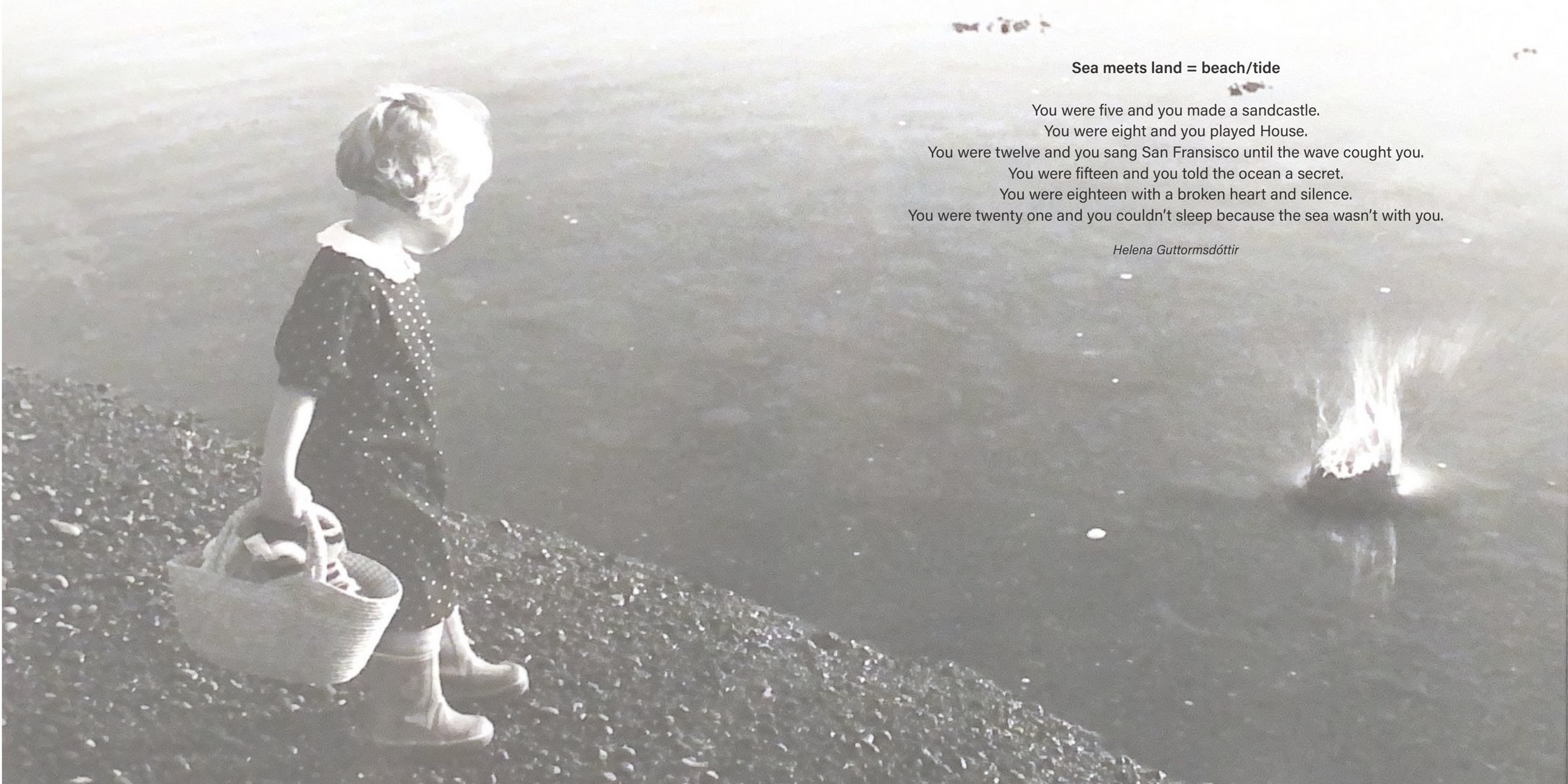
THE

BLUE RIBBON OF AKRANES

A WALK THROUGH HISTORY

A Master Thesis in
Sustainable Urban Design

By Ása Katrín Bjarnadóttir



Sea meets land = beach/tide

You were five and you made a sandcastle.
You were eight and you played House.
You were twelve and you sang San Fransisco until the wave cought you.
You were fifteen and you told the ocean a secret.
You were eighteen with a broken heart and silence.
You were twenty one and you couldn't sleep because the sea wasn't with you.

Helena Guttormsdóttir

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SUDes
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THE BLUE RIBBON OF AKRANES - A WALK THROUGH HISTORY

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abstract

There is only one large ocean that makes up our blue marble, even though we've given it many different names. It's difficult to see where one ends and another begins and change in one place has an effect elsewhere. The ocean connects us all and we are depended on its grace to provide us with life. The beach opens our way to the world and closes us off. It is a conflict zone in times of climate change and it's where life becomes so tangible through the power of the waves and the delicateness of each shell.

The sea provides us with a variety of foods, evens out the temperature on Earth and plays a key role in the water cycle. Life as we know it would not thrive without it and every other breath we take comes from the sea. Even so we often treat the ocean with litle respect, like don't care for it nor need it.

Coastal towns such as Akranes have a duty to defend these borders and make them accessible and safe for both the ocean and us who walk the land. During the last few decades Akranes has gone through rapid transitions from being dominated by industrial fishing and cement factories that have shaped the coastline and now the town stands at a crossroad, once again, to reinvent itself.

This project proposes to enhance the existing attraction of the shoreline in Akranes. By connecting, activating and rebranding the shoreline the municipality would be a pioneering town in Iceland to address nature experiences, effects of climate change and connect water and land with nature-based solutions that would also serve as a platform for education by offering people a window to the magical world of these transformation areas.

ACKNOWLEDGEMENT

This project gave me the privilege of working with and being inspired by incredible and kind people. To all my teachers you are an endless source of wisdom and different perspectives and I've learned so much from all of you and I'm so happy to be a part of the SUDes family. My fellow students who have been my greatest inspiration throughout my studies, you all have made me a better designer and it's been an amazing two years discussing urban environment and learning from each others background.

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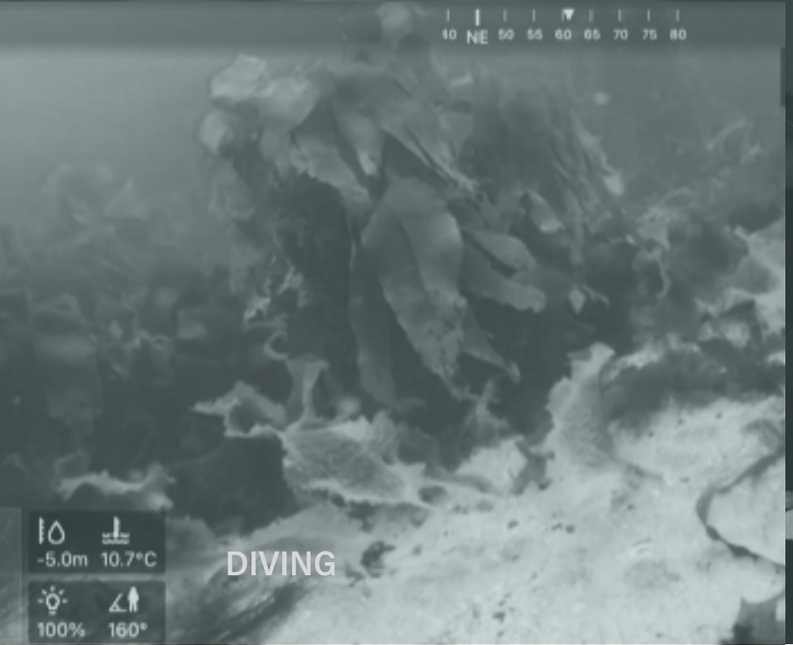
ALTERNATIVE METHODS



DIVING

UNDERWATER DRONE

AUDIO RECORDINGS

AIR DRONE

VEGETATION COMBING

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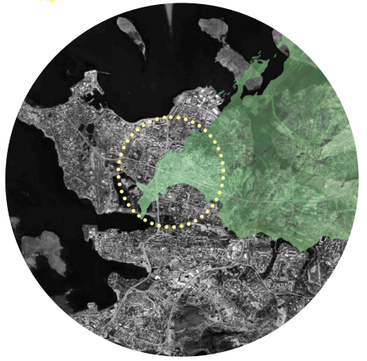
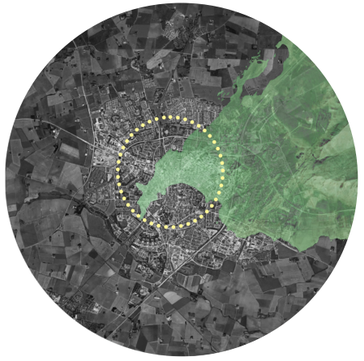
CONTEXT

Figure 1: The Arctic Circle

The circle shows Akranes in a 3 km radius on three nordic municipalities to put the size of the municipality in context.



Reykjavík



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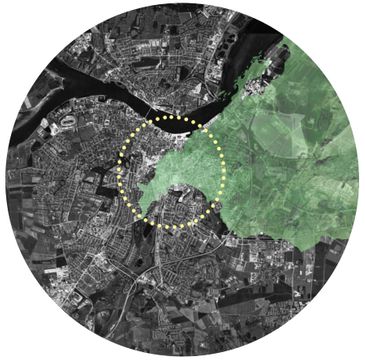


Aalborg

Iceland is a remote island in the North Atlantic Ocean and is situated at the confluence of the North Atlantic and Arctic Oceans, on the Mid-Atlantic Ridge where the North American and Eurasian tectonic plates come together (Sveinbjörnsson, 2018). As the island reaches to touch the Arctic Circle the mainland is located a few degrees south of the Arctic Circle. Due to its unique location the island is very volcanically and geologically active which allows Icelanders to rely on renewable energy to provide almost 100% of electricity production, with about 73% coming from hydropower and 27% from geothermal power (Ministry of environment, energy and climate, n.d.).

Along the shores of Iceland, icy ocean currents from the north meet the Gulf stream from the south, that carries a warm and salty sea. (Sveinbjörnsson, 2018). Iceland also stands on an underwater plateau, which is part of the underwater ridge that runs from Greenland through Iceland and the Faroe Islands to Scotland. Under these geographical conditions, various ocean currents mix and carry abundance of nutrients, therefore creating ideal conditions for the ecosystem. Few sea areas in the world are more fertile than the sea around Iceland.

Iceland, or Ísland in its native language, is a part of Northern Europe and has the northernmost capital in the world, Reykjavík (Otieno, 2018). The country has a population of about 350.000 people, a total ground area of about 103,000 km^2 and is one of the most sparsely populated countries in Europe (World Population Review, 2022). About 10% off the country is covered with glaciers and the central highland covers about 40%, making the center inhabitable.

On the west coast of Iceland, about 50 km south of Reykjavík, a small town called Akranes is located.

Figure 2: Outlines of the island

Figure 3: Southwest Corner of Iceland

1

PART 01: AKRANES

1.1 INTRODUCTION

Akranes is located by the coast in the southwest parts of Iceland. The town was founded in the 8th century, and it is the nineth most populous municipality in Iceland and the most populous one in the west part of the island with roughly 8.000 inhabitants (Akraneskaupstaður, 2006). However, Akranes is also the second smallest municipality in Iceland accoring to square kilometers with only 9 km2 in total. Akranes is a rapidly growing municipality, and the settlement stretches from the oceanfront towards the mountain, Akrafjall, and now covers about a third of the total area of the municipality.

The settlement is almost surrounded by the sea on all sides, and it only differs 4 km that the municipality becomes an island. The sea and the beach make a strong impression on the landscape and the surroundings of the town while Akrafjall, the mountain, watches over the settlement and protects it from winds from the east.

A large part of the area was previously a wetland that was cleared and cultivated. The landscape of the town is relatively flat with short distances between all places. In the last few years, the population has increased by 9.5% (Akraneskaupstaður, 2020). The age composition of the population is wide, but the most populous age group in Akranes is between 25-49 years, however it is estimated that the average age of the people will increase and that the birth rate will decrease. The economic status of the town is strong, and the town's financial position has strengthened every year, which gives reason to increase services, maintenance of infrastructure and further investments in development (Akraneskaupstaður, 2019).

Figure 4: Sandbanks on Langisandur in 1933

1.2 GEOLOGY

The continental shelf of Akranes is mostly bluestone that has formed more than 3.3 million years ago (Haraldsson, 2011). The ice age greatly changed the landscape in Akranes where glaciers surfed deep valleys down into the pumice pile and volcanic eruptions under the glacier formed mountains and ridges. Before the ice age, the land was flat, voluminous lava flowed long distances and spread over large areas. The Ice Age was at its peak about 20,000 years ago and it is believed that Iceland was mostly covered by ice and that large glaciers stretched far out to the continental shelf. At its peak, it is estimated that a glacier about 600-1000 m thick covered the South-west part of Iceland, which stretched over 200 km out to sea. These heavy white giants carved out the pumice pile, polishing them into what we see today in Akranes, resembling a spine coming out of the landscape and claws reaching out of the coastline.

At the end of the last glacial period, Akrafjall was a flooded island or islet, which was later connected to land by the lowering of the sea level and the rise of the low land east of the mountain. This marked a turning point in the town's geographical creation history, with Akranes acquiring the image that has remained largely the same ever since.

The geology of Akranes is no stranger to catastrophic sea level changes. After the glacial period a 500-year cold spell took place with a decrease in sea level, still reaching about 30-50 m above the current sea level. 9,000-3,000 years ago, there was a decisive warming of the weather, so that most of the glaciers disappeared from the land. At first the sea level rose due to the melting of the ice caps, but gradually the glaciers started building up again, so for the next millennium the shoreline was 10-15 m lower than the current sea level and the shoreline was extended significantly further out. During that time, Akrafjall island became connected to the mainland again and thick soil and mound formation occurred on the land, which now lies on the seabed off the coast. In the 15,000 years that have passed since the sea level reached its highest point in Akrafjall, Akranes has gone through many transformations that can be read throughout the landscape and soil.

The old shoreline, which now lies in shallow water close to the current coast of Akranes, was originally formed above sea level, i.e., in bogs and marsh ponds on land. Birch lurks and roots have also been found, indicating that plants have grown where the peat was formed. It can therefore be assumed that the sea level was 5-15 m lower than it is now, or at least more than the current difference between low and high tide limits.

Therefore, the soil of Akranes is very diverse, where sea sediments and wind eroded sediments can be found alternately with peed, bogs and basalt ridges which shows that various changes have taken place in the sea level since the beginning of geological formation.

This made the soil very nutritious and a promising land for agriculture. When Irish settlers moved to Akranes they soon realized this fertility. They started growing various grains and the area got its name 'Akra'- (field) 'nes' (headland). This mixture of soil also meant that the beaches were full of food that people could easily harvest, such as seaweed and bird nests The landscape also had these natural shallow beaches that made it easy for boats to get in and out of the ocean.

1.3 BIODIVERSITY

A large part of the built land today was previously wetlands and bays that have been cleared, dried up and cultivated (Haraldsson, 2011). Today, Akranes is mainly characterized by drained agricultural land, wetlands, and beaches. As beach types are diverse, they attract diverse species of animals, birds, and insects.

The flora of the municipality is characterized by hardy perennials that generally thrive in the northern hemisphere. Trees in Iceland do not grow high nor fast, as in the other Nordic countries, due to short summers and often have a difficult time in the first years, especially by the sea.

The shoreline is rich in seaweed, beach ponds and rugged beach beds that nurture a diverse ecosystem (Icelandic Institute of Natural History, 2018). Beach ponds are usually species-rich in plants and animals because of their unique location.

Various bird species visit the beach ponds for food and the conservation value of this natural phenomenon is high.
There is also a seaweed cluster in the area, which is a very important feeding area for birds and has a very high conservation value.
Many of the birds seen in Akranes are birds that are on their way between wintering grounds in Europe and nesting grounds in the Arctic Ocean around Canada.

Seals, orcas, and other whales can often be seen from the shore, and when looking at the sand and the floodplain, crustaceans, molluscs, shells and coots are often seen.

Figure 5: Weather data for Akranes

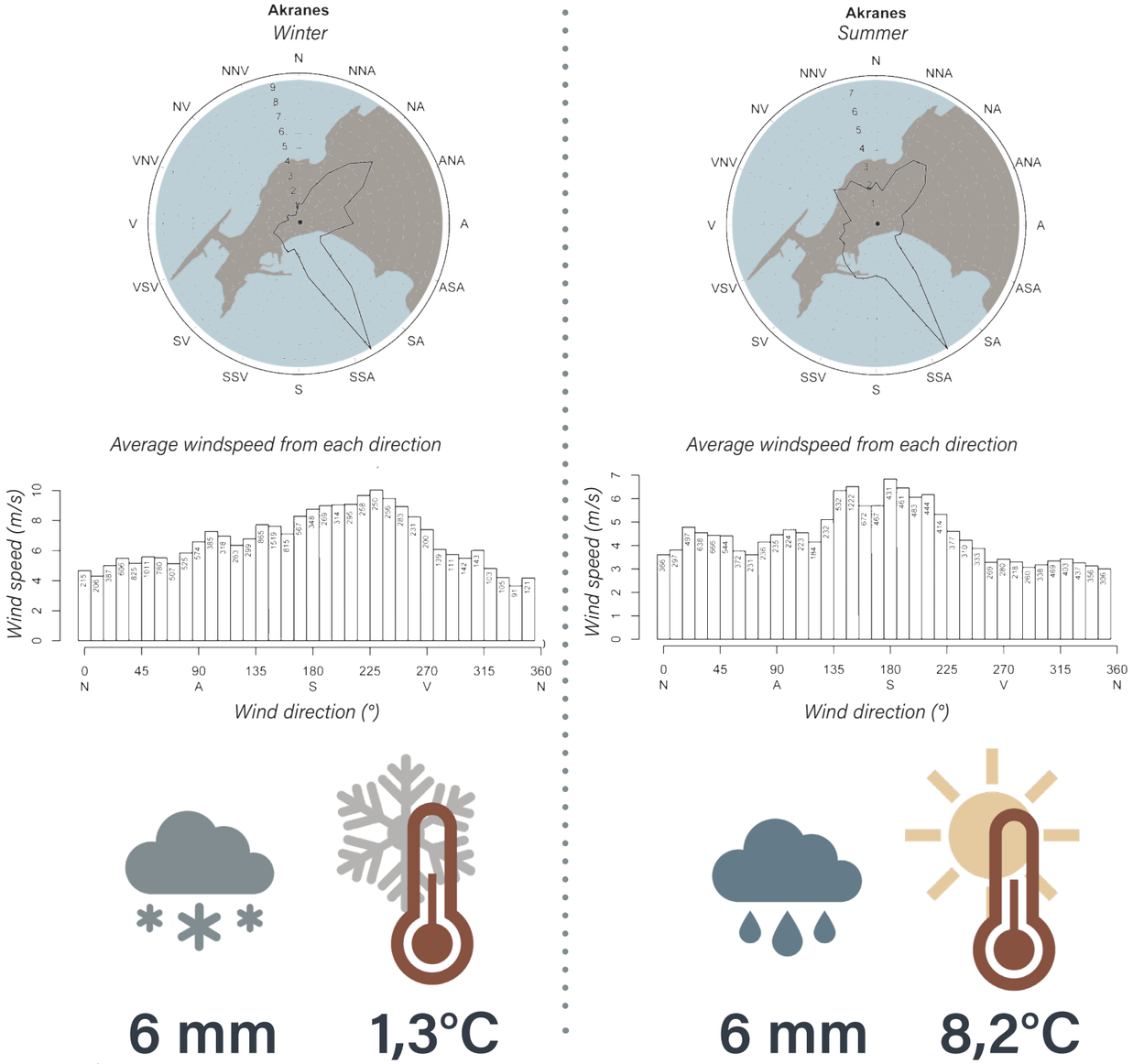
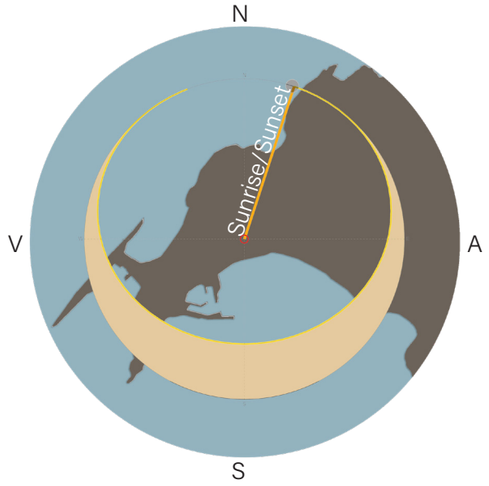
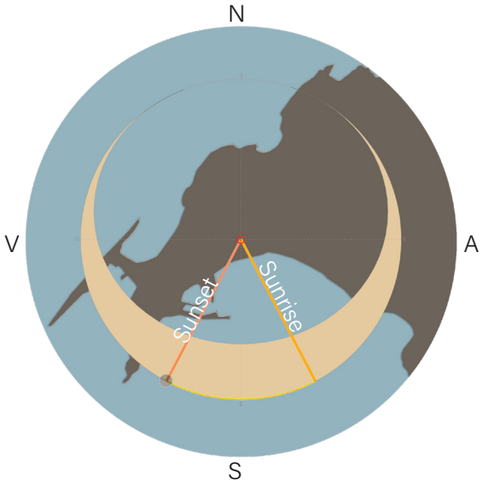


Figure 6: Solar data for Akranes



Summer solstice 21. June



Winter solstice 21. December

1.4 WEATHER

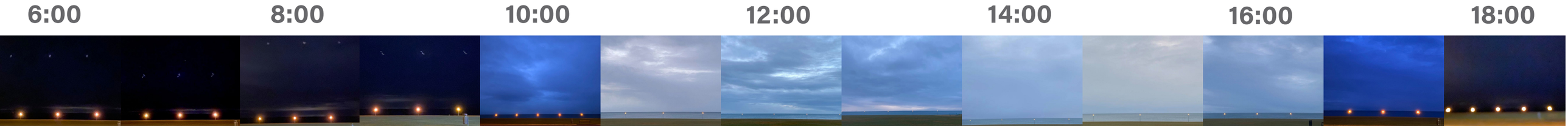
In Akranes, just like elsewhere along the coast of Iceland, there is an oceanic climate where temperature changes are less than when moving further into the country (Icelandic Met Office, personal communication, May 13, 2022). The winters are quite mild and rather snow-free, although there can be significant changes during the winter. Wind speeds can vary within the town depending on whether you are located in a new or older part of the town. The most common wind direction is from the southeast and that wind direction is considered worse in the upper part of Akranes where the settlement is a bit sparser.
The southeast wind is also often accompanied by strong winds and rain, but a sharp northeasterly wind can also be difficult.

