Ann?

I am actually worried about housing situations in this area. Houses are becoming more expensive, and our children might not be able to afford to live here in the future. My husband and I are considering selling this house and moving to a smaller house after our children move out.

Q. Tell us how you feel about climate change. Do you think the climate in Cape Ann is changing?

I feel that summer is getting hotter. Before, we did not need A/C. When I felt too hot at home, I could just walk to the beach and jump in. Soon I felt cold. But last year, when I dived into the water when it was too hot, the water was so lukewarm that it didn't cool me down at all! So I had to install A/C in our house this year. Also, sea level rise! I am concerned about more frequent

flooding. When the GHS parking lot was flooded, it was a big shock a few years ago. More than fifty cars were damaged. Oh, but not everyone thinks it is a problem. I visited my neighbor's house during the high tide one day. Her house was surrounded by water! But she was saying that it's beautiful to be surrounded by water. She could say that probably because she has another house.

Q. Are there any positive sides of climate change?

It's a tough question. Climate change can be a common ground for people to think about the town's future together. As I said, Cape Ann has a strong sense of community, so I hope we can tackle this problem together.

Q. What can be done to better prepare Cape Ann for the impacts of climate change?

I recently changed my car to an electric car. I think other people can also do the same... I also try to recycle really well, reduce plastics, and plant more trees. Um... And I am willing to do more, but feel a bit frustrated because I am not sure if this is enough to stop climate change. I don't feel so.

Q. Is anyone doing anything about climate change in Cape Ann?

I know there is a tree-planting initiative, which I am a part of. Also, I believe conservationist groups are active in protecting beaches and marshes for shorebirds and migratory birds.

Q. What is your greatest concern for the future of climate change in Cape Ann?

As the waves come higher with stronger storms, they might break bridges over the 128. Since Cape Ann is an island, if the 128 bridge collapses, it will be a huge problem because people will be stuck on the island.