In the lower part of Akranes, southwesterly and westerly winds are considered worse, but these winds can also be accompanied by increased sea level rise when the wind blows from the open sea. Northerly winds are usually not strong in Akranes but can be cold. The best wind direction in the opinion of many locals is the east wind where Akrafjall and Esjan form a shelter for the town. Seasonal changes are not drastic in Akranes, as often happens in other parts of the country, and proximity to the sea has a lot to say there.
The difference between the average temperature of the coldest and warmest months is only 8 to 13 degrees in most places.

AKRANES

SUMMERSOLSTICE

WINTERSOLSTICE



The drastic changes in weather aren't the only dramatic changes that affect the life of the Icelanders. Iceland truly is the land of extremes and the difference between summer and winter solstice proves just that. Plants, people and other animals need to come from a sturdy species to survive in this hostile climate.

1.5 SETTLEMENT

Around 880, two brothers came from Ireland, along with their wife's, grown children and other people (Haraldsson, 2011). These brothers were Þormóður and Ketill Bresason's, born and raised in Ireland, but of Norwegian descent. They occupied all of Akranes, Þormóður south of Akrafjall and Ketill north.

When the brothers settled, the headland was covered with forest and grass. There were good fields here, so the area was well suited for arable farming. Grain was grown in Akranes for many centuries after the settlement.
From the beginning of the settlement, it was considered a great benefit to own land by the sea and the shores were well utilized, e.g., for beach grazing on livestock in winter, mussels taken for bait and seals and birds caught for food. Ever since the settlement, the shores have been used to increase the food selection and fresh food in late winter.

The first settlers of Akranes divided the land so that both had access to the sea and the inhabitants of Akranes have since visited the shores to strengthen and increase their quality of life. Soon more farms were built, and the settlement was divided into more lands.

Around 1200, a new farming land was formed at the far end of the peninsula called Skagi.
That land was large and very well located for fishing. There were many areas on this new land where boats could easily be launched. These areas are still today one of the most popular areas of Akranes to visit. These areas are sheltered places that are suitable for sealing small boats and usually small, natural inserts in the coastline with a good beach.

Around 1550, the number of houses in Akranes began to increase and in the 16th century the settlement flourished. However, the fish disappeared from the fishing grounds around 1700, so many people moved away. In the middle of the 19th century, the population began to increase again, reaching 750 people, and the majority lived close to the sea. The town flourished and plenty of work was available. Residents could now shop for necessities in Akranes and did not have to go all the way to Reykjavík. During this time, streets that still exist today, were formed and the town began to take on the image we know today, as an authentic Icelandic fishing village.

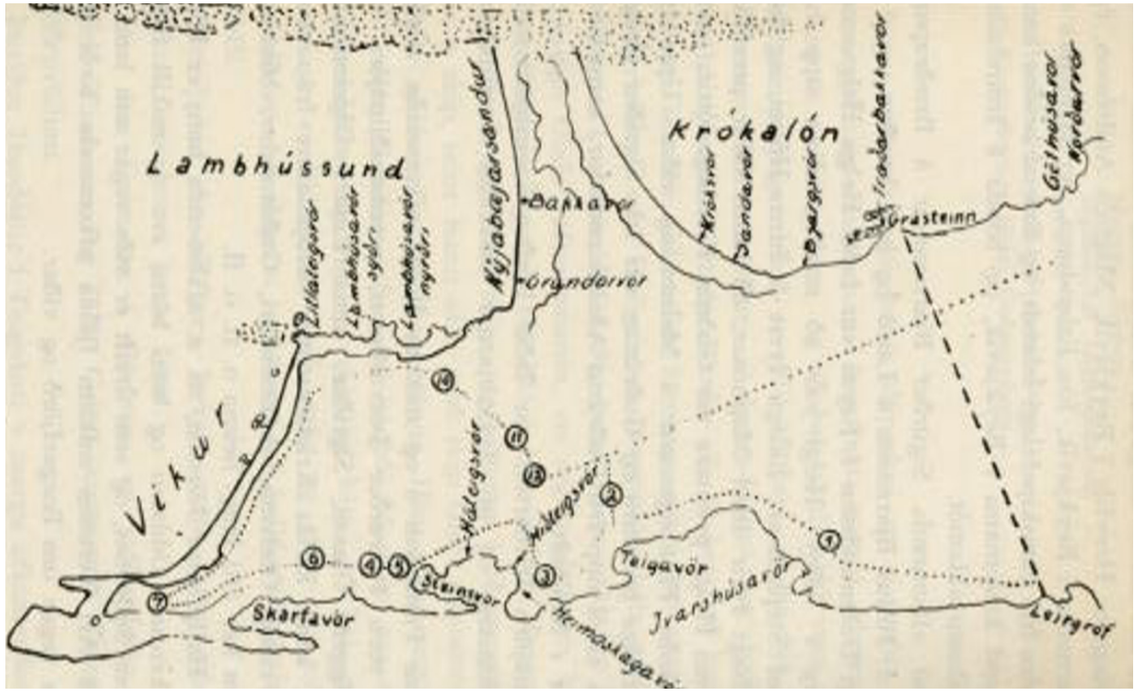


Figure 7: The many areas where boats used to be launched

Figure 8: The Harbour without current landfill

1950-1959

2022

1.6 GEOGRAPHICAL HISTORY OF THE COASTLINE

Figure 9: The Coastline 1908 and 2022

Figure 10: Streets from 1908 that still exist today

The municipality has undoubtedly left its mark on the town's coastline over the years.
The main landfills have been made around the harbor for large ships as a result of increased fishing, the transport of cement and for a ferry that used to sail between Akranes and Reykjavík (Akraneskaupstaður, 2006). The ferry sailings were discontinued in the summer of 1998 when a tunnel was put into use between Akranes and Reykjavík (Skessuhorn, 1998).
In other places, landfills have been used to reduce sea intrusion and raise seawalls, often at the expense of views and access to the shore.

In some places, the sea has slowly but surely started to fill up the coves, but in other places it is gnawing at the coastline where there are no defenses.
On a map from 1908 it can be seen that many of the original streets in Akranes are still in use (Landmælingar Íslands, n.d.). The street scene takes into account some of the layout that was common at the time and can still be seen in the older part of the town. These streets connected the main residential cores and the main activities that were dominant at the time, like the harbor and the countryside.

1.7 INDUSTRIAL HISTORY

Figure 11: Women stacking dried saltfish

DRYING DOCK

For a large part of the last century, salted fish was spread all over Breið, the southernmost part of Akranes, and dried when the weather was good (Haraldsson, 2011). The area was covered in drying stands where fish was left to hang. There are still drying sheds on Breið today and there are traces of stoned areas where the salted fish was laid out.

Figure 12: Fish processing workers

FISHERY

In 1976 about every sixth resident of Akranes worked for Harald Böðvarsson in one way or another, but the portion of people who worked in the fishing industry was much higher if you include those who worked for other smaller fish processing companies or were self-employed fishermen (Morgunblaðið, 1976). There are few shipping companies in Iceland that have such a successful career as Haraldar Böðvarsson's shipping company in Akranes. For a whole century, this company was one of the main backbones of business life in Akranes, and it is debatable whether the town would have become an urban area without it.

After Akranes was granted town rights In 1942, the economy grew, the fishing industry strengthened, major improvements were made to the fishing fleet and fish processing was the heart, blood and soul of the town where generations worked together.

Figure 13: The Cement factory

CEMENTFACTORY

In 1958 the State Cement Factory began operations at the harbor in Akranes (Guðmundsson, 2019). A lot of technical progress and innovation took place there, however, the technical conditions for the production of cement in Iceland were in many respects difficult and unconventional. There was little experience from abroad for the use of the local raw materials, the market was small and the production unit was small and inefficient. As a result, it was enacted into the State Cement Monopoly Act, which was subsequently phased out in 1971 due to EFTA membership. While operating it was also debated if there could be possible health risks for having a huge industrial factory in the middle of the town.
In the years 1970-1990, the company employed about 180 people but in 2012 the number of full-time equivalents was only 12 after sales of cement collapsed. In 2018, the factory was partially demolished, but imported cement is still accepted at the port of Akranes.

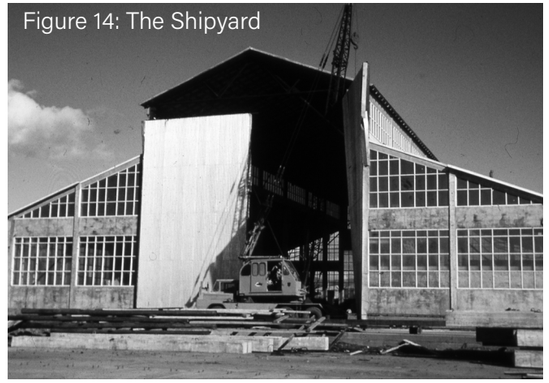


Figure 14: The Shipyard

SHIPYARD

From trading to shipyard to innovation. The harbor on the west side of Akranes was a licensed trading post from 1864 until Akranes gained marketplace rights in 1942 (Haraldsson, 2011). Around 1960 a company called Þorgeir & Ellert hf. built a shipyard on the westest part of the area accompanied with a ship lift (Guðmundsson, 2002). Both are still existing today but the lift has not been used for decades. This company was a great educational center for craftsmen in Akranes and about 600 Icelandic craftsmen practiced their trade there. It is still operating to this day but has merged with a company called Skaginn 3X. Skaginn 3X is an innovative producer of high-tech processing systems for the global food industry (Skaginn 3X, 2021). It has in recent years been the workplace with the most employees in Akraness. In 2021 the German company Baader bought Skaginn 3x (Baader, 2022).

Figure 15: Football in Akranes

FOOTBALL

Football has been part of the town's identity for decades and many of the best football players from Iceland come from this small town. In the old days, the facilities for practicing football were in many ways different from what happened elsewhere in Iceland, as the players had access to the Langasandur beach, and football was practiced and played there for many years (Guðbergsson, 2008).

The town's footballers were often known to be light on their feet and quick, having grown up running on sand rather than gravel, although gravel pitches were also common throughout Akranes. Even today, football is practiced with great vigor and leaves its mark on the entire area around Langasand.

Figure 16: Potatogarden landscape in Akranes

POTATOS

The first records of potato cultivation in Akranes date from 1843 (Gestsdóttir, n.d.). Soon, the town's appearance and landscape began to be characterized by potato gardens. The soil along the coastline was very suitable for cultivation and people often talked about the 'good sand potatoes' that eventually got the name 'Akranes potatoes'. Akranes potatoes were considered exceptionally good and became nationally famous for their quality. When potato infections started arriving in the country in the 1950s, this well-known potato breed proved to be very sensitive to it, and now there is little or nothing left of the original potato stock in Akranes. When people moved, they were not allowed to take the old seed with them to prevent further contamination. Therefore, many people stopped growing this variety or completely stopped growing potatoes. Potatogardens aren't common today, but some people rent vegetable gardens from the municipality to grow there.

Figure 17: Swimming in the harbour

SEABATHING

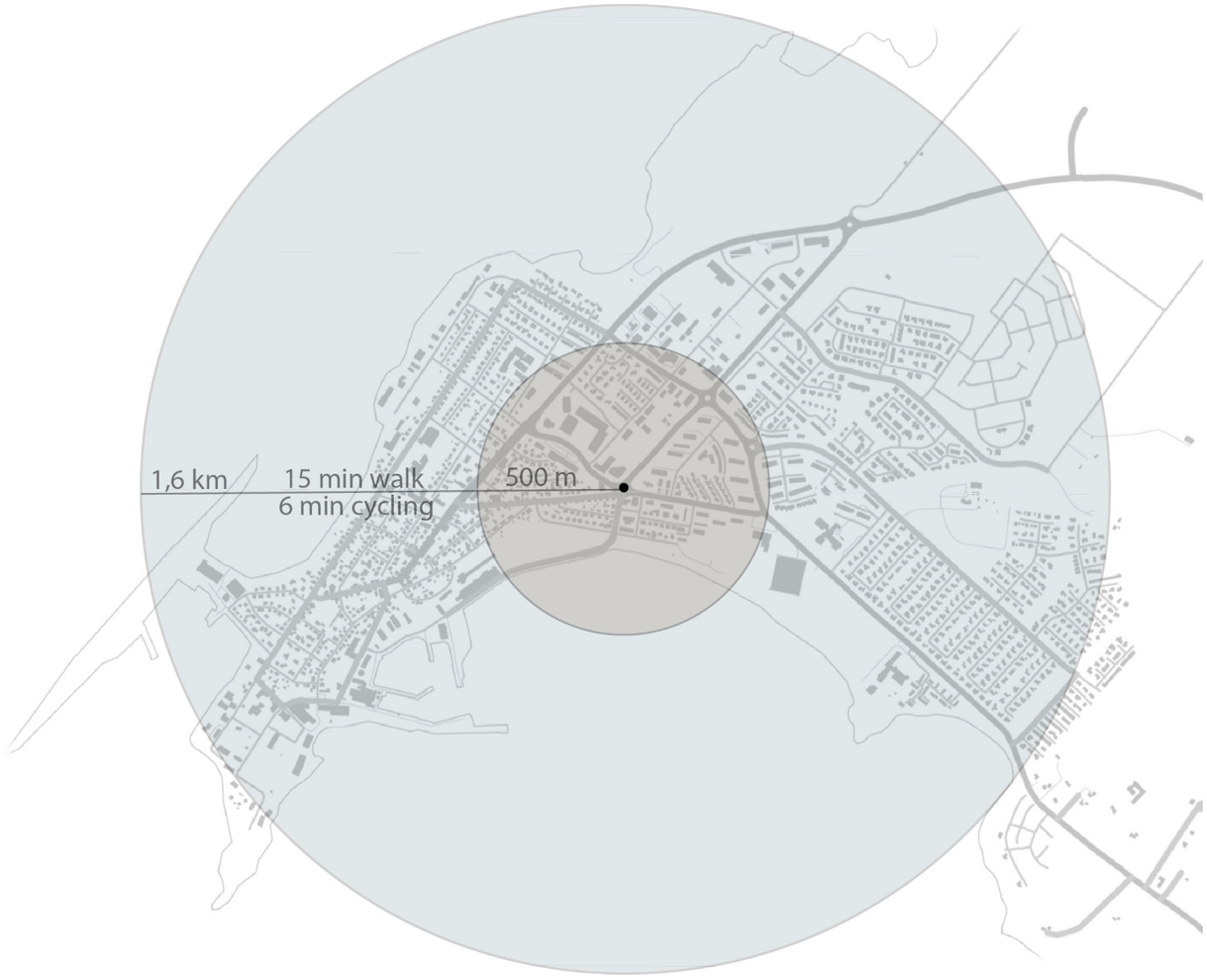
Sea swimming as a health enhancing activity has been practiced in Iceland for about 70 years, and its popularity has grown greatly in recent years (Ferdalag.is, n.d.). Langisandur has reduced the need for residents to visit warmer countries with white shell sand and shallow water to swim in. Langisandur has received Blue Flag recognition for the last 10 years and is one of the most popular sea bathing places in the country, where tourists flock to Akranes just to bathe in the Atlantic Ocean (Akraneskaupstaður, n.d.). The popularity of sea bathing dramatically increased after the hot pool 'Guðlaug' was opened in 2018.

Figure 18: Madame Friang and the Lighthouse

LIGHTHOUSES

In 1918, a 10-meter high lighthouse was built at the southern end of Akranes (Akraneskaupstaður, n.d.). In the years 1943-1944, a new 22.7 meter high concrete lighthouse was built and it replaced the old one in 1947.

In 2012, Akranesviti was opened to the public for the first time, but previously only lighthouse keepers had access to the lighthouse. The Akranes Lighthouse has become one of the biggest tourist attractions in Akranes, but the lighthouse has been used for art exhibitions, recordings, concerts and even weddings. The view from the top of the lighthouse is magnificent with an overview of Reykjavík, the Reykjaness Peninsula and Snæfellsnes.



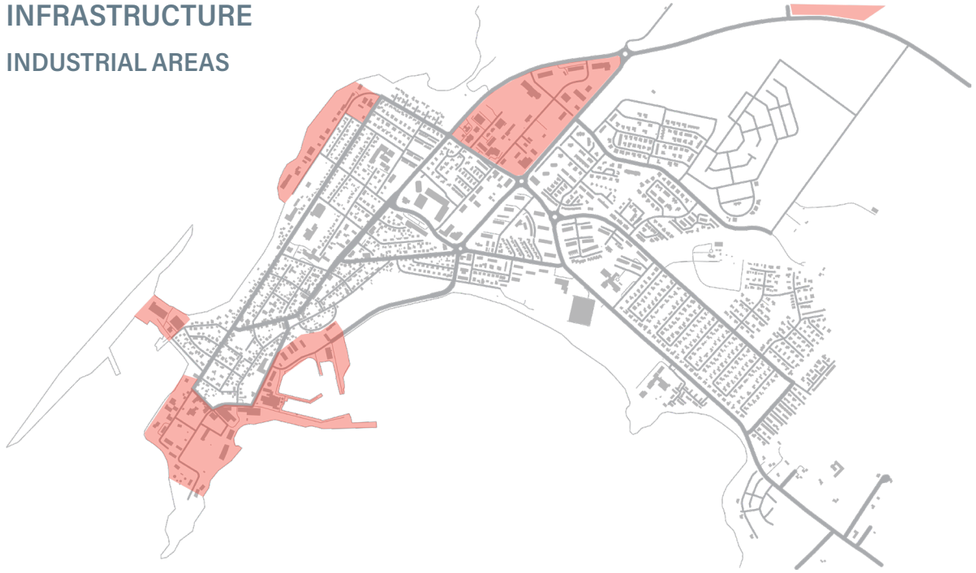
1.9 LOCAL DISTANCES

The distances between places in Akranes are not long and the municipality is only about 3 km where it is the longest. It is assumed that the average adult walks an average about 1.6 km in 15 minutes, or 6 minutes on a bicycle. The map shows a 1.6 km radius from the center of the town along with a 500 meter radius.

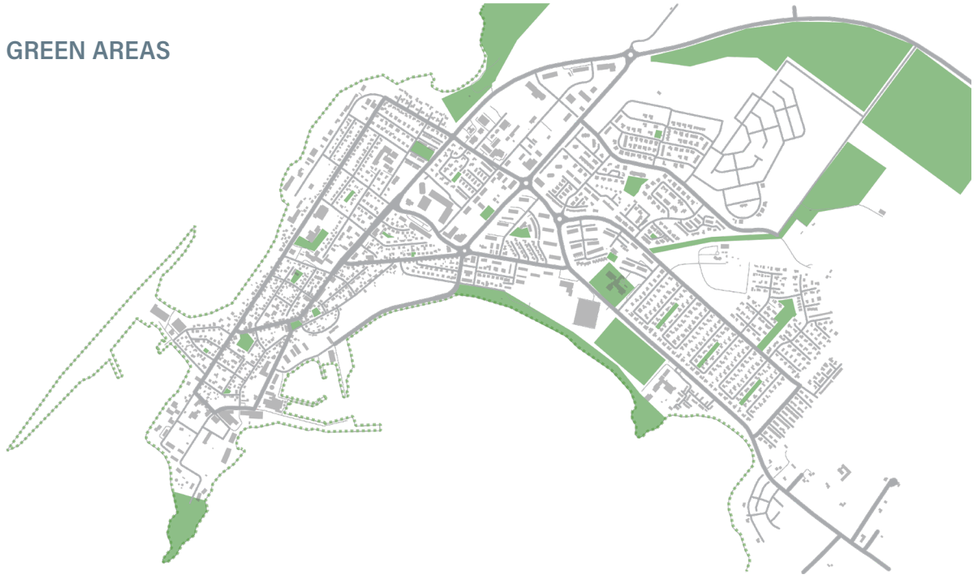
The existing path system for pedestrians in Akranes is parallel with the car streets and is very out of scale and often confusing and unsafe. Increasing the connection of the current path system to the sea path represents enormous opportunities and increased flexibility for residents.

INFRASTRUCTURE

INDUSTRIAL AREAS

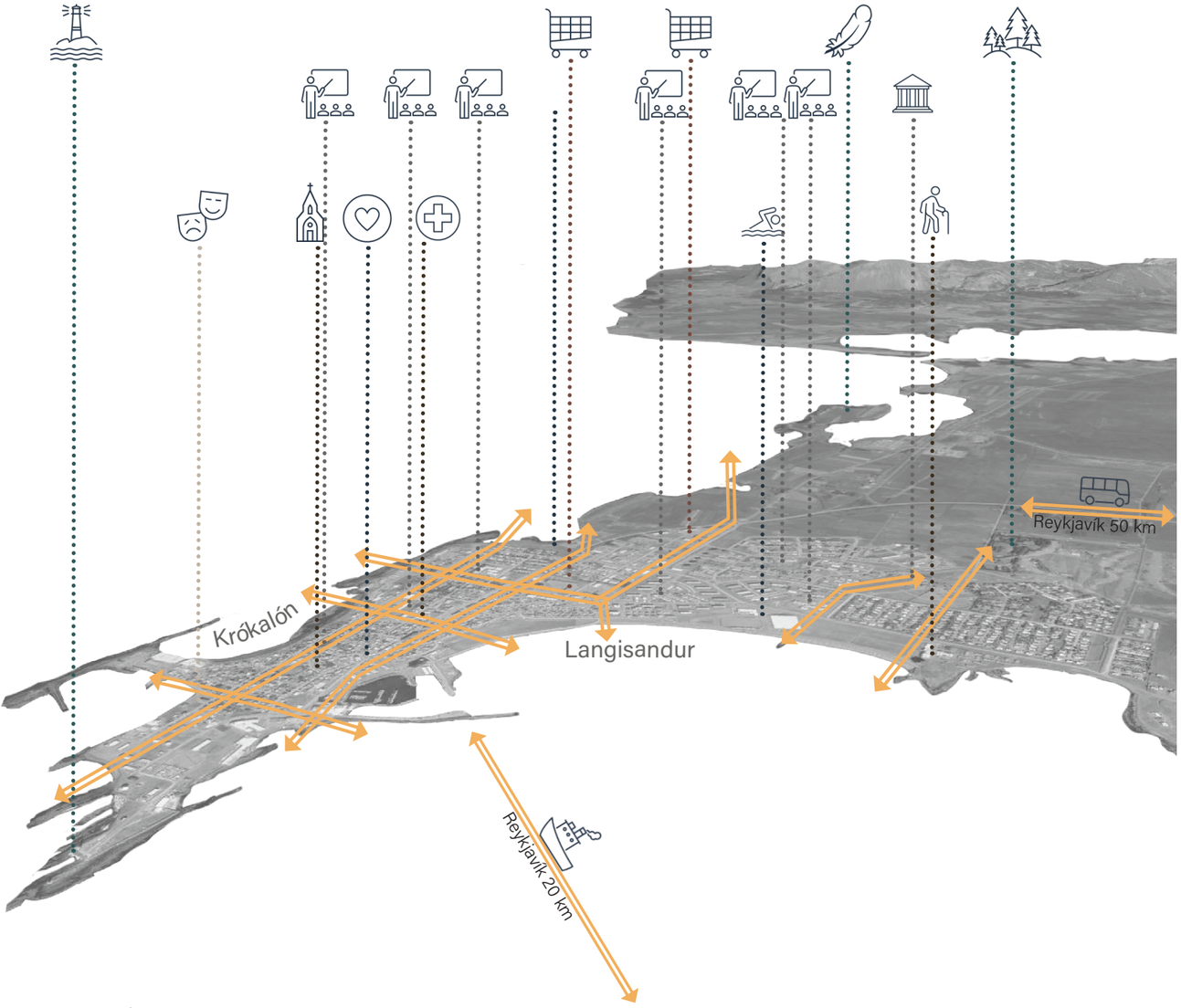


GREEN AREAS



SCHOOLS AND SPORT FACILITIES

HOSPITAL AND CARE



1.10 CONNECTIVITY

There are two elementary schools in Akranes, Brekkubæjarskóli and Grundaskóli. Both are close to the coastline, Grundaskóli is close to Langisandur and Brekkubæjarskóli to Krókalón. Both of the schools benefit greatly from being able to access the beach and using the natural surroundings as a openair classroom, and Grundaskóli has that luxury almost inside their school yard. The children from Brekkubæjarskóli would also share that luxury if Krókalón was more accessible.

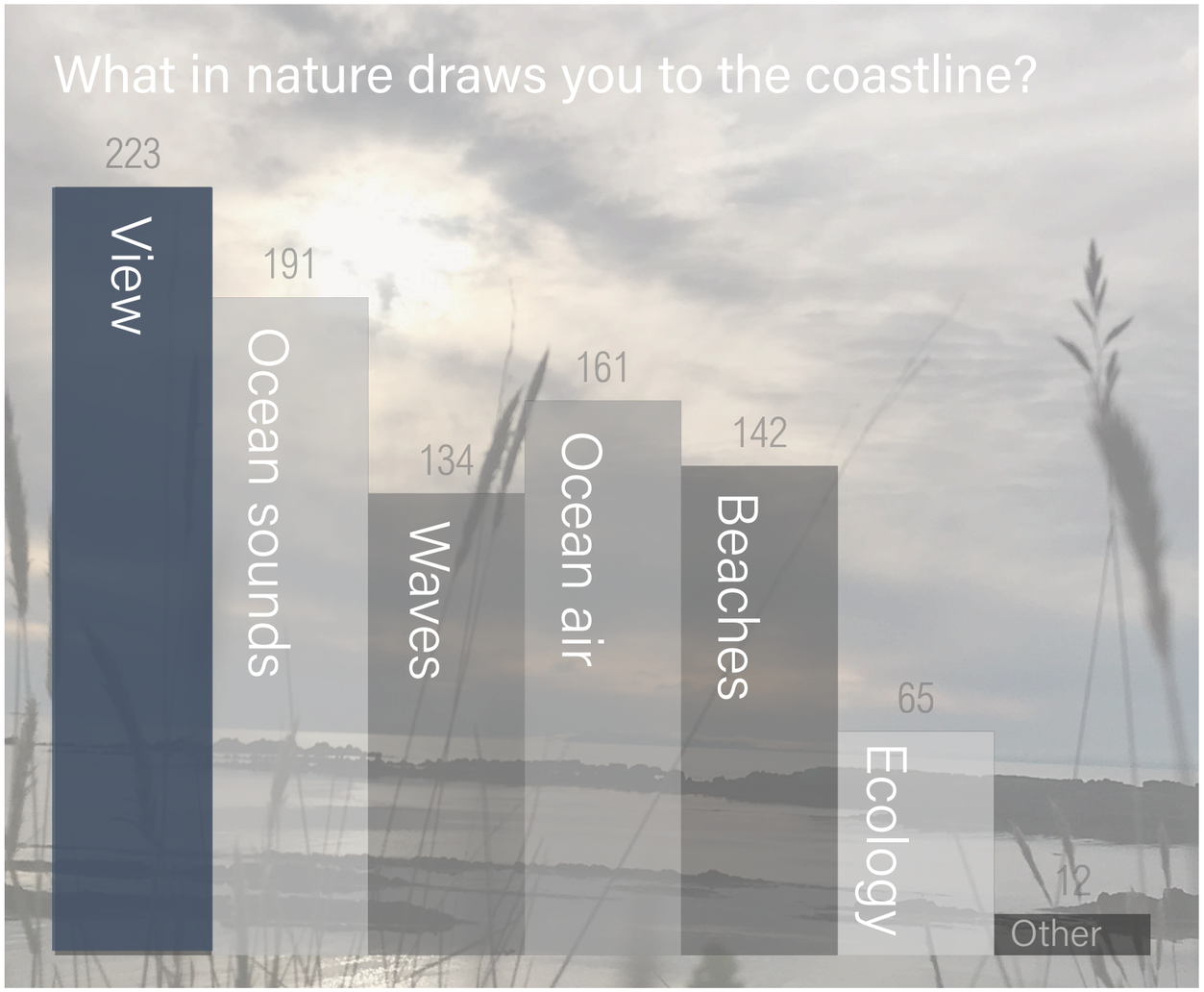
As stated before, there are no great distances in Akranes. Even so the town is pretty car dependent and people often use their cars as a four wheel jacket. Accessibility is lacking for cyclists and pedestrians in most places and parking lots take up a huge amount of space within the municipality. Most people who walk or cycle are doing so for exercise or leisure, not commuting.

The coastline today consists mainly of individual beaches with poor connection to each other, but most of them do have a fairly good connection to other parts of the town. Most tourist attractions in Akranes are located on or near the coastline so it is easy to visit them individually but in order to get between them one will always need to take a car-oriented detour. Once the coastal path becomes a holistic pathway it wouldn't be an isolated phenomenon but can exist equally as a destination as well as part of the existing route system in Akranes.

person is 158 cm

1.11 VISUAL CONNECTIONS

When looking at a map of Akranes one might think that the ocean is pretty present at the coastline, but when walking the pathway as it is today there are some extreme visual barriers that disconnect pedestrians from the ocean and the spectacular view. These barriers are in most cases the sea barrier walls, which the Road Administration takes care of and builds. These barriers have gotten higher and wider in the past years and the newest ones are obstructing views from anyone smaller than 1.60 m and often impossible to climb over. Other barriers consist of concrete walls and sometimes buildings that force people to step away from the coastline and onto the streets in order to continue on the coastline. Of course the coastline needs to be safe from extreme waves and weather but at the same time keeping these visual aspects of the coastline is a huge attraction and can make an immense difference for the experience of the pathway.



Akrafjall *Esja* *Reykjavík* *Keilir* *Atlantic Ocean* *Snæfellsjökull glacier* *Hafnarfjall*

In the book "To design a landcape" (Dee, 2012) Catherine Dee talks about the importance of understanding context. She explains that conditions dictate what is required and what not. Therefore context is the starting point and core of every good design. No site is an island without any context, be it physical, historical or ecological, and when designing it's important to decide whether a continuity of context is necessary, or if there should be a partial break.

According to a survey conducted for this thesis in June 2022, the visual connections to surrounding landscapes are very imporant to the locals. It is what draws them to the seaside and it is a huge part of their every day life. Having these visuals before your eyes everyday has a huge impact on ones mentality.
Keeping those visual lines can mean to accept the everchanging weather elements. Climatic elements, such as rain and wind are usually perceived as negative and designers try to eliminate them as best as they can.

Dee explains that "while people's comfort and safety in public environments is important, excessively climate-controlled and sanitised landscapes lose the capacity to vitalise." She believes that design may provide people with the opportunity for passing through cultural conditions, to experience nature directly as nature.
The coastal path should not be a glorified reality that fits in best with our reflection on countries around the equator. We need to have a elemental register that will not be achieved unless we provide opportunities for a straightforward joy of sun, rain, rock and water.

1.12 PHYSICAL CONNECTIONS TO THE BEACH

Getting to the shoreline of Akranes is considerably easier than getting right down to the beach in many places. If there are stairs they are usually only on one side so if someone is planning to walk the coast they will reach a cul-de-sac on the beach and need to return the same way they came and continue their journey from there. Most of the beaches are closed off with massive rocks that form the sea barrier. Those rocks make it difficult for anyone who is not used to climbing on them or isn't very fit, let alone people who have any kind of injury or disability. In the picture to the left it's possible to see where there is easy access for fully able people. There is only one location that is easily accessible to people with disabilities such as a wheelchair or walkassist and that is the Skarfavör beach (marked with a handicap sign), but even there the accessibility could be made better with some form of ramp towards the ocean.

Figure 19: The depth of the ocean around Akranes

1.13 EXISTING THREATS

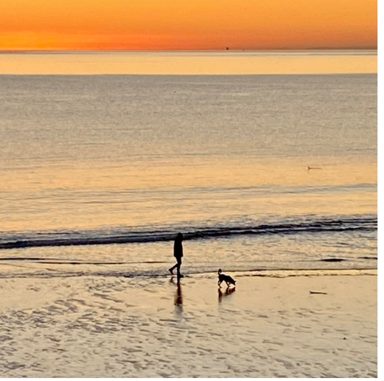
The light blue color on Figure 19 shows where the seabed around Akranes is shallowest, or from 0-10 meters, the darker blue color shows a depth of 10-20 meters and the darkest anything above 20 meters.
The average difference between high tide and low tide in Akranes is about 4 meters (grey color), but the difference can be greater during spring tide. When the weather is extremely bad, waves can crash on the coastline and pour over roads and houses. Today, most areas are well equipped with sea defenses, where you can expect a lot of sea intrusion, which was not present back in the day.

The Básenda flood was a huge sea flood, which was caused by one of the strongest cyclones that has passed over Iceland in historical time (Björnsson, 2006). It happened on the night of January 9, 1799 and caused a lot of damage to houses, boats and other property in the Southwestern part of Iceland. Akranes flooded the entire southernmost promontory, which today is called Breið (*), and it is said that it was almost possible to get by boat all the way to the center of the town (¤) (Morgunblaðið, 1999). Many towns in that area were deserted after that, but everyone survived in Akranes.

There are a lot of rocky reefs out on the coast that often don't become apparent until low tide. It is necessary to know them well before setting off on a fishing trip and also to know how to read the weather. From the years 1801-1900, approximately 400 people died in a sea hazard off the coast of Akranes. (G. Haraldsson, personal communication, August 19, 2022). The accident left behind many widows and great poverty prevailed in Akranes. This would correspond today if 52 residents of Akranes lost their lives at sea every year.

One of the most famous accidents is the "Mermaid accident". The accident happened on Saturday, September 14, 1905, when the six-man ship, called Hafmeyjan (e. The Mermaid) was on its way from Reykjavík to Akranes with eleven young people on board, aged 20-30, who were on their way home (Morgunblaðið, 1998). The boat had come very close to shore at Akranes when it ran a ground and sank. Two bodies were quickly found, but others were not.

In small communities that are constantly traumatized, where families watched their livelihoods sink into the sea, it seems to become embedded in people's DNA and the community became a close-knit unit that helps each other when times get tough to this day.









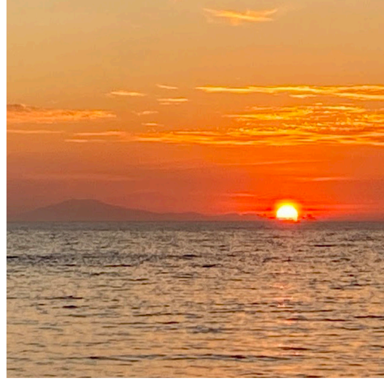












1.14 EXISTING ATTRACTIONS

There are many possibilities for outdoor recreation and exercise within the towns limits. Langisandur is especially popular, where you can bathe in the sea and enjoy the view in Guðlaugu, a hot pool located in the rock garden at Langasandur. Possibilities for all kinds of recreation, whether it's football, climbing or sea sports such as jumping into the sea, windsurfing, kayaking and much more can be found all over the coastline along with cultural monuments, countless photo subjects and beautiful nature. No restaurants or hotels are located on the coastline but the campsite sits on the edge of town with a million dollar view of the Snæfellsjökull glacier.

Figure 20: Kelp

1.15 OCEANIC INNOVATION

There are a lot of seaweed species and other creatures that grow and live around the coastline of Akranes (G. Ólafsson, personal communication, August 3, 2022).
Kelp has an incredibly fast growth rate and recent research shows that kelp can permanently remove carbon dioxide from the atmosphere which will play a necessary role in preventing rising temperatures and future climate catastrophe (Hurlimann, 2019).

Several companies in Akranes have begun to use this resource to a greater extent, and the largest one is the American company Running Tide. Running tide is harvesting seeds from kelp around Akranes to grow in ship containers (Running Tide, n.d.). Once it reaches a certain maturity they sail it out into the open ocean on special carbon buoys where it continues to grow and catch CO^2 with only ocean currents, sunlight, and gravity. Once it's fully grown it sinks to the bottom of the ocean, removing carbon dioxide from our ocean and atmosphere. The buoys are made from limestone that slowly dissolves and while doing so it's restoring the oceans alkalinity and combating ocean acidification.
At the end of its life cycle the carbon embodied in the buoy and kelp will either be buried in ocean sediments or consumed by deep-sea marine life.
Kelp is not only good for carbon storing, it's also extremely healthy. Kelp has an impressive nutritional profile being a rich source of iodine, iron, Calcium, Folate, Magnesium and Vitamin K (Nazario, 2020). As previously stated the people of Akranes used to use the beach for food gathering, more than they do today. The concept of having an edible landscape is a forgotten knowledge in many cases and the talk of introducing urban farming back into cities has been an ongoing trend for many years. But what if there was a possibility to expand the urban farming concept into the beaches, go back to basics and learn how to use the shallows for food again. Gathering blue mussels is a popular activity for Icelandic families, just like going berry picking. Kelp and blue mussels are great companions and can easily be grown together on lines (G. Ólafsson, personal communication, August 3, 2022). This might be a great way to introduce this remarkable food source back into the Icelandic diet.

Figure 21: Gathering at the new harbour in Steinsvör

1.16 THE FUTURE OF AKRANES

Akranes did not develop as a trading place, but much more because of the good access to fishing grounds right at the town's door, which caused a large number of people to settle there. The town has changed from a fishing and agricultural village to one of the main industrial towns in the country. Times have not always been easy, but Akranes has always managed to get through the difficulties. Transport improvements in recent years have had a lot to say, and from being a relatively remote small town, Akraneskaupstaður has now become part of the Capital Region.

Akranes, like many other towns around the world, has often fallen into the trap of putting all its eggs in one basket, which has caused great fluctuations in the town's economy. From being branded as a fishing town to industrial town it now seems like it will either lean into being a tourist attraction and/or an innovative pioneer. Eitherway, the town seems to boast an indefatigable tenacity and the possibilities are endless for those who want to see them.