### 3. Analysis

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Convinced

Uncertain

Anxious

Indifferent

Unperturbed

Unwilling

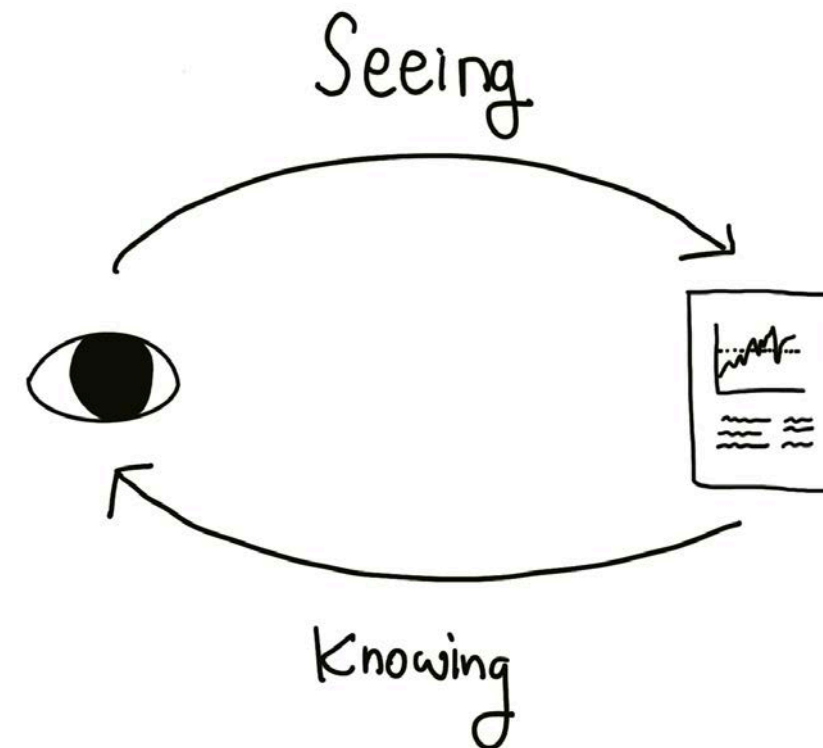
## Convinced

“Convinced” is a state of accepting information, regardless of one’s preferences. During our fieldwork, we found many interviewees that were “convinced” about climate change. When asked about climate change, they relied on subjective experiences and scientific explanations. Longtime residents noticed changes in their environments and used climate change as a way to make sense of these changes. The more they saw, the more they knew. The more they knew, the more they saw. For instance, Kathy and Caleb mentioned Gloucester High School (GHS) parking lot flooding as a sign of climate change. The elevation of the GHS parking lot is as low as the surface of the ocean. On a regular day, from the GHS field adjacent to the parking lot, we could observe boats passing in the canal. The GHS flooding was the event mentioned most often by the interviewees. This incident was particularly shocking to the residents because the high school parking lot was where the city recommended to park the cars since it limited street parking during the storm. In other words, the GHS parking lot was thought to be safe. It was safe, however, until massive floods destroyed sixty cars in the lot on January 5, 2018. At the time, then-Chief Administrative Officer Jim Destino told WBZ that “it’s an act of God, really. It’s a storm.” However, when the flooding of GHS repeated only a couple months later in April, the student news of Gloucester High School claimed that “GHS will continue to flood due to sea level rise, climate change.” Now, four years later, climate change appears to be obvious to some residents both by virtue of these incidents and their scientific explanations.

Another experience that residents cited as a sign of climate change is how the beaches, marshes, and shoreline have changed over time. Kathy, who lives near the marsh, talked about how high tides tend to stay longer than before, presumably because of sea level rise. According to their longtime observation, shorelines have receded much further into the land. Kathy also talked about having to install A/C in her house. Her cooling ritual during summer, which was to go out into the nearby water and dive for a minute and to return home, no longer worked because the water was too warm. This subjective experience was substantiated by the scientific fact that the Gulf of Maine is one of the fastest warming bodies of water in the globe.

Residents also cited the absence of local species as a sign of climate change. Mario and Miriam mentioned that they no longer see horseshoe crabs and some kinds of birds. Mario talked about how he used to catch horseshoe crabs when he was young. But he couldn’t find them anymore. Noticing absences of, or differences in, local species leads to concern for their habitats. Residents in this category often participated in actions for climate change on various scales. For instance, one interviewee worked to protect shorebirds by changing local ordinance to extend the limited dog access to the beach. The character, Kathy, changed her car to an electric vehicle to reduce carbon emissions. She also participates in tree planting.

The convinced combine their subjective experiences with scientific reasoning and often consider climate change in their decision-making.



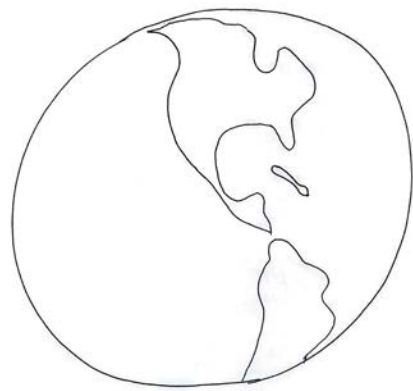
## Uncertain

Feeling uncertain refers to a lack of conviction. When people were asked about climate change in Cape Ann, many of our interviewees answered with uncertainty. The uncertain may agree that there is global climate change, but they are not sure if it is happening in Cape Ann. This uncertainty derives from two reasons: a lack of subjective evidence of climate change and feeling insufficient to making an argument about the climate.

Even well-educated interviewees expressed uncertainty. When asked about climate change in Cape Ann, the first reaction of two highly-educated interviewees was to state that they were “not an expert in climate change.” This caution could be related to professional practice, but also to how they perceived climate change as a scientific or “objective” matter, considering subjective experience and observation secondary. They may feel unable to make a statement about climate change without scientific data.

This feeling of insufficiency to make a climate argument may come from the gap between weather and climate. Climate, in a narrow sense, is usually defined as the average weather, or more rigorously as the statistical description in terms of the mean and variability of relevant quantities over a period of time ranging from months to thousands or millions of years. By definition, climate suggests a larger geographical scope and longer temporality than weather. Interviewees felt comfortable talking about bad weather, but “bad climate” or climate change was not an easy argument to make based on one’s own experience. Interviewees often said that they are not sure because (1) they did not know if there are scientific results specific to Cape Ann or (2) their observations were not long enough or accurate enough to describe climate change.