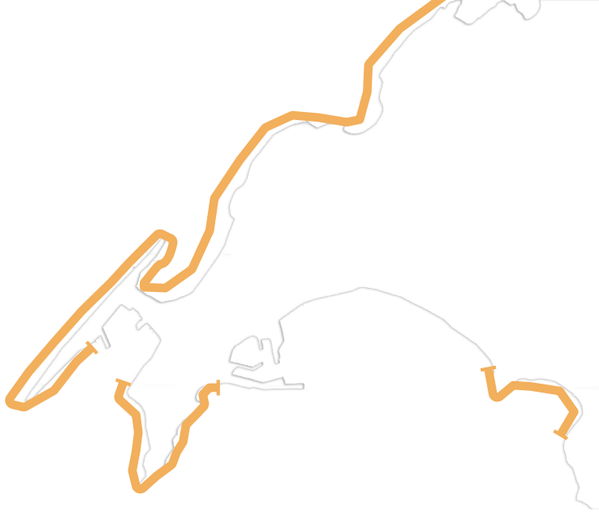
2

PART 02: THE SITE

2.1 DIFFERENT TYPES OF BEACHES

Beaches are classified according to the EUNIS classification system (European Environment Agency (EEA), 2016). The top categories of the EUNIS system are based on the type of beach bed (substrate), wave intensity, sea temperature, salinity and climate. The classification is then divided according to the species composition of the ecosystem, ie. dominant flora and fauna. Icelandic shores are classified into 24 different habitats and 9 of them are found in Akranes.

LITTORAL ROCK AND OTHER HARD SUBSTRATA



"Littoral rock includes habitats of bedrock, boulders and cobbles which occur in the intertidal zone (the area of the shore between high and low tides) and the splash zone. The upper limit is marked by the top of the lichen zone and the lower limit by the top of the laminarian kelp zone. There are many physical variables affecting rocky shore communities - wave exposure, salinity, temperature and the diurnal emersion and immersion of the shore. Wave exposure is most commonly used to characterise littoral rock, from 'extremely exposed' on the open coast to 'extremely sheltered' in enclosed inlets. Exposed shores tend to support faunal-dominated communities of barnacles and mussels and some robust seaweeds. Sheltered shores are most notable for their dense cover of fucoid seaweeds, with distinctive zones occurring down the shore. In between these extremes of wave exposure, on moderately exposed shores, mosaics of seaweeds and barnacles are more typical."

EUNIS habitat classification

LITTORAL SEDIMENT

"Littoral sediment includes habitats of shingle (mobile cobbles and pebbles), gravel, sand and mud or any combination of these which occur in the intertidal zone. Littoral sediments support communities tolerant to some degree of drainage at low tide and often subject to variation in air temperature and reduced salinity in estuarine situations. Very coarse sediments tend to support few macrofaunal species because these sediments tend to be mobile and subject to a high degree of drying when exposed at low tide. Finer sediments tend to be more stable and retain some water between high tides, and therefore support a greater diversity of species. Medium and fine sand shores usually support a range of oligochaetes, polychaetes, and burrowing crustaceans, and even more stable muddy sand shores also support a range of bivalves. Very fine and cohesive sediment (mud) tends to have a lower species diversity, because oxygen cannot penetrate far below the sediment surface. A black, anoxic layer of sediment develops under these circumstances, which may extend to the sediment surface and in which few species can survive.

Sediment shores are generally found along relatively more sheltered stretches of coast compared to rocky shores. Muddy shores or muddy sand shores occur mainly in very sheltered inlets and along estuaries, where wave exposure is low enough to allow fine sediments to settle. Sandy shores and coarser sediment (gravel, pebbles, cobbles) shores are found in areas subject to higher wave exposures."

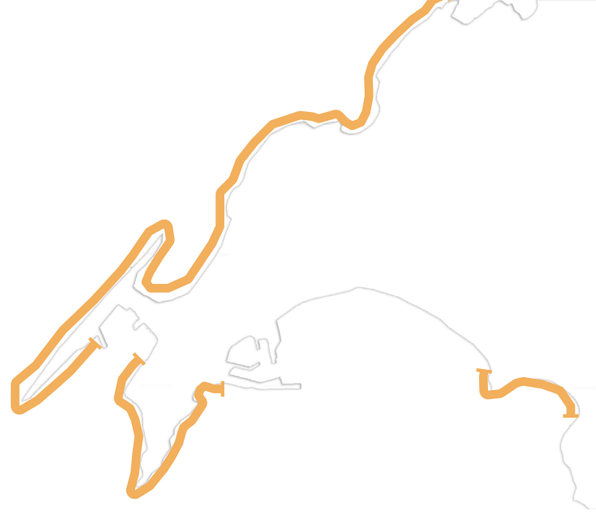
EUNIS habitat classification

MODERATE ENERGY LITTORAL ROCK; LOW ENERGY LITTORAL ROCK

Moderately exposed shores (bedrock, boulders and cobbles) characterised by mosaics of barnacles and fucoids on the mid and upper shore; with fucoids and red seaweed mosaics on the lower shore. Where freshwater or sand-scour affects the shore ephemeral red or green seaweeds can dominate. Other shores support communities of mussels and fucoids in the mid to lower shore. Two biological subtypes have been described: barnacles and fucoids and mussels and fucoids.

Sheltered to extremely sheltered rocky shores with very weak to weak tidal streams are typically characterised by a dense cover of fucoid seaweeds which form distinct zones (the wrack Pelvetia canaliculata on the upper shore through to the wrack Fucus serratus on the lower shore). Where salinity is reduced (such as at the head of a sea loch or where streams run across the shore) Fucus ceranoides may occur. Fucoids also occur on less stable, mixed substrata (cobbles and pebbles on sediment) although in lower abundance and with fewer associated epifaunal species; beds of mussels Mytilus edulis are also common. In summer months, dense blankets of ephemeral green and red seaweeds can dominate these mixed shores. Two biological subtypes have been described: Dense blankets of fucoid seaweeds dominating sheltered, fully marine littoral rocky shores and fucoids dominating variable salinity rocky shores.

EUNIS habitat classification



LITTORAL MUD

"Shores of fine particulate sediment, mostly in the silt and clay fraction (particle size less than 0.063 mm in diameter), though sandy mud may contain up to 40% sand (mostly very fine and fine sand). Littoral mud typically forms extensive mudflats, though dry compacted mud can form steep and even vertical structures, particularly at the top of the shore adjacent to saltmarshes. Little oxygen penetrates these cohesive sediments, and an anoxic layer is often present within millimetres of the sediment surface. Littoral mud can support communities characterised by polychaetes, bivalves and oligochaetes. Most muddy shores are subject to some freshwater influence, as most of them occur along the shores of estuaries. Mudflats on sheltered lower estuarine shores can support a rich infauna, whereas muddy shores at the extreme upper end of estuaries and which are subject to very low salinity often support very little infauna.

Muddy shores are principally found along the shores of estuaries where there is enough shelter from wave action to allow fine sediment to settle. Muddy shores may also be present in sheltered inlets, straits and embayments which are not part of major estuarine systems."

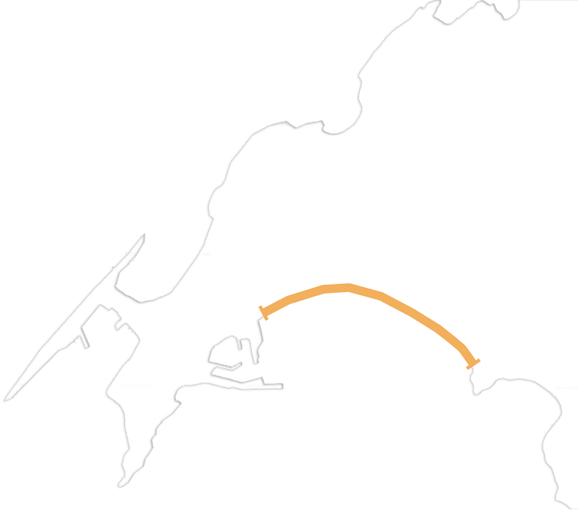
EUNIS habitat classification

FUCOIDS ON SHELTERED MARINE SHORES

"Dense blankets of fucoid seaweeds dominating sheltered to extremely sheltered rocky shores and/or in locally sheltered patches on exposed to moderately exposed rocky shores. Typically, the wrack Pelvetia canaliculata occurs on the upper shore, with the wrack Fucus spiralis below. The middle shore is dominated by vast areas of the wrack Ascophyllum nodosum or the wrack Fucus vesiculosus or a mixture of both. The wrack Fucus serratus covers lower shore bedrock and boulders. Sheltered to very sheltered mixed substrata (pebbles and cobbles overlying muddy sand and gravel) shores can support fucoid communities.
Sheltered shores (i.e. estuaries and sea lochs) is situated below the lichen dominated zone and above the kelp dominated zone in the sublittoral or sheltered patches on more wave exposed shores."

EUNIS habitat classification

LITTORAL SAND AND MUDDY SAND



"Shores comprising clean sands (coarse, medium or fine-grained) and muddy sands with up to 25% silt and clay fraction. Shells and stones may occasionally be present on the surface. The sand may be duned or rippled as a result of wave action or tidal currents. Littoral sands exhibit varying degrees of drying at low tide depending on the steepness of the shore, the sediment grade and the height on the shore. The more mobile sand shores are relatively impoverished, with more species-rich communities of amphipods, polychaetes and, on the lower shore, bivalves developing with increasing stability in finer sand habitats. Muddy sands, the most stable within this habitat complex, contain the highest proportion of bivalves.

A strandline of talitrid amphipods typically develops at the top of the shore where decaying seaweed accumulates. Fully marine sandy shores occur along stretches of open coast, whilst muddy sands are often present in more sheltered lower estuarine conditions and may be subject to some freshwater influence."

EUNIS habitat classification

BARNACLES AND FUCOIDS ON MODERATELY EXPOSED SHORES

"Moderately exposed rocky shores characterised by a mosaic of fucoids and barnacles on bedrock and boulders, where the extent of the fucoid cover is typically less than the blanket cover associated with sheltered shores. Other species are normally present as well in this habitat. Beneath the band of yellow and grey lichens at the top of the shore is a zone dominated by the wrack Pelvetia canaliculata, scattered barnacles, while the black lichen Verrucaria maura covers the rock surface. Below, on the mid shore the wrack Fucus vesiculosus generally forms a mosaic with the barnacle Semibalanus balanoides and the limpet Patella vulgata. Finally, the wrack Fucus serratus, dominates the lower shore, while a variety of red seaweeds can be found underneath the F. serratus canopy. Situated in mid and lower eulittoral moderately exposed bedrock with a lichen zone above and a kelp dominated community below in the sublittoral zone."

EUNIS habitat classification

FUCOIDS IN VARIABLE SALINITY

"Blankets of fucoid seaweeds dominating sheltered to extremely sheltered rocky shores with variable salinity. The wrack Pelvetia canaliculata occurs on the upper shore, with the wrack Fucus spiralis below. The middle shore is dominated by vast areas of the wrack Ascophyllum nodosum or the wrack Fucus vesiculosus or a mixture of both. The wrack Fucus serratus covers lower shore bedrock and boulders. Fucus ceranoides can be found on extremly sheltered shores with variable or low salinity. The variable salinity communities are species impoverished compared to fucoids in full salinity or in tide-swept conditions as red seaweeds and sponges are usually absent. Underneath the canopy are a few green seaweeds, while the red seaweed can be found as an epiphyte. On the rock and among the boulders are the winkles Littorina littorea and Littorina saxatilis, the crab Carcinus maenas, the barnacles Semibalanus balanoides and Elminius modestus and even the occasional mussel Mytilus edulis.
Situated on sheltered eulittoral rocky shores with variable salinity conditions, such as sea loch or estuaries."

EUNIS habitat classification

COMMUNITIES OF LITTORAL ROCKPOOLS

"Rockpools occur where the topography of the shore allows seawater to be retained within depressions in the bedrock producing 'pools' on the retreat of the tide. As these rockpool communities are permanently submerged they are not directly affected by height on the shore and normal rocky shore zonation patterns do not apply. For this reason rockpools have been dealt with as a separate habitat type, apart from the scheme of wave exposure and shore height.

Rockpools on the upper shore which are subject to rainwater influence and wide fluctuations in temperature are included. Shallow rockpools in the mid to upper shore characterised by encrusting coralline algae and Corallina officinalis; several variants of these coralline pools occur in south-west Britain and Ireland. Deeper rockpools on the mid to lower shore can support fucoids and some sublittoral species such as kelp. Those rockpools influenced by the presence of sand are characterised by sand-tolerant seaweed such as Furcellaria lumbricalis and Polyides rotundus. Where more stable sand occurs in the base of the rockpool sea-grass beds can occur. Shallow rockpools on mixed cobbles, pebbles, gravel and sand may be characterised by hydroids. A very rough guideline to the terms "shallow" and "deep" rockpools: "shallow" rockpools do not support kelp, whereas "deep" rockpools do.

Rockpools occur in the littoral zone where the topography of the shore allows seawater to be retained within depressions in the bedrock producing 'pools' on the retreat of the tide."

EUNIS habitat classification

2.2 BLUE URBANISM, TIMOTHY BEATLEY

"Thoughtful urban design has the power to connect land and water in a way that brings citizens closer to the sea and highlights the ocean as an integral part of the urban environment" says Timothy Beatley (2014) in the book Blue Urbanism.

Our survival as a specie is linked with the oceans ecological and environmental health, yet we often undervalue and underappreciate this marine world. Cities have to start thinking more creatively about how to plan for the challenges ahead and how to connect people to the ocean. It is important that people learn how to love it in order to create an emotional connection to it. Walking on the beach, picking up shells and exploring rocks on low tide can be educational, relaxing and fun all while helping us to ponder and encourage our curiosity about what is happening beneath the surface. This simple act of leisure can be the key for repairing our dysfunctional relationship with the oceans.

"People have to experience it before they can understand it, and love it. If they don't know what to love they can't love it"

Nancy Caruso, from Blue Urbanism

Creating this connection is about finding a ethical solution that sparks empathy and emotion. Beatley explains that we need a heightened sense of "oneness" with the ocean and that coastal cities have an obligation to imagine different futures by providing safe, accessible places where urbanities can connect with the ocean both literally and emotionally.

But the ocean's health is not only at stake here. A british research from 2012 stated that the closer to the coast you are the healthier you are likely to be. Not only do coastal environments provide us with enticement and opportunities for physical activities like walking or windsurfing, it is also stress reducing.
The coastal cities can offer immense wilderness at their door steps and when people are able to engage in this ocean world it can provide great benefits to mental and physical health.

2.3 NATURE FIX, FLORENCE WILLIAMS

Humans evolved in nature, it's where we feel most comfortable. Throughout our evolution, we've spent 99.9% of our time there, our physiology is still adapted to it and we interact with our environment through our senses (Williams, 2018).
In a fast-pace society many health issues have increased and some of us keep seeking some kind of refuge to slow down and engage our senses in natural elements.

The sound of nature is soothing to most humans, three in particular stand out: wind, water and birds. They are the holy trio of healthy listening.

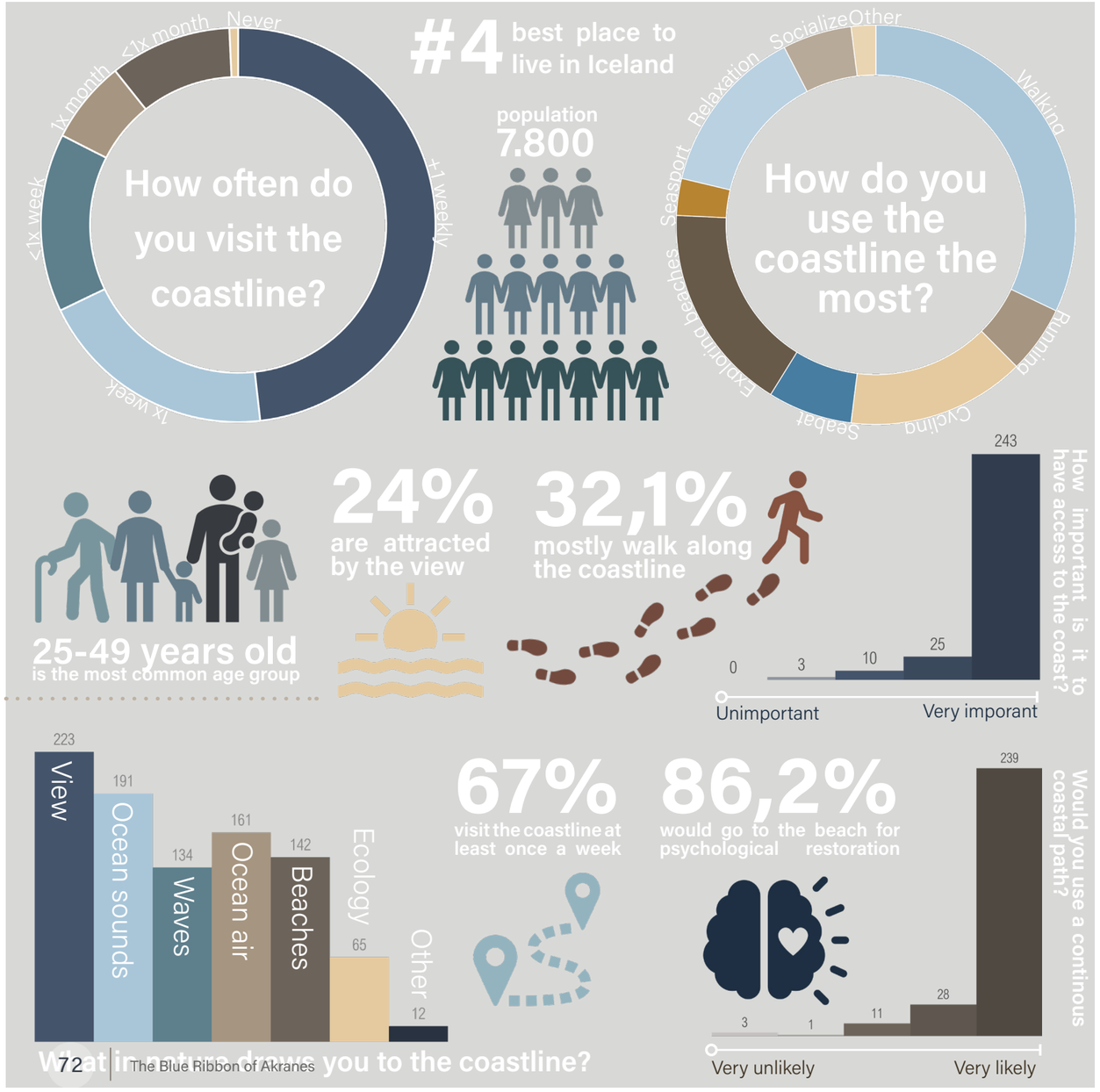
Having a view of nature in the hospital can shorten the postoperative days for patients and less need for pain medication. When nature scenes are vast they can connect us to deeper forces in the world and compel our bodies to quiet down so that we can try to wrap our minds around what is happening in our environment.
Things that cause people to feel awe tend to be information-rich and scale-induced. It can be everything from the micro details of a flower pedal or a huge wave crashing on the coast in front you and vibrates in your chest.

It is an inarguable fact that physical activity changes the brain to improve memory, slow aging, improves mood, lowers anxiety etc. However, when we move through natural landscapes the benefits increase.

After just 15-20 minutes of simply dwelling in nature people are more creative, more relaxed, have lower blood pressure and cortisol. After 45-50 minutes many people show stronger cognitive performance as well as feelings of vitality and psychological reflection.

The ultimate paradox is that humans need both wilderness and civilization, and one makes us need the other more. Humans are social creatures, however, according to many studies if a person depressed and low of energy, they can't be with other people too much. You can however be with animals, plants, stones and water making natural areas close to urban settings so important for our mental restoration. The edges of our urban areas have a huge role and unlocked potential in becoming our place for reconnection with nature and finding balance in our lifes.

Therefore it is needed to provide safe, attractive and naturalistic places to encourage people to walk, often and together.



2.4 COMMUNITY

Akranes has a population of over 7,800 and in recent years the population has increased by 9.5% (Akraneskaupstaður, 2020). On average, the population has increased by 114 per year since the year 2000 and looks like it will contintue to do so.

A survey was conducted for this thesis over a two week period, from 9.-23. June, among the residents to examine their use and interpretation towards the sea, the shoreline and the beach. In that survey, residents were asked to describe Akranes in 1-4 words.
The most common words were calm, peaceful, family-friendly, nature, outdoor activities, views, short distances and a beautiful town. 82.6% of respondents said that they were likely/very likely to go to the shoreline to relax and increase concentration if they were mentally tired and under a lot of stress.
However, it was clear throughout the survey that the residents of Akranes regard the beach as an important part of their identity and over 67% of those who responded visited the beach at least once a week.

Walking was the most popular activity at the shoreline and it was the view, the sound of the waves and the sea air that attracted people to the beach. Cycling, beachcombing, relaxation, running, swimming, meeting people and water sports followed as popular activities.

The current path is not continues and if one would like to walk alongside it they would have to climb over rocks and fences. However, 84.8% of the participants thought it would be likely that they would use a coastal path if it were possible to travel the entire coastline of the town and the vast majority of respondents believed that increased emphasis on the shoreline and sea-related recreation would increase the town's attractiveness and image.

"It is necessary to increase access to the beach. Long and steep stairs are not useful for everyone! People who use wheelchairs, strollers, prams and walkers are directly at risk of an accident when getting to the beach where there are stairs."

"I think it's important to have footpaths so that you can walk/ bike/run along the coastline. On the other hand, I think it's extremely important to protect the nature of the coastline, so you also have to be careful not to mess with it too much."

"It's good to live near the sea!"

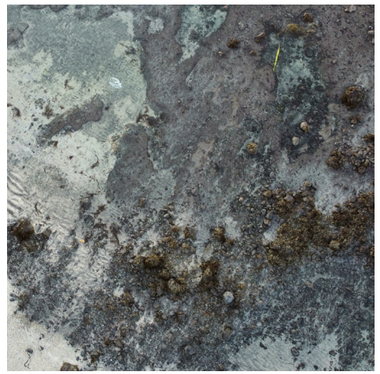

Elínarhöfði
Presthúsavör
Kalmansvík
Krókalón
Vesturflös
Lambhúsalón
Harbour
Langisandur
Leynir
Sólmundarhöfði
Steinsvör
Lambhúsasund
Skarfavör
Breið

2.5 KEY PLACES








LEYNIR AND SÓLMUNDARHÖFÐI

Leynir means hidden in Icelandic. The beach contains an incredible variety of ecosystems and habitats and is little used by the public. The wave is often heavy at the cliffs that surround the beach. Recent sea defenses are approximately 160 cm high from the ground which obstruct the view of those walking on land. There is no access to the beach and the vegetation is scarce around the area. There is no footpath that connects the beach to the surrounding areas. The possibilities of the beach are mainly for educational purposes and as an important connection between other areas.

Between Leynir and Sólmundarhöfði is a residential core for people 60 years and older, as well as the Höfði nursing home. Sólmunarhöfði is located at the plot boundary of the nursing home and is widely used as an outdoor recreation area by senior citizens. From the nursing home there is a path to the middle of the tang, but it is a cul-de-sac and is not connected to other paths. It is clear, from informal paths along the shoreline, that the public wants to use the area, but there is no formal path. A shelter has been set up in the middle of the road, which provides an opportunity to enjoy outdoor activities sheltered from the worst winds.

KEY WORDS:

Senior citizens, ecosystems, cultural monument, panoramic view.

Sólmundarhöfði has a rich agricultural history and there are still old houses and remnants of cultivation gardens that are great cultural monuments for the town. The houses are in a bad condition but make a certain impression on the area and have cultural conservation value.
The ecosystem of animals and plants is diverse at Sólmundarhöfði, but there is no access down to the shore itself. The view at Sólmundarhöfði is spectacular and reaches almost 360° panoramic view.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Kalmansvík
Presthúsavör
Krókalón
Vesturflös
Lambhúsalón
Harbour
Langisandur
Leynir
Sólmundarhöfði
Steinsvör
Lambhúsasund
Skarfavör
Breið









LANGISANDUR

Langisandur is in great demand as a tourist destination, but it is also well visited by locals. There are ladders in three places to get down to the sand and ramps at each end so that vehicles can get on the sand due to maintenance or accidents. There is no wheelchair access to get to the sand and the current path does not accommodate the traffic created by pedestrians, cyclists and other users in this popular area. There are three showers at the southern end of the beach that use wastewater from the town's swimming pool that is only a few meters away. The area has been used for football for a many years and the football club's facilities are located right by the footpath.

Langisandur is extremely popular for all kinds of sea sports such as paragliding, kayaking, surfing etc. but it is difficult to get sea sports equipment down to the sand and no special facilities for that. The most popular water sport on the beach is most likely sea bathing and this practice has increased enormously since the introduction of the new hot tub "Guðlaug" that was nominated for the 2022 Mies van der Rohe Award (EU Mies Award, 2021).

KEY WORDS:

Public life, activities, sports, beach, education, bathing.

Langisandur has received Blue Flag recognition for the past 10 years for clean beach and sea, safety and education (Akraneskaupstaður, 2022). The beach is well used by the town's primary schools for outdoor teaching and schools from nearby municipalities have also been known to use the area.
The beach is one of the few white beaches in Iceland and is almost barren, as there are a lot of heavy waves that take place there and a lot of movement that makes vegetation difficult to get stuck. Rocks and shells are often seen on top of the sand, but otherwise the sand is very finely ground.


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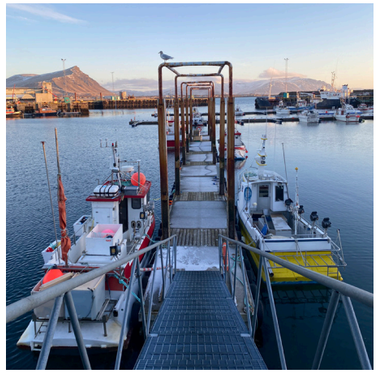


THE HARBOUR

The harbor area is today characterized by industrial activities and no consideration to pedestrians and cyclists.
Coastal barriers in the area obstruct all view towards the ocean and there are no dwelling spaces or vegetation.
The area is rich in history from both the fishing industry and the cement factory, but little is made of historical monuments. The marina is a great attraction for young and old, but such spectators are not expected. The connection from the harbour area to Langasandur is good, but to get along the shoreline you end up in a roulette with driving traffic and no obvious route. Now that the Cement Factory is closing down operations, there are new opportunities for utilization of the pier that came with it. From the pier there is a view of the mountain, Langasandur, and even Reykjavík in good weather.
The shoreline in this area is characterized by a sea wall and a great depth of sea to be able to receive large ships.

KEY WORDS:

Industry, large scale, bad connection, unfriendly for pedestrians, attraction.


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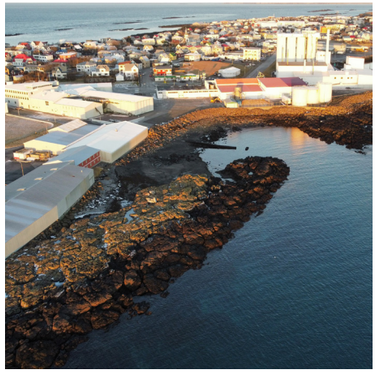
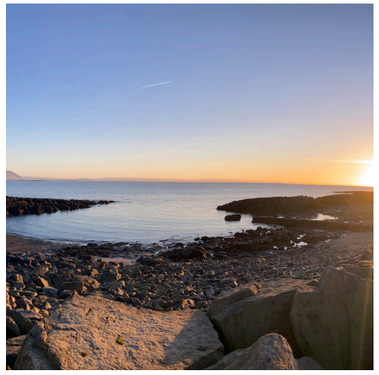

KEY WORDS:

Heritage, photography, shell sand, diverse ecosystem, culture.

STEINSVÖR AND SKARFAVÖR

To the west of the main harbor is a small cove where boats used to land centuries ago and the first harbor in Akranes was built. In 1908, a concrete pier was built on pillars and the remains can still be seen today on the seabed (Haraldsson, 2011). There is no access to the shore and it is not possible to access it from other shoreline routes due to buildings. In the past, bait sheds stood by the shoreline, but today there is only a concrete plan. Up from the shore lies Breiðargata, which was once the main street in Akranes, and today there is an innovation center with all kinds of activities and facilities.

Skarfavör is the nearest beach next to Steinsvör but there is no connection between them. Skarfavör is one of the most photographed beaches in Akranes. The beach is not large but you can find a lot of shells, sea urchins, crabs, kelp and other organisms. The view is a popular background for photographers with an overview of Akrafjall and the most popular place for wedding photos. There have also been several weddings on the beach. Good shelter from the wind is created from nearby houses and there is good access to the beach from a large parking lot.


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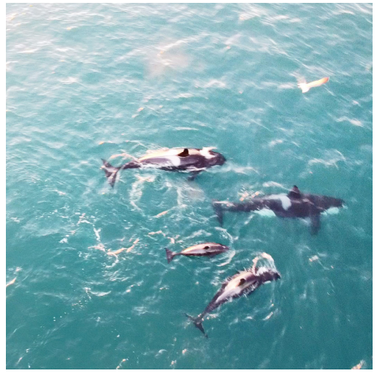







BREIÐ AND LAMBHÚSASUND

Breið has great historical and cultural value for Akranes. This was the beginning of the town's industrial development, the fishing industry began and human life flourished (Haraldsson, 2011). Today you can find an indication of the human life that was in this area with fish drying facilities and stones that were previously used to dry and salt fish.

There are also two lighthouses on Breið, the old and the new (Akraneskaupstaður, n.d.). The new the lighthouse was opened to the public in 2012 and has been used for various purposes, such as art exhibitions, concerts, video and audio recordings, weddings or simply enjoying the view. The tourist information center is located in a shed in the area and the area has been the main heavyweight to attract tourists to Akranes. Despite the popularity of the area, it is not possible to walk the shoreline along Breið and Lambhúsasund. The sea wall is almost too high everywhere and in some places well above average human height. On the other side of the sea wall is a huge variety of wildlife and a magnificent view of the landscape and larger mammals such as orcas that are often seen along the shores of Breið.

KEY WORDS:

Heritage, photography, shell sand, diverse ecosystem, culture.

The area contains not only the town's cultural history but also geology, which can be seen so clearly when looking at aerial photographs.

At Lambhúsasund you can find smaller shell shores that have formed around rocks that stretch out towards the bay. Big waves often hit these rocks and form a magnificent spectacle when the sea splashes into the air.


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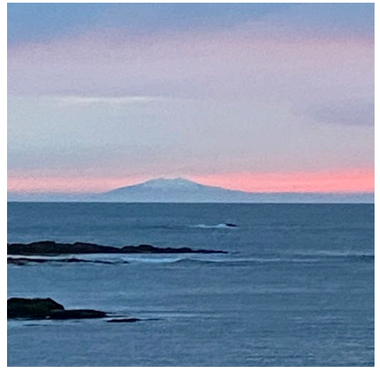



LAMBHÚSALÓN AND KRÓKALÓN

Lambhúsalón is a very diverse area. There you can find a small beach, an old ship pier, cliffs and man-made sea defenses.
The lagoon is one of the most sheltered places in Akranes due to natural and man-made sea defenses on three sides. There are steps to get on the sand and in recent years it has gained popularity to sail out on kayak from there. It is a great place to practice before heading out to higher wave heights. In the summer of 2022, a facility for sea jumping opened for people to jump into the sea from a great height, which has become very popular among young people (N4, 2022).

An old ship repair factory is located by the lagoon. This factory is now used for innovative production of fishing equipment. The old harbor is not in use, however, but it has great potential for new recreational purposes.
At the end of the lagoon before reaching Krókalón is an old boat which is a popular photographic subject among tourists as Snæfellsjökull glacier, together with the sunset or northern lights, can create a magnificent background.

KEY WORDS:

Industry, harbour, diversity, biodiversity, waves, glacier, sea sports.

At the beginning of settlement in Akranes, boats were often landed both in Lambhúsasund as well as Krókalón (Haraldsson, 2011). In Krókalón there are iconic two large rocks that were used to navigate. Krókalón is a biologically diverse area. It is possible to get to the sand down the stairs in one place, but recently a footpath was laid along the entire Krókalón, which is very popular with residents. The sea wall is lower than elsewhere along the shoreline so that the view of the glacier and mountain ranges on Snæfellsnes is completely unobstructed.


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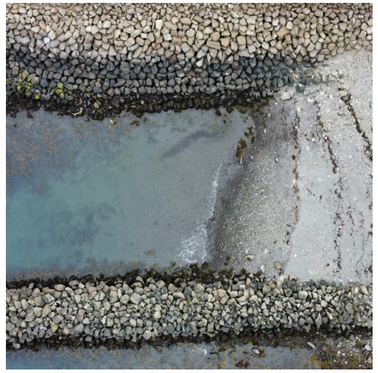





PRESTHÚSAVÖR AND KALMANSVÍK

The beach in Presthúsavör is very accessible. A rocky ramp has been created there so it is fairly easy to bring kayaks down to the sea and a rock wall forms a shelter for boats when sailing to or from the ramp. A decent gravel path runs along the shoreline from Presthúsavör to Kalmannsvík with a beautiful view of the mountains, the cliffs and sometimes small boats fishing.

In Kalmansvík, the towns camp site is located which undoubtedly has one of the best view of all the camp sites in Iceland, especially in the summer where you can see the sun stroking the horizon without setting before a new day begins.

The sand in Kalmansvík is accessible by several steps and the beach in this area is ideal for exploring the marine environment. There is a lot of seaweed in this area and you can find a diverse ecosystem of small marine life under it, which also attracts a lot of birds.

KEY WORDS:

Accessible, seaweed, camping, tourists, sand, spectacular view.


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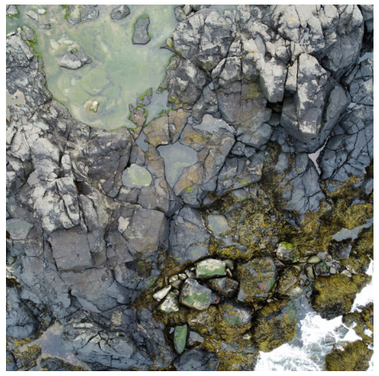

ELÍNARHÖFÐI AND HÖFÐAVÍK

There is no defined walking route from Kalmansvík towards Elínarhöfði. On the other hand, there are well-trodden paths by people who seek to walk along the shoreline.
At Elínarhöfði you can find many beach pools full of biodiversity and the large rocky mounds have been used by the Akranes climbing club for outdoor climbing.
At Elínarhöfði there are some outdoor artworks by local artists. One of them is 'Elínarsæti' by Guttormur Jónsson, which is an extremely popular place for meditation. At Höfðavík there is a fair access to kayaking. Kayaking in this area is a unique experience as there is a bird sanctuary nearby, and from the kayak you can see all the way down to the seabed and explore the wildlife there and often you can get chased by curious seals.

KEY WORDS:

Accessible, seaweed, camping, tourists, sand, spectacular view.

In Elínarhöfði and Höfðavík there are still to this day many ruins from old turf houses dated from before 1700 (Haraldsson, 2011). It is thought that the area has been cultivated since the begining of settlement due to nutritious soil and good access to fishing and safe landing for boats in Höfðavík.


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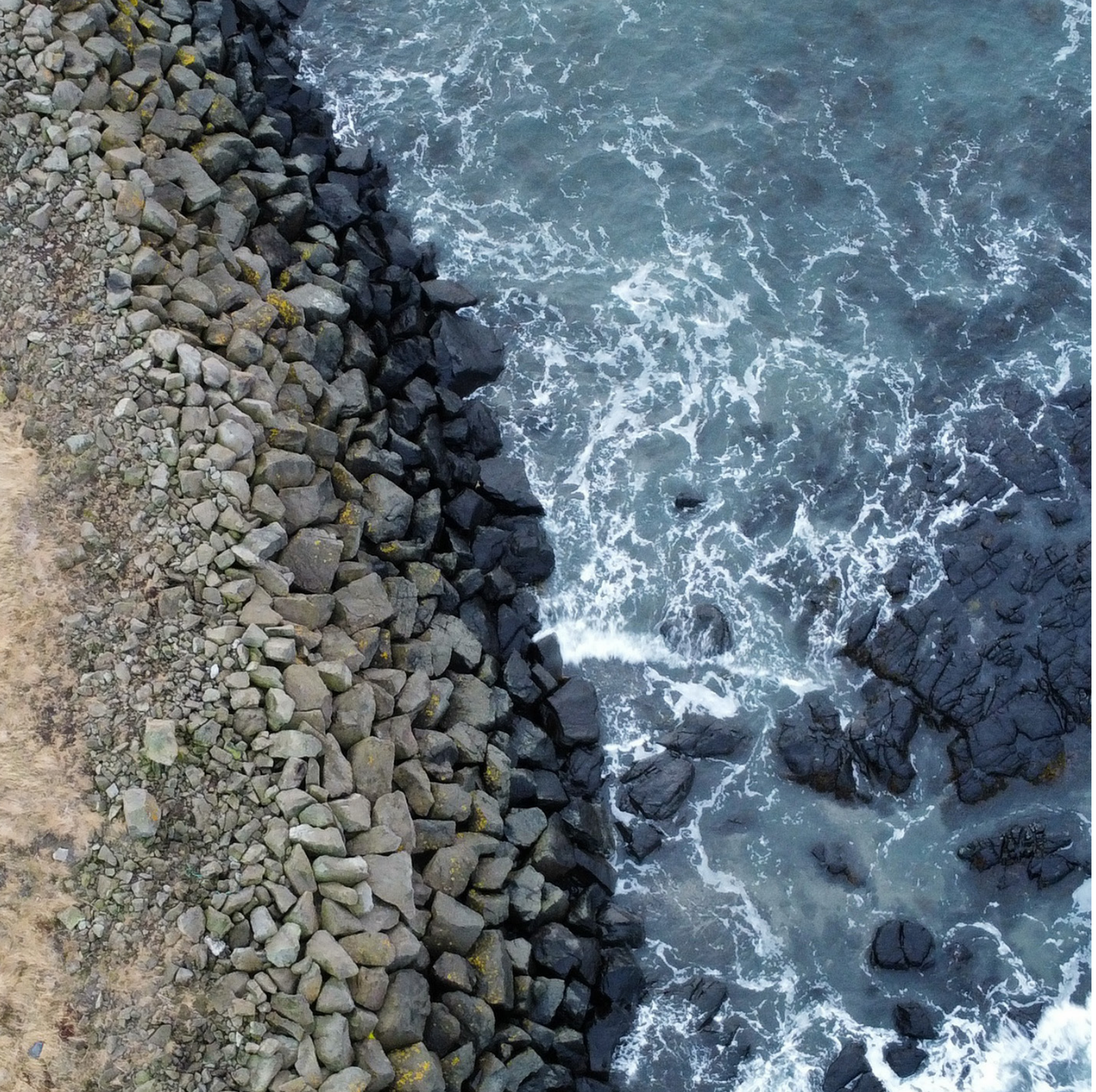
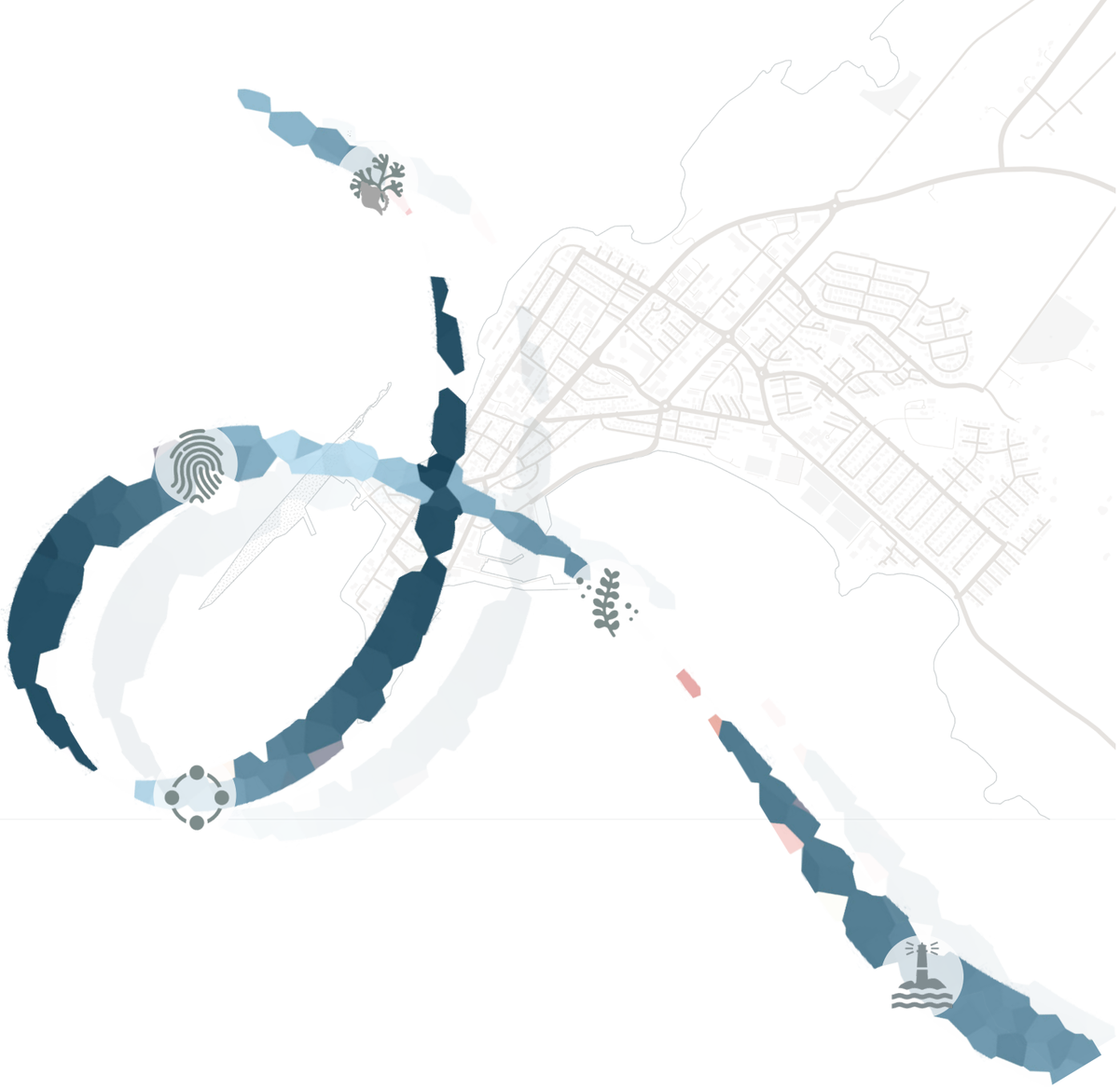


PART 03: DESIGN STRATEGIES



3.1 DESIGN GOALS

The municipality of Akranes should have a positive approach to urban development, activities and businesses connected to water.