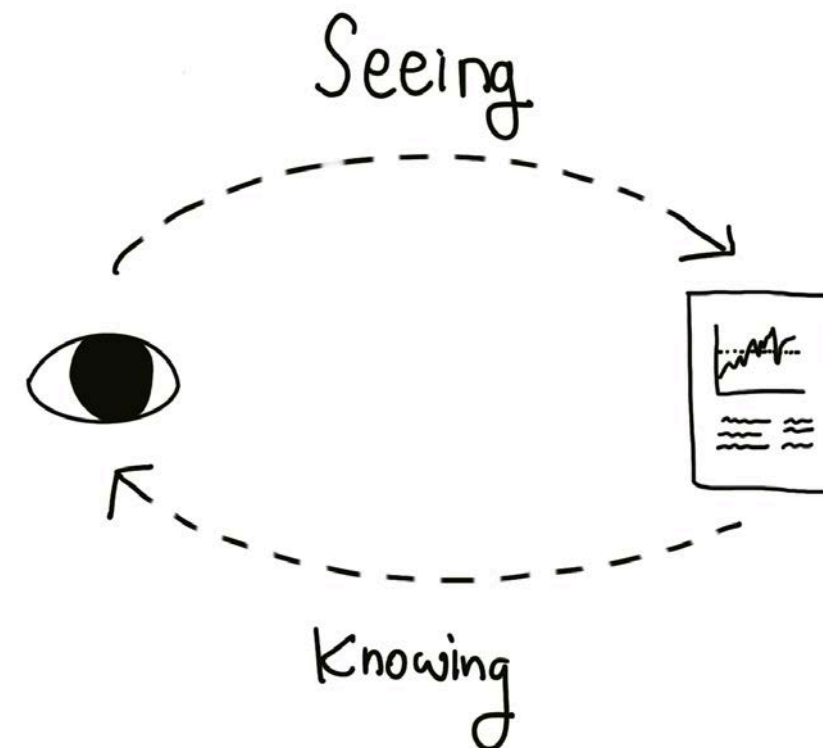
For the uncertain, it is important to provide scientific explanations for local experiences of climate change. The first step in convincing the uncertain is to provide them with enough information about climate change in Cape Ann in a manner they can understand.



Climate



Weather



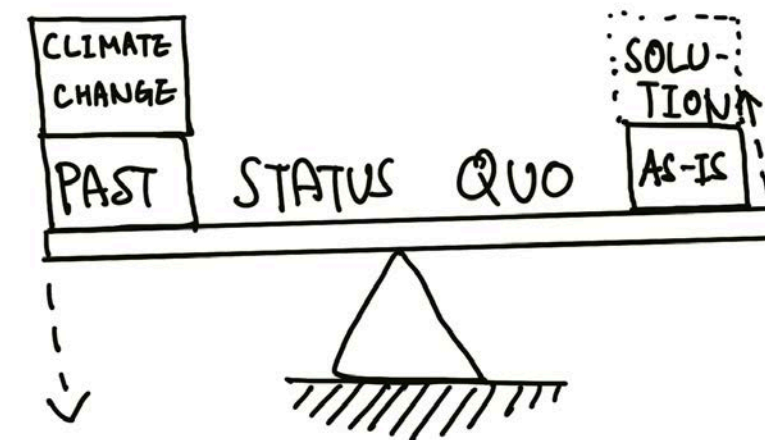
## Anxious

Anxiety is a state of mind arising from the fear of losing certainty. Interviewees like Miriam and Sally expressed anxiety when it comes to climate change. Anxiety comes from losing what has been certain for them such as beautiful landscapes—especially beaches. These landscapes have provided both refuge and leisure to the residents for a long time. As a result, they worry about how climate change will change these beautiful landscapes. Beaches might not be the same in the future. Understanding climate change and its power to change these landscapes produces a sense that one can lose something certain, known, and precious to him- or herself. They have an underlying desire to keep the status quo. As many characters expressed, many interviewees chose to stay in Cape Ann because they liked the place as it is.