The urban development of Akranes should contribute to a healthy and vibrant coast with a rich flora and fauna.

The accessibility to the coast should be improved in order to meet the need for recreation, leisure activities and small-scale business activities connected to water.

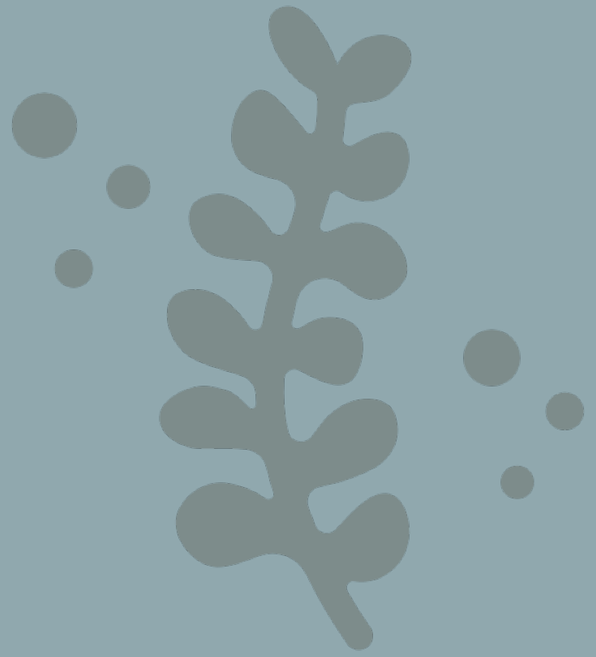
The path should have strong cultural connections to historical development of the town and its origin to enhance its unique identity.

Marine environments with high natural values should be protected.

3.2 IDENTITY AS A COASTAL TOWN

The municipality of Akraness should have a positive approach to regional development, activities and business-related water.

The economic environment should be attractive for marine-related companies that see an advantage in coming to Akranesi and starting their operations there. The town should become a leader in coastal and marine activities where sustainability, affection for marine life and awareness of the importance it has for life on land. This will strengthen the city's attractiveness and identity as a coastal town.



3.3 RICH FLORA AND FAUNA

The urban development of Akranes should contribute to a healthy and vibrant coast with a rich flora and fauna.
The goal for this project is to bring new life to the area but at the same time preserve its natural qualities.
When preserving natural vegetation, a green corridor for pedestrians and cyclists will not only make the area more attractive for people but also provide good conditions for diverse flora and fauna while handling flooding and stormwater. By doing this the town will have a strong defence against extreme weather and the vegetation will make sure that toxins from the streets do not reach the ocean.

All new vegetation brought to the area needs to be non-invasive and handle salt and flooding.

3.4 ACCESSIBILITY

The accessibility to the coast should be improved in order to meet the need for recreation, leisure activities and small-scale business activities connected to water. As of now the coastline consists of individual, disconnected locations rather than a coherent chain of pathways. The coastline should be accessible from multiple routes and be integrated into the towns existing path way system. By doing this the path will become a destination in itself and enhance the coastal experience for both locals and guests.

3.5 STRENGHTEN CULTURAL HERITAGE

Target 11.4 of the Sustainable Development Goals is about 'strengthening efforts to protect and safeguard the world's cultural and natural heritage', making sure that towns have an existing link between cultural heritage and sustainable development (United Nations, n.d.). The path should have strong cultural connections to historical development of the town and its origin to enhance its unique identity.

By weaving the history of the town into the pathway it creates an opportunity to strengthen the cultural heritage.

"Cultural heritage, including its tangible (museums, monuments, etc.) and intangible aspects (crafts, festivals, traditions, etc.), is a testament to human creativity, as well as a resource for the construction of the identities of people and communities." (Baltà Portolés, 2018).

This link between urban development and cultural heritage can also contribute to economic development with a new source of income by attracting tourism, investments and employment.

3.6 PROTECTING HIGH NATURAL VALUES

Marine environments with high natural values should be protected. The project will take into account the uniqueness of beach types and their high conservation value.

In the master plan of Akraness, it is proposed that almost the entire coastline within the planning area, with the exception of the harbor, Lambhúsund and Leynir, be protected due to the landscape, nature and rich birdlife, as well as the areas having a great value for outdoor recreation (Akraneskaupstaður, 2006). In this project, however, it will be assumed that Leynir and Lambhúsund will also fall under this protection and that the strictest requirements will be followed for a sustainable harbour area.

As water quality goes, it is assumed that the entire coastline within the planning area will be in category B (slightly disturbed water) according to regulations on protection against water pollution. Category B means “that little and/or no harmful effects are detectable on the biosphere and its chemical and physical environment as a result of human activities”.

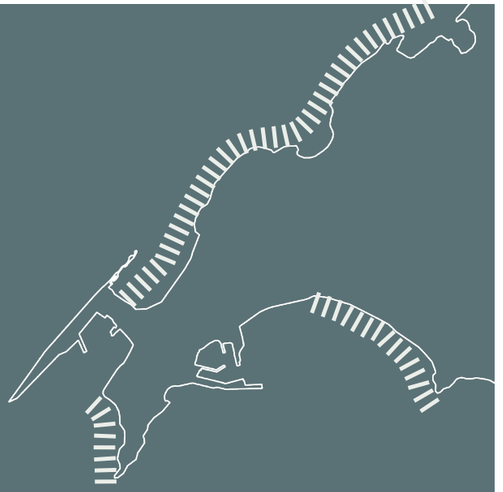


Figure 22: Municipalities proposal of protected areas

PART 04: DESIGN

4.1 MASTERPLAN

NURTURE AND NUTRITION

TRAGIC POWER OF THE OCEAN

CULTURAL HERITAGE

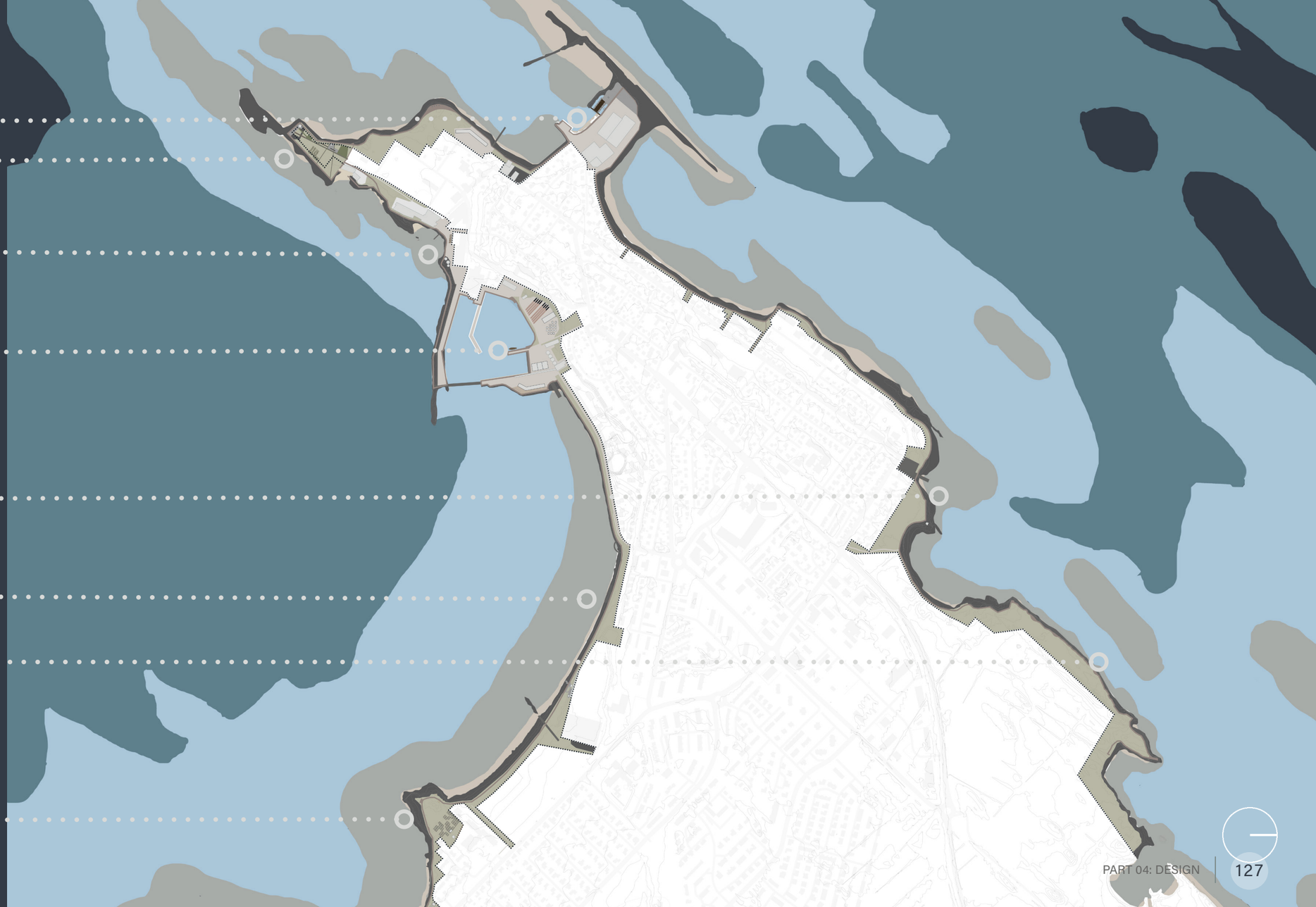
INDUSTRIAL TRIUMPHS

ACTIVE TOURISM

HEALTH AND SPORT

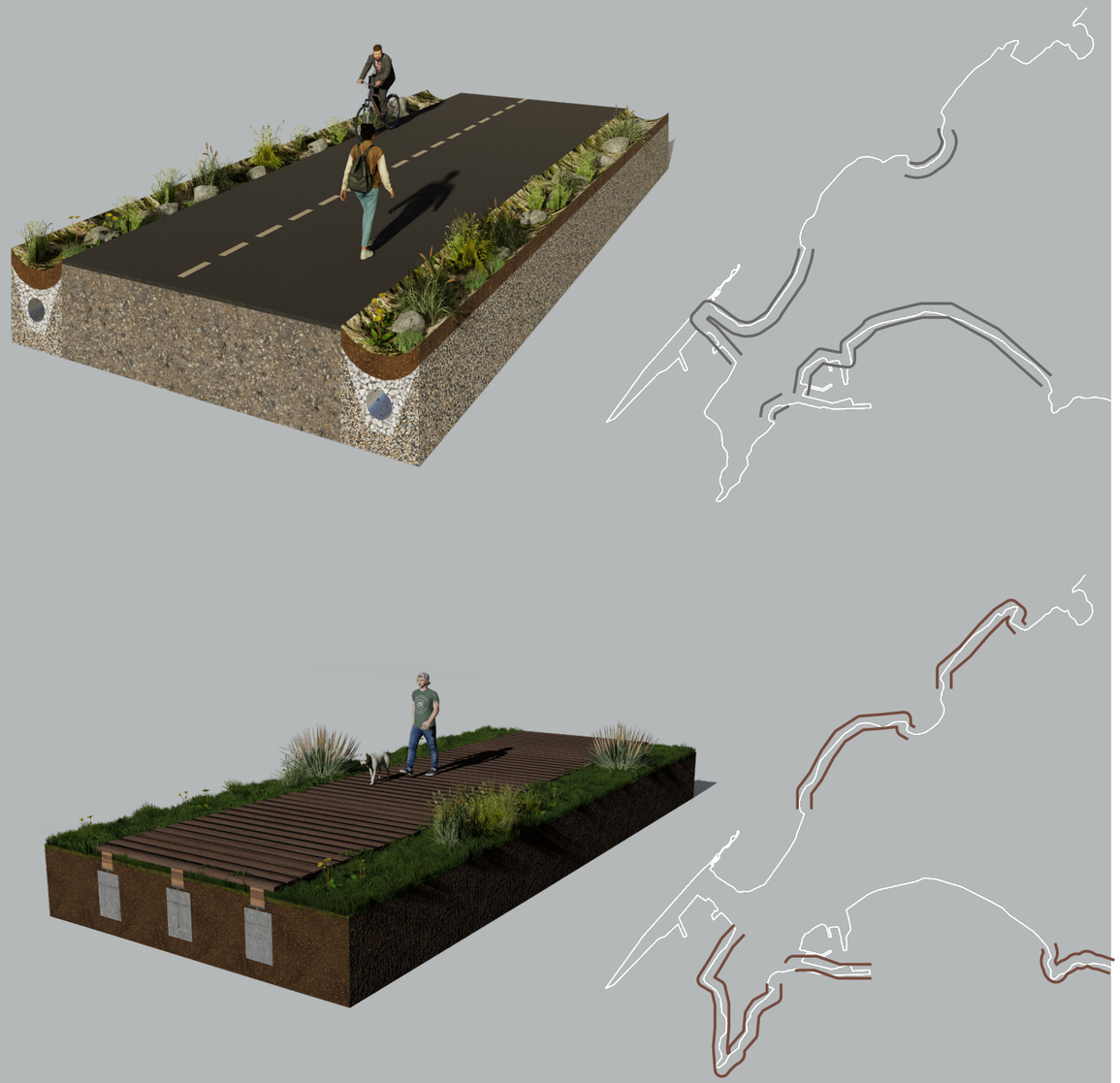
CALM AND REFLECT

TRADITIONAL ORIGINS



4.2 HANDLING RAINWATER

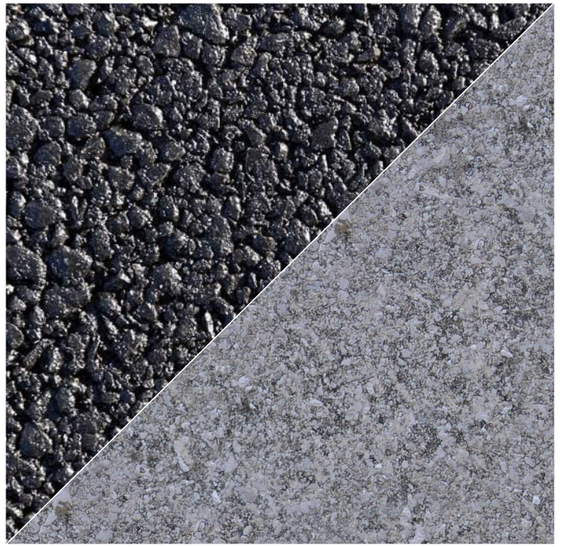
"All rivers run to the ocean" is an Icelandic saying. Bioswales receive rainwater runoff and have vegetation (such as grasses, flowering herbs, and shrubs) and organic matter (such as mulch) to slow water infiltration and filter out pollutants. It is an aesthetically-pleasing alternative to concrete gutters and storm sewers, using vegetation to treat, absorb, and convey stormwater runoff. The bioswales are able to absorb runoff from small rain events and treat larger amounts of runoff from a roadway or parking lot which are then directed to the larger stormwater management system. There are four areas located in the design, where the surf can pour over the land, that will be preserved for vegetation to prevent further rock-built seawalls and will handle excess rain and stormwater. It is as important for the town's biodiversity and quality of life to design and link these green-blue veins through the town as it is for keeping the ocean clean and free of harmful chemicals.



4.3 SURFACE MATERIALS

The surface material of the pathway consists of two components; recycled asphalt or concrete, depending on what is on demand, and Enviropol™, a recycled plastic material.
Recycling existing materials prevents these materials from going to landfill and keeps the circular economy of waste going. Durability and access are key factors for the pathway as well as needing to withstand extreme weather and waves. Asphalt and concret may not provide the benefits of sustainable paving, but the process used to implement it is much better for the environment than using fresh materials.

Some parts of the path goes through more vegetated and rocky environment. In those areas the path consist of planks made from Enviropol. Enviropol is a recycled material mainly produced from consumer and industrial polyethylene, i.a. used carrier bags (Glasdon, 2017). The material is resistant to chemical attacks and impervious to water, frost and most corrosive substances. It will therefore never rust or rot. It's even unaffected by brine, animal waste, bacteria, fungi and insects. The material is also 100% recyclable when it has finished it's lifecycle as a plank in the path.



Asphalt/Concrete

Enviropol recycled plastic

1a Temporal rent for artist/scientists
1b Community house for urban farming
2 Urban farming, potato gardens
3 Edible landscape with native species
4 Birdwatching huts inside ruins
5 View platform

SÓLMUNDARHÖFÐI 1:500

Section A-A 1:200

TRADITIONAL ORIGINS

Leynir marks the beginning of the town and the beginning of the coastal path. The area will therefore be dedicated to the Irish brothers who had the first settlements in this area. Structures in the area such as a shelter for outdoor education, toilets and walls along the parking lot will all be in reference to turf housing, with loaded stone walls and turf, will be built and used to welcome visitors and groups who come to learn about the history and life of the town. There will be access down to the beach at Leynir with a ramp so that everyone can access it and so that the beach can be used as an open air classroom.

The area of Sólmundarhöfði will be characterized by urban farming, where the town's historical potato garden landscape will remind people of the town's beginnings and roots. The old building that used to be a sheepfold will become a community building where people who have a vegetable garden can meet and drink coffee, but the space could also be used as an exhibition space for artists. The apartment building in the area would be renovated in its original form and rented out to artists and scientists who come temporarily to work on their art or research. At the end of the headland, there will be a viewing platform where you can observe a wide variety of birds, boats docking at the harbor and surf lapping against the rocks.

1 Stair ramp
2 Ramp
3 View platform

LANGISANDUR 1:500

Section B-B 1:200

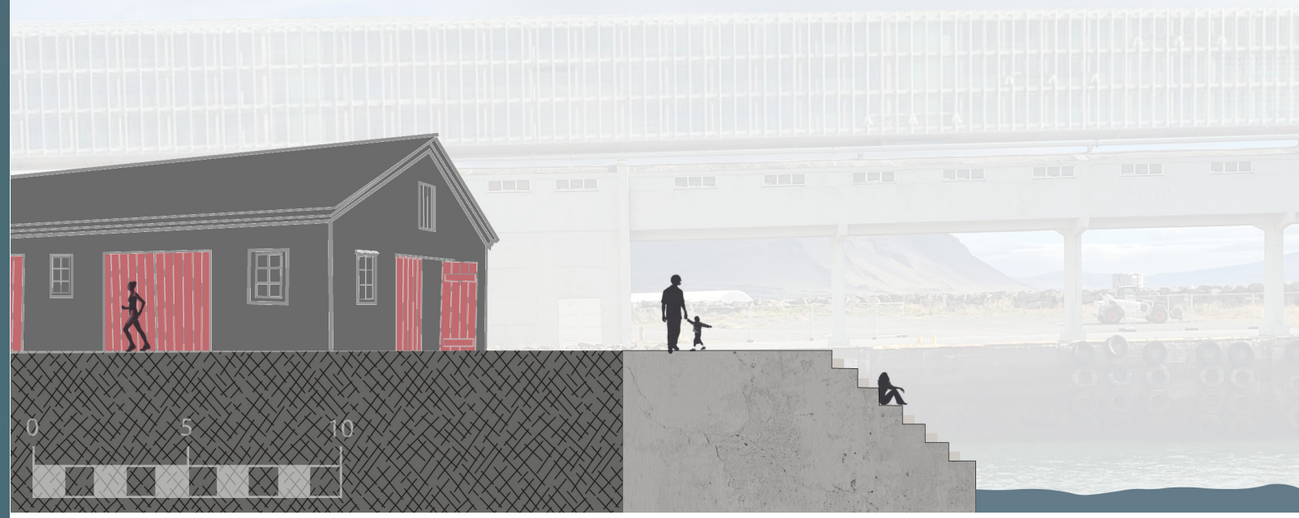
HEALTH AND SPORT

Langisandur celebrates exercise and health. The area is already one of the most popular and loved outdoor areas of Akranes with Guðlaugu as one of the main attractions of the town and all the activities of the football club. It is necessary to improve access down to the beach for a wider group of users and widen the path for increased use. The ramp has a stair combo that can be used by the more abled people and also as a seating area for sunbathing or wavegazing.

On windy days it can be unexciting to go all the way down to the sand due to the waves, but on these days kitesurfers flock to the sea to take advantage of the surf. This creates an exciting spectacle for residents who often flock to the shoreline to catch a glimpse of them. Therefore, a place has been chosen for a viewing platform with a diagonal view of the waves for maximum experience.

1 Student housing
2 Rental apartments, active groundfloors
3 Coworking sheds for boat owners
4 Market square
5 Ocean steps
6 Cutter Sigurfari Café
7 Sailing Club and kayak sheds
8 Seafood Restaurant
9 Running Tide
10 Bascule bridge
11 Ramp

THE HARBOUR 1:1000



Section C-C 1:200

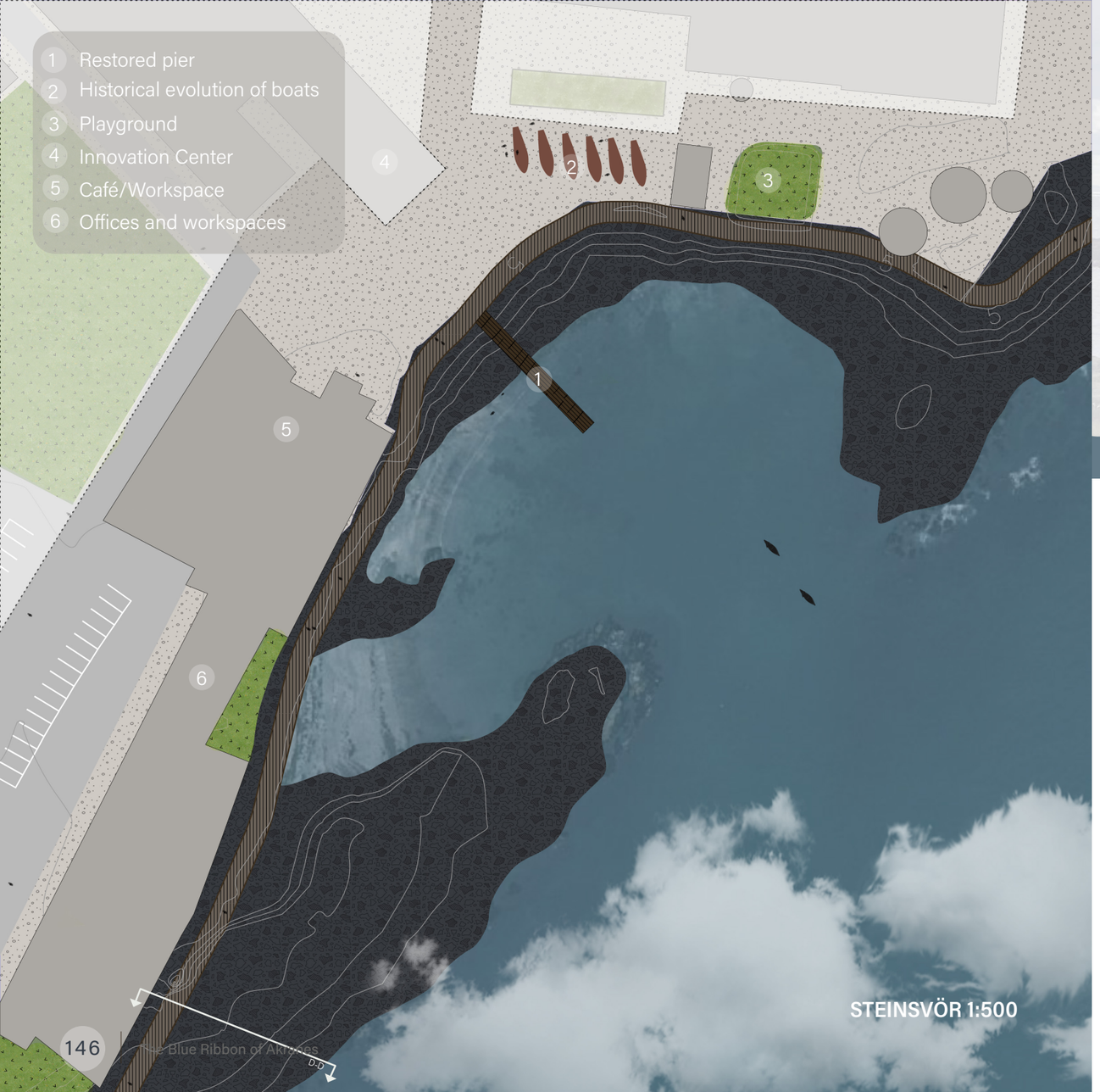
INDUSTRIAL TRIUMPHS

The harbor combines the old and the new, tradition and innovation. The rest of the cement plant's structures will be repurposed, with the silos becoming student housing and the assembly line into office space. In a draft for the new masterplan for Akranes a hotel is expected on the cement pier (Akraneskaupstaður, 2022), but in this project these will be rental apartments for the public market with active groundfloors that can be used for a variety of commercial activities. The old storage house will be removed and new houses built in its place where small boat owners have facilities to fillet fish, repair boats and other related matters. The area in front of the building would remain open and awaits the possibility of holding a food market there from nearby farms and fishermen. Steps will be accessible from the pier down to the sea, which would be difficult to see at high tide, but would be useful as a hangout on sunny days. In this proposal, it is proposed that the old cutter, Sigurfari, be remade and docked at the harbour. The cutter would be renovated as a small cafe where people could go on board and get traditional Icelandic pancakes and coffee.

Inside the harbor area, small cabins are planned for the sailing club and other kayakers to store their equipment at the pier. Next to them is an older building that will be a seafood restaurant with a view of the harbor area and all the way to Reykjavík, where it would be possible to see on the menu which boat caught the fish you are about to eat. After eating, you could go for a walk around the marina, find the boat and thus get a connection with the origin of the food.

A large area has been taken up in this proposal under the initiative of the entrepreneurial company, Running Tide. The company only uses one container today, but it is expected that the activity will increase in the coming years. Rails will be laid in the surface material that would facilitate the movement of the company's containers, where they grow kelp, so that they can be easily picked up from the road before they are transported to a larger port.

A bascule bridge is proposed between the largest dock areas. This bridge would be for pedestrians and cyclists only and would be high enough for the smallest fishing boats to pass under. The footpath then takes over the bridge on top of the highest sea wall and leads people on into the next key area.



Section D-D 1:200

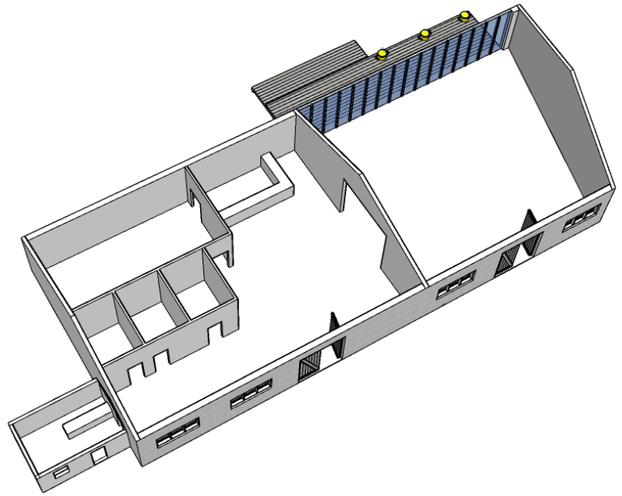
CULTURAL HERITAGE

Getting closer to the southern part of Akranes, we also get closer to the oldest part of the town. Back in the day, Steinsvör had a strong business area where women and men worked hard to process fish and create valueables to sell and eat. Here in this area was the first pier of the town, which will be restored in this project. The main types of boats used since the beginning of fishing will be lined up in the area chronologically and invite people to climb aboard and imagine what it was like to be out on sea.

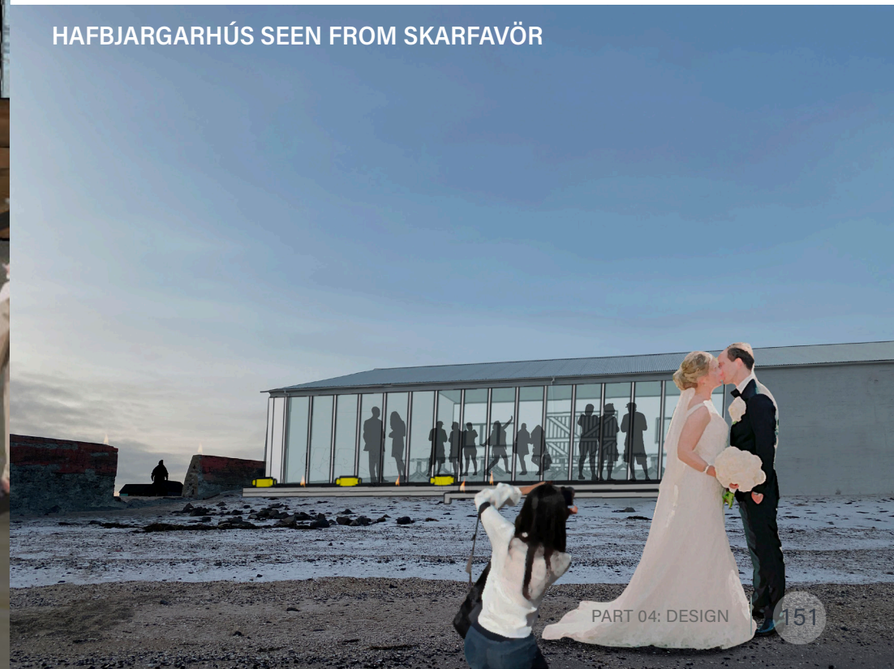
The path then intertwines with the rocks and leads passers-by through beach puddles and the hardy vegetation that grows along the coastline and ends at Skarfavör. Skarfavör is, as mentioned before, often called the secret beach and is one of the most popular backdrops for occasion photography. The house that borders the beach is called Hafbjargarhús and has great potential to become an exhibition and banquet hall, restaurant and/or meeting hall (page 150). The wall that separates the area will be opened up with glass, thus offering a view of the area into the space.

From the shore it will be possible to continue on the cliff path or go on the land side, depending on whether it is high tide or low tide.

VISION FOR HAFBJARGARHÚS



HAFBJARGARHÚS SEEN FROM SKARFAVÖR



1 The widows of Breið
2 Drying stands
3 The new lighthouse
4 Information Center / WC
5 Bioswale

BREIÐ 1:500

The widows of Breið

TRAGIC POWER OF THE OCEAN

Breið is best known for drying fish aswell as the lighthouses. However, Breiðin also holds the disaster history of the town, where families lost their livelihoods and left behind widows and great poverty.

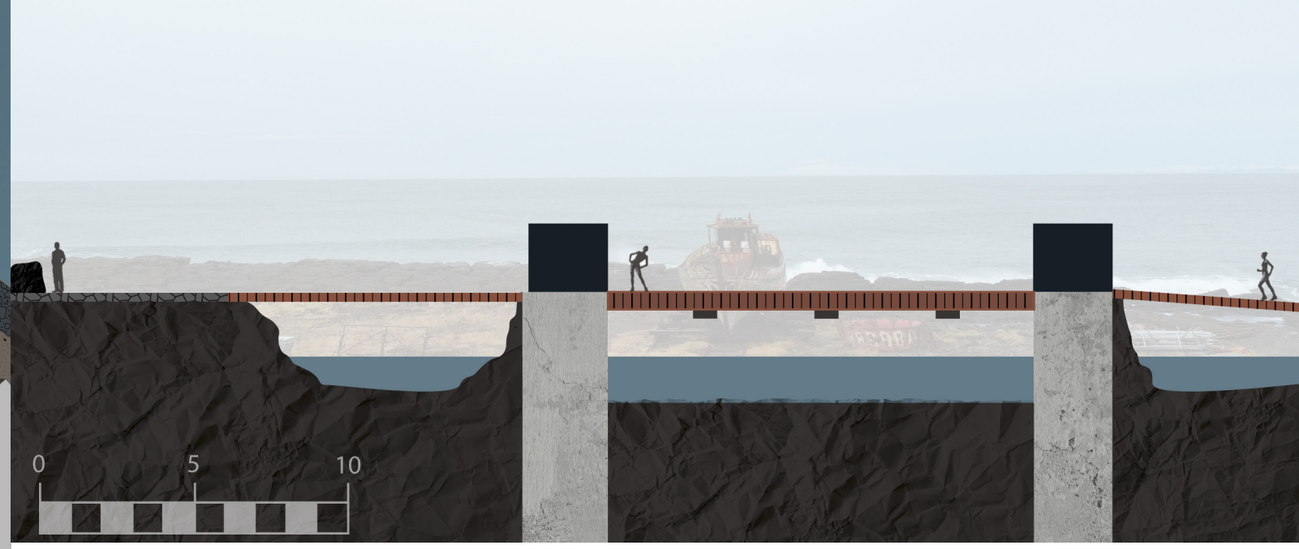
On the path leading to Breið, visitors are invited to put themselves in the shoes of those who have lost loved ones at sea and stay with them at the shoreline and watch the waves roll in and out, hitting the rocks with incedible force. The widows on Breið are lazercut iron plates that are fixed with a concrete plinth under the path to withstand surf and wind. They are the shadows of history and made to remind us what the ocean took.

Breið and Lambhúsund are the places in Akranes where you can best experience the surf and get salt and wind in your face. At the southernmost head of Lambhúsasund, there is a viewing platform where visitors are invited to feel the power of the sea in sincere admiration with nothing but the Atlantic Ocean in front of them.

The vegetation in the area is extremely hardy and is characterized by perennials that tolerate salinity and occasional flooding. In the project, it is proposed that the buildings that are not in use at the southern end of the promontory be removed, vegetation allowed to take over and thus create a rainwater garden that can deal with seawater pouring onto land and filter rainwater before it goes back to the sea.

1. Old ship lift
2. Saunas
3. 10m Jumping platform
4. Aquaculture / Urban farming
5. Food hall/Offices/Workspaces
6. 'Ghost ship'
7. Stone benches, seating area
8. Kayak and paddle board storage

LAMBHÚSALÓN 1:1000

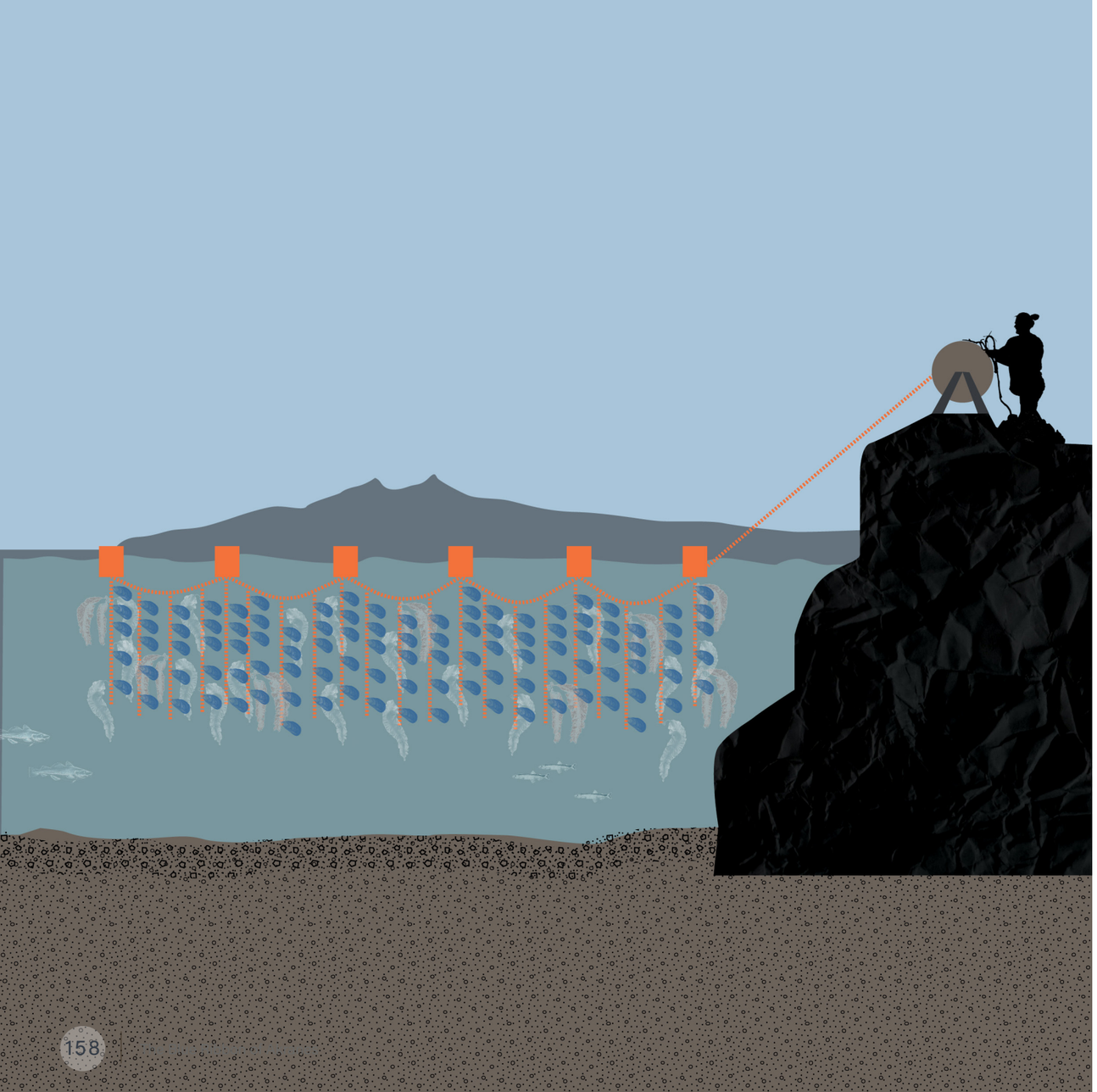


Section E-E 1:200

NURTURE AND NUTRITION

At the end of Lambhúsund, a hotel will be built that draws its inspiration from the surrounding houses. The hotel lies along the beach and thus gives all hotel guests the opportunity to have an unobstructed view of the evening sun and the glacier. The hotel will also have its own dock for guests bringing yachts or bringing or renting kayaks. The sea in Lambhúsalón is sheltered in most weathers and is therefore a perfect place for beginners in kayaking and paddleboarding.