Anxiety is exacerbated by a lack of meaningful and effective solutions to secure certainty. Some interviewees felt ineffective in the face of global climate change because individual efforts do not appear to produce measurable and noticeable impacts.

If anxiety is not resolved, the anxious choose various coping mechanisms. One way is to externalize the risk, comforting oneself by saying “climate change is happening, but it would not affect me” or “it is not my problem, but the next generation’s.” Another way is to underestimate the risk. The former is what we define as the “indifferent,” the latter the “unperturbed.”

In response to feeling powerless or anxious in front of climate change, one interviewee emphasized slow down. The alarming news might help some people to act immediately, but without a clear solution, this can make some people more anxious. She emphasized that the first step is to slow down and reconnect to nature.



## Indifferent

Indifferent refers to a state of lacking interest or sympathy. Those indifferent to climate change have either no interest in or no sympathy to the subject. The lack of interest is possible when they assume climate change does not impact their everyday life significantly. The indifferent tend to think of climate change as severe weather events, unaware of other socioeconomic impacts of climate change. Because they cannot feel it nor see its impacts, they are not interested in it.

Like many other modern citizens, the character Sally, spends most of her time indoors—at home, her workplace, or even the gym. If one’s daily life happens mostly indoors, commuting by car between home and work, there is less of a chance to feel nature or weather. Without experiencing weather, climate change is not perceivable. Its impacts are even harder to imagine.

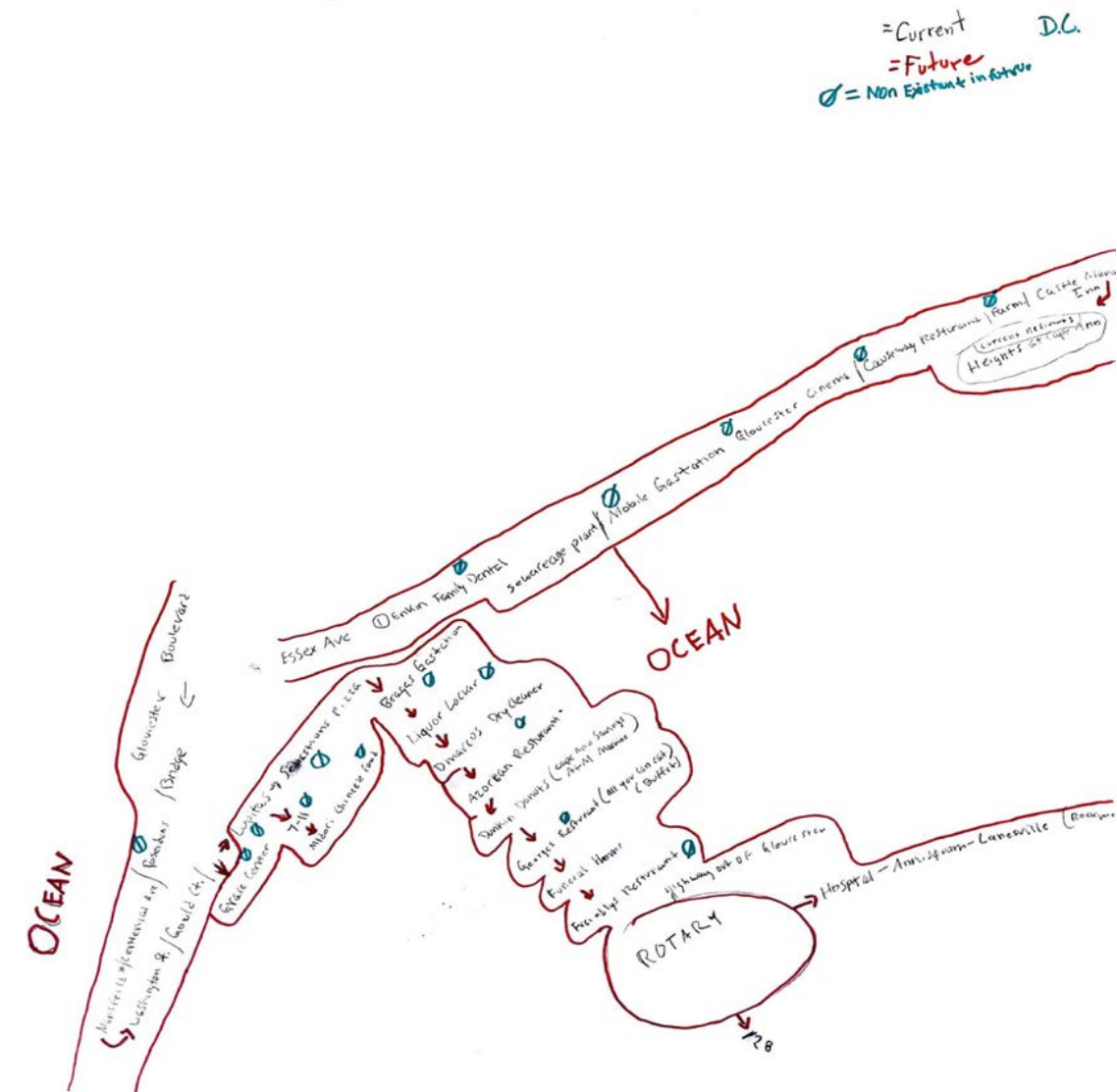
The character Sally talked about the lack of time to even feel the weather. Life is full of other pressing matters: unfinished tasks from work, growing kids, ill parents, bills to pay... These matters require immediate attention. If not these matters, there are many distractions: YouTube, social networks, TV shows... Climate change is only a distant event somewhere in the globe.

During a cognitive map workshop, one participant drew the following map. The participant marked his usual route between the group home residence and Grace Center, carefully writing all the stores and streets he passes by. When we asked the participant if this map would change in 2038, the participant said, “No, this would be the same.” Only when we asked where the ocean was did the participant write “ocean” on the map. Without much interaction with natural surroundings in one’s daily routine, it is hard to consider how climate change can change one’s daily life.

The indifferent that lack sympathy, on the other hand, acknowledge global climate change and its impacts. However, they are not willing to actively prepare or act on climate change. The reasons vary. One might feel too satisfied to change anything in one’s life. One interviewee mentioned that he/she feels satisfied with the status quo and wishes he/she can spend the rest of life as it is. He/she thinks that climate change is happening, but it is “the next generation’s problem.” The indifferent choose to externalize the risk of climate change from their world.

The desire to keep the status quo may connect to a position against development and housing. During the fieldwork, we noticed that one of the biggest concerns in Cape Ann is housing. As the characters of Jonathan and Kathy said, the rising cost of housing and rent in Cape Ann has been concerning for many residents. But increasing density in the area polarizes the local residents because many residents like Cape Ann as it is—that is, without “congestion” caused by density. New developments or immigrants

are not desired.



Cognitive Map by a participant

## Unperturbed

Unperturbed is a state of calm based on confidence in relation to concerns or problems. Climate change, for the unperturbed, is another problem to be prepared and overcome. Past experiences of recovering from weather events such as storms give the unperturbed confidence regardless of the actual capacity to withstand climate change.

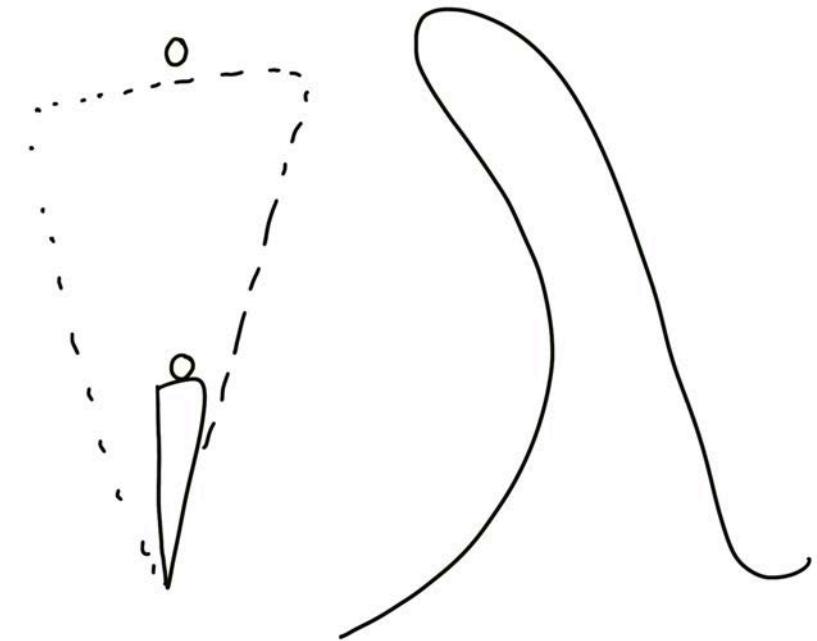
The indifferent and the unperturbed may both think climate change is not an immediate issue. But the difference is readiness; while the former is not interested in taking actions, the latter is ready to take action or prepare for an expected natural disaster. The unperturbed in Cape Ann have gone through countless floods and storms that they came to believe they would be okay even if the next one comes. Their resilience level has reached the point of thinking that climate change is something they can overcome.

Both the indifferent and the unperturbed may think climate change is not an immediate issue. The difference is readiness; while the former is not concerned with preparations, the latter prepares for an expected natural disaster. The unperturbed in Cape Ann have gone through countless floods and storms that they came to believe they can overcome climate change as well.

Some interviewees in the waterfront described the nature of their work as “wet.” They get wet all the time so they were not afraid of more wetness or for example, flooding. They are ready for the wetness: their facility is flood resistant with various means from placing their expensive machines on the second floor to engineered concrete slabs and drainage systems.

Another interviewee pointed out Motif Number 1, a famous fishing shack and landmark in Rockport, which the Great Storm 2038 is expected to destroy, has been rebuilt already. The original fishing shack was destroyed by the blizzard of 1978, but the exact replica was rebuilt in the same year. His argument was that another destruction of Motif Number 1 by storm can give an unintended message for the unperturbed that things can be recovered again as it did. The unperturbed might perceive the same building a monument of resilience.

Resilience, according to IPCC, is “capacity of social, economic, and environmental systems to cope with a hazardous event or trend or disturbance...” Irony of the unperturbed is that the perceived resilience might not match with the actual. Climate change communication for the unperturbed should focus on delivering how climate change is different from the weather events in the past.







## 5. Conclusion

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This report, “Cape Ann Fieldwork,” describes the landscapes of Cape Ann, outlines perceptions towards climate change through six composite characters, and categorizes six characteristic attitudes and behaviors: Convinced, Uncertain, Anxious, Indifferent, Unperturbed, and Unwilling. Those six characteristics appear, in varying degrees, across all characters. Still, creating six categories of climate change attitudes allows designers, planners, and community members involved in future Cape Ann climate change planning to understand the necessity of different communication designs for respective attitudes. Developing six (or more) ways of communication that most effectively impact suit each mindset toward climate change could serve as a starting point for climate change action. Instead of trying to reach a consensus on how people think about and act on climate change, we emphasize the importance of employing various communication methods that will make each community member take action, collectively realizing a resilient coastal community.

One evening in April, we watched “Fish Tales: The Guest” at Gloucester Stage Company. We wrote this “Cape Ann Fieldwork” with the excitement of imagining what if we create the theater production. Now, we have the setting (Chapter 1), the cast (Chapter 2), and an analysis of why the cast thinks the way they think (Chapter 3). Given the Office of Urbanization’s 2038 scenario, what would these characters do? How might we communicate that scenario to each member of the cast? And what would be your reaction? The report, as a collection of theatrical tales and devices, proposes that you immerse yourself in it. Then it is time for you to create a story together. You may have read this report as an audience; now you can step in, as actors, to create a future story for Cape Ann. We hope that our report not only addresses the urgent need for including diverse voices in planning but also provides tools to achieve their collective goals.

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# Cape Ann Fieldwork

*Perceptions of Climate Change Among a Coastal  
Population*