Trade and industry have characterized this area since people began to sail to a greater extent between trading posts and developed to a large extent based on the development and increase of shipping between trading posts. The area today has remembered better days with a raw industrial outlook. There is no activity around the ship lift, so it is proposed that the structure be repaired and the sheds that house the mechanism be converted into saunas. The platform itself will make it easier for people to get into the sea to cool off between saunas and will become an outdoor recreation area that could hold various events in the summer.

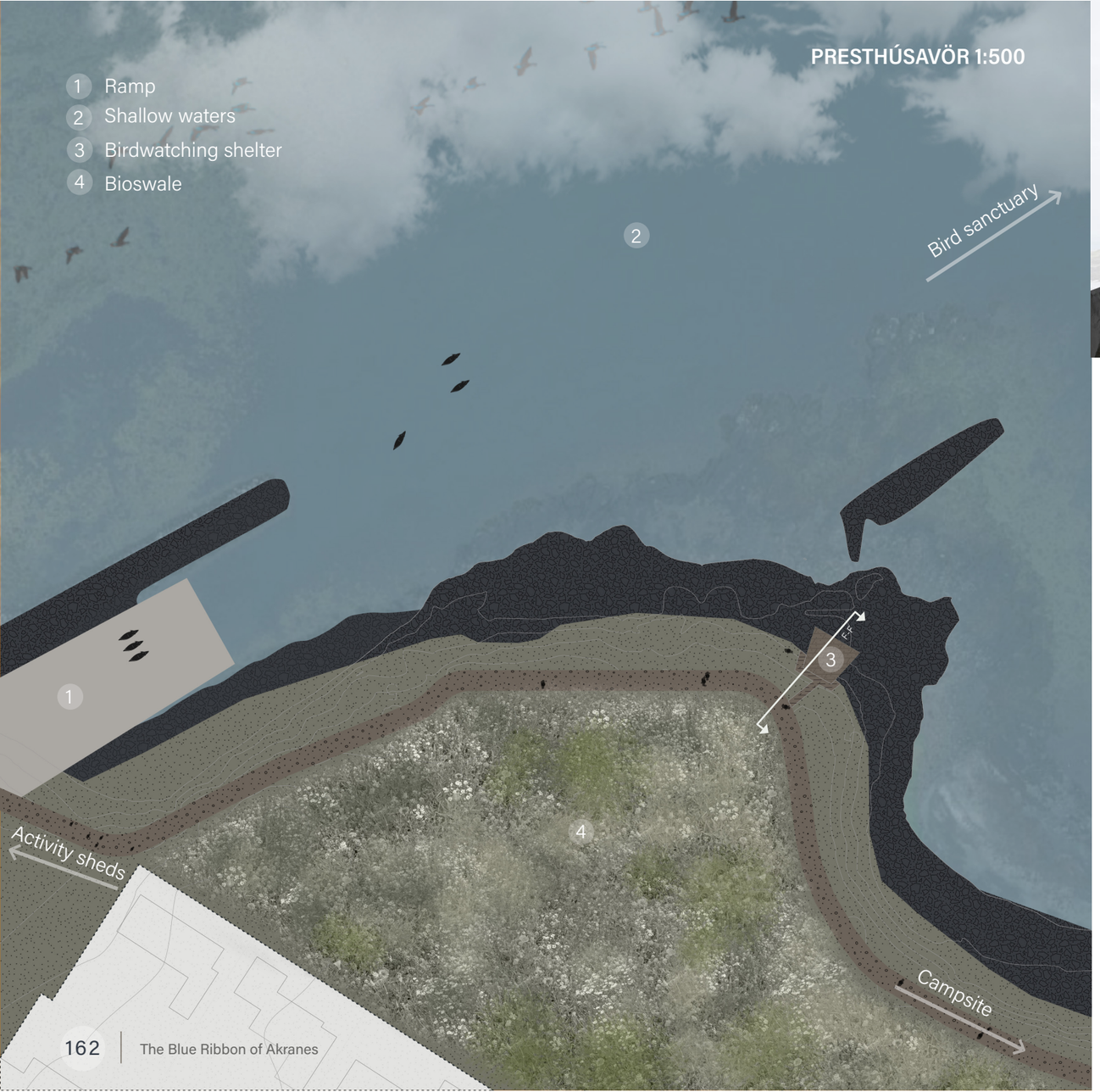


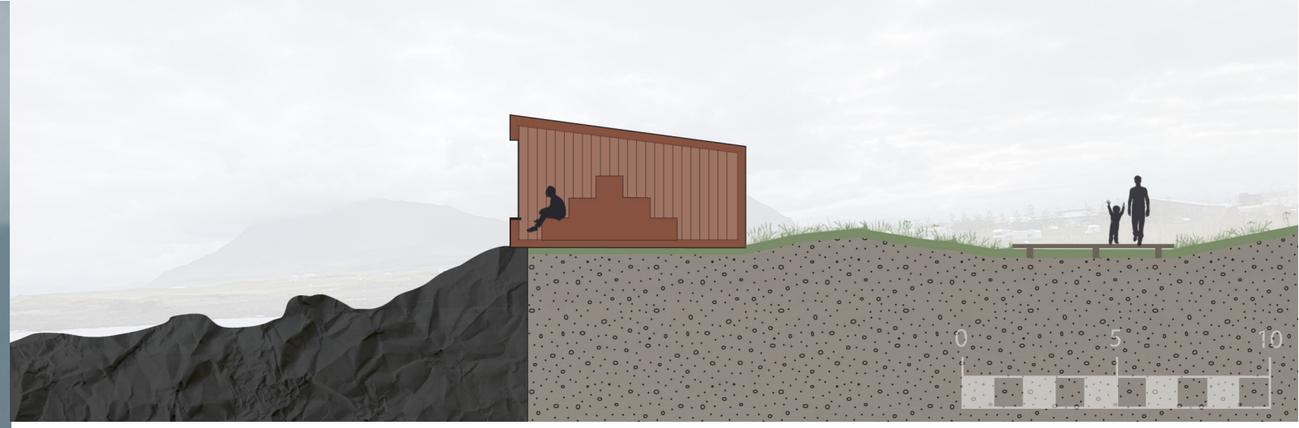
A permanent, 10-meter-high platform will be placed on the dock directly opposite the lift for people to jump into the sea. This activity has gained enormous popularity this summer, so it is ideal to keep it going and thus increase the functions of the area.

The area just outside the seawall has excellent conditions for growing blue mussel and kelp. This area will be useful to the townspeople who can rent a line and thus increase the diversity of their diet. During their growing season, the mussel and the kelp help store CO^2 and clean up toxins from the ocean.

The old ship repair building will become a dining hall and offices, where it will be possible to buy food made from locally grown products, be it seaweed, fish or agricultural products. It is important to keep the spirit of the place so that the history and culture of the area will be highlighted. As a result, the building will be improved in such a way that it will be possible to maintain different functions, but no other changes in appearance will be made.
The rails in the concrete will be kept, but the concrete will be removed between some of them to make room for more vegetation in the area that can deal with seawater pouring onto land and filter rainwater before it goes back to the sea.
At the northwest end of the area is an old boat that has been a popular tourist attraction as the glacier creates a dramatic backdrop. In this area it will be possible to sit down on stonestacked benches and enjoy the sunset.

In Krókalón, there is a newly laid footpath that has been successfully implemented. There is no reason to change it other than to increase access down to the beach with a ramp so that more people can enjoy the beach and use it for beachcombing or playing.





Section F-F 1:200

ACTIVE TOURISM

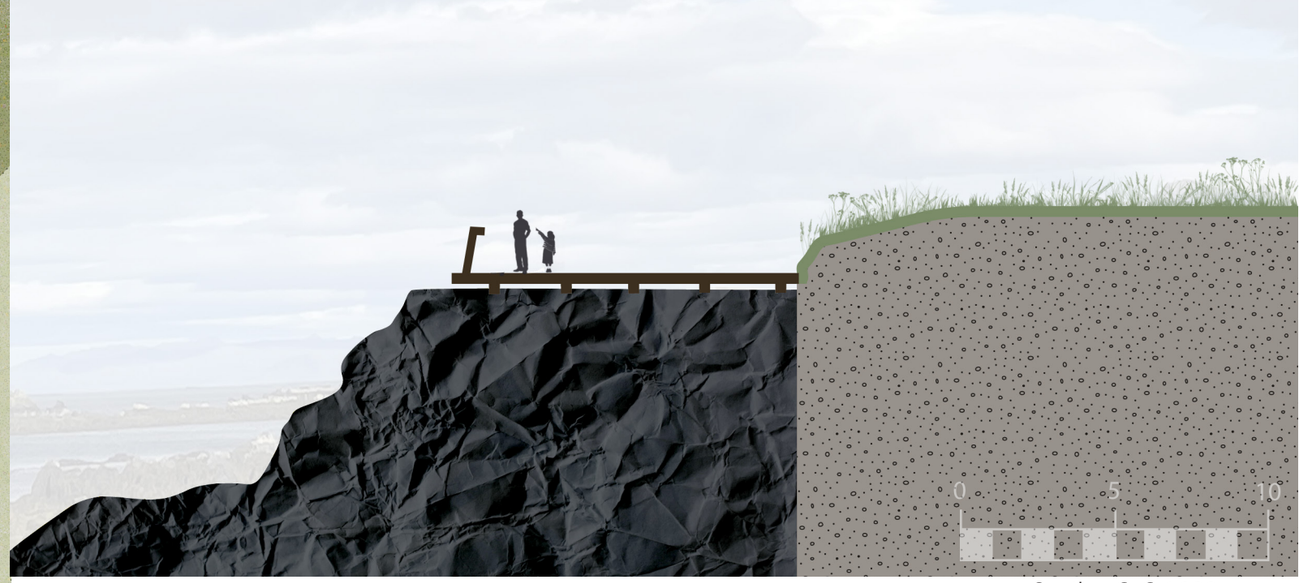
The town's campsite is an extremely popular vacation spot for Icelanders as well as foreign tourists. The area is well located on the edge of town and close to all major services. However, there is no entertainment in the area and not much information about what nature and the town have to offer. In the project, it is proposed that tourism companies operate from the campsite to increase services for tourists.
A ramp will be repaired in Presthúsavör to improve access for kayaks and small boats out there. The shallow waters around the campsite are wonderfully diverse and feature extremely beautiful areas that are fun to dive around as well as snorkel. There are huge opportunities in marketing for experienced divers as well as offering diving trips for beginners. Small cabins will be built at Presthúsavör for smaller tourism companies to house equipment for all kinds of trips.

The area is only 2 km from a bird sanctuary, so you can find a huge variety of bird life in the area. The cliffs, sea and sand create a unique opportunity for bird watchers and other wildlife enthusiasts, but seals are also often seen at the bay. The location of the birdwatching house frames a unique vantage point where different ecosystems offer a wide variety of subjects.

There are many useful plants in the area and an attempt should be made to increase their number but also to keep the original coastal flora. The vegetated area serves as a feeding area for birds and insects, rainwater purification and also as a buffer from the residential area next to the campsite. It is not advisable to build closer to the campsite or the sea.

1 Viewing platform
2 Seating area
3 Native wildflower field

ELÍNARHÖFÐI 1:1500



Section G-G 1:200

CALM AND REFLECT

Today Elínarhöfði is in many ways untouched nature with high cliffs where there is often a great spectacle when the waves crash on the shore, and therefore a viewing platform is made there, where you can look back on the way you have traveled, experience the waves and have a moment with the forces of nature . There is no formal path in the area, but you can distinguish paths in the grass from the many people who like to walk around the area. The ridge of rock that rises up from the area forms a kind of wall behind you as you walk on the edge of the coastline, blocking out all the noise and visual pollution from the community. You are now alone with nature and can allow yourself to pause, reflect and relax.

Elínarhöfði offers unique peace of mind, and therefore it is necessary to offer more seats than are currently available in the area. The new seats take inspiration from the existing seat, Elínarsæti, by the local artist Guttormur Jónsson, and are designed from various folklores and landscape features from surrounding environment.


1
2
3
4

THE GLACIAL CALDERA

One of the most beautiful phenomena in Iceland is watching the summer sun caress the horizon before it rises again without setting. The silhouette of Snæfellsjökull makes this experience even more of a spectacle as the glacier boasts a caldera that looks like a seat for the sun. The seat takes the form of the glacier, and just like the glacier waits for the sun, you are offered a seat.

JÓKA'S BULGE

The story goes that once upon a time, Jóka, a troll on Snæfellsnes, picked a mountain in the south that she thought was more beautiful than all the other mountains (Þorleifsson, 2000). The mountain was heavy and the journey home took a long time. When the troll was on Akranes, the sun came up and she was so startled that she lost the mountain, which split in two. Jóka turned to stone and you can see her back between the two peaks. That bulge is called Jókubunga today and it's what this seat takes inspiration from.

ELÍN'S SEAT (EXISTING)

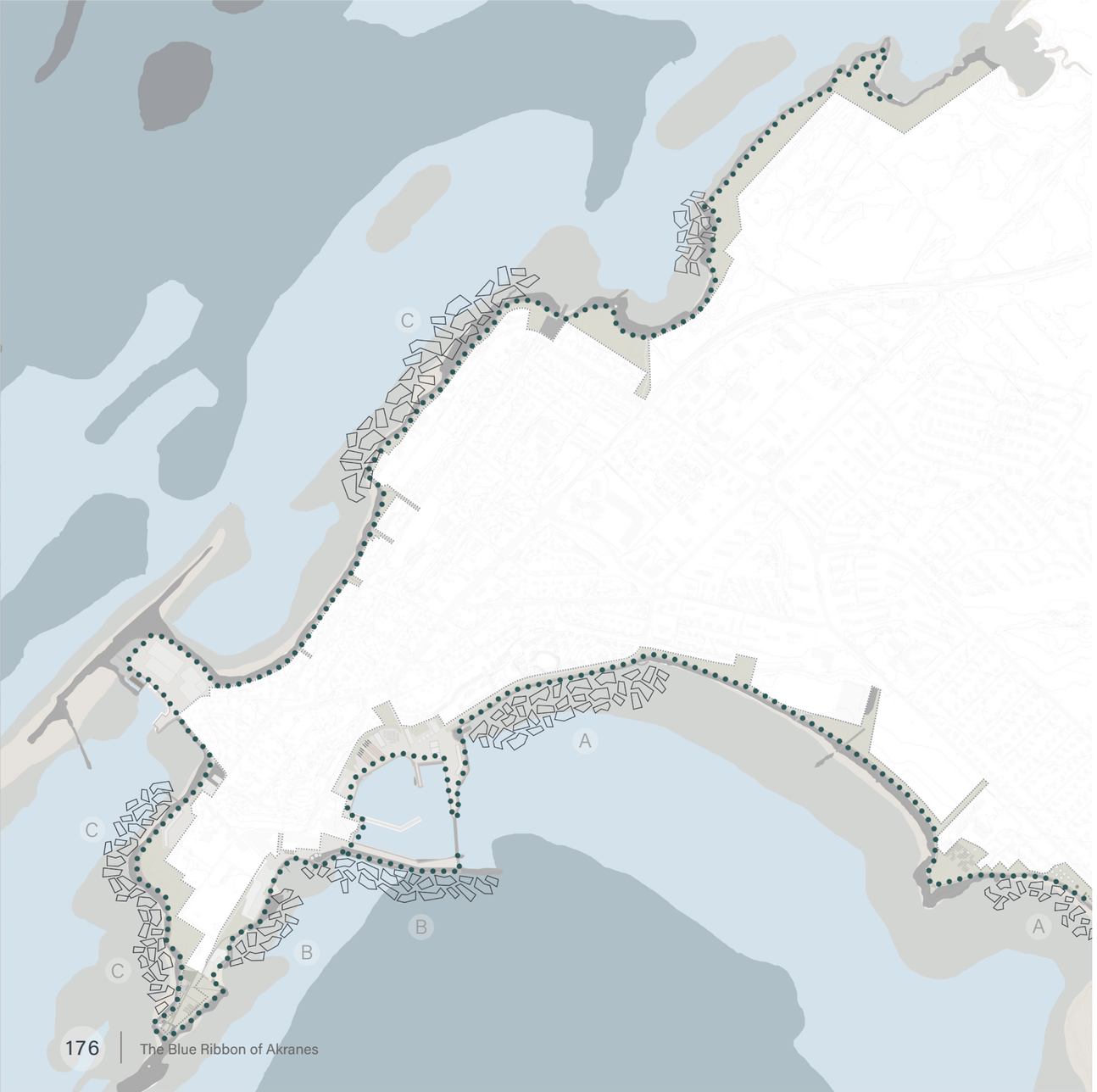
Folklore says that the name Elínarhöfði comes from Elín, who had a sister named Halla, who lived on Snæfellsnes (Akraneskaupstaður, n.d.). Elín moved from South Iceland in 1104 when a large volcanic eruption occurred in Hekla and settled on Cape Elínarhöfði. When Elín wanted to talk to her sister, she sat down at the head and waved her cloth, and Halla then sat on Höllucliff in Snæfellsnes. The story goes that the sisters talked to each other in this way, without any modern technology. The artwork Elínarsæti is by the artist Guttorm Jónsson from Akranes.

HÖGNI'S WATCH

The seat takes inspiration from the folklore about Högni (Haraldsson, 2011). Högni was a hermit who lived where one of the ruins in the area. After he was murdered the area was thought to be haunted. However fishermen believed that Högni was their guardian and they called out his name, before rowing in the hope that he would bring them good luck at sea.
For anyone in need of luck why not visit this seat and see if Högni won't bring you good fortune.

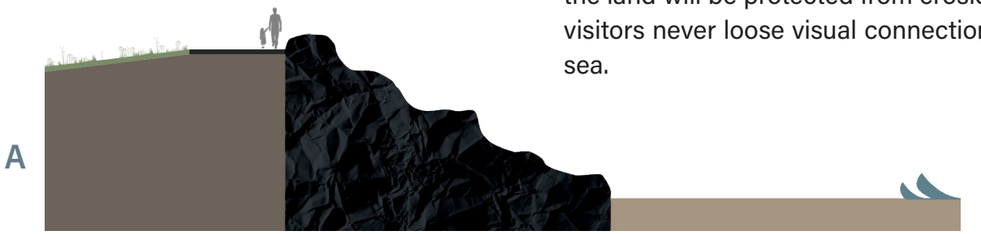
4.4 LIGHT SENSITIVITY

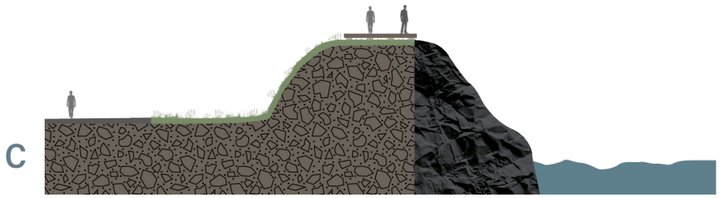
The lighting on the path will be low-key and minimalistic. Since darkness characterizes most of the year, care must be taken not to encourage light pollution, while at the same time ensuring the safety of pedestrians. All lighting along the coastal path will be provided by lampposts no higher than 80 cm in height and the lighting will be directed down onto the path so that it does not disturb the eyes. In this way, the path will be safe for those who want to travel it in the dark, but will not interfere with aurora viewing or wildlife at night.



4.5 VISUAL AND SECURE

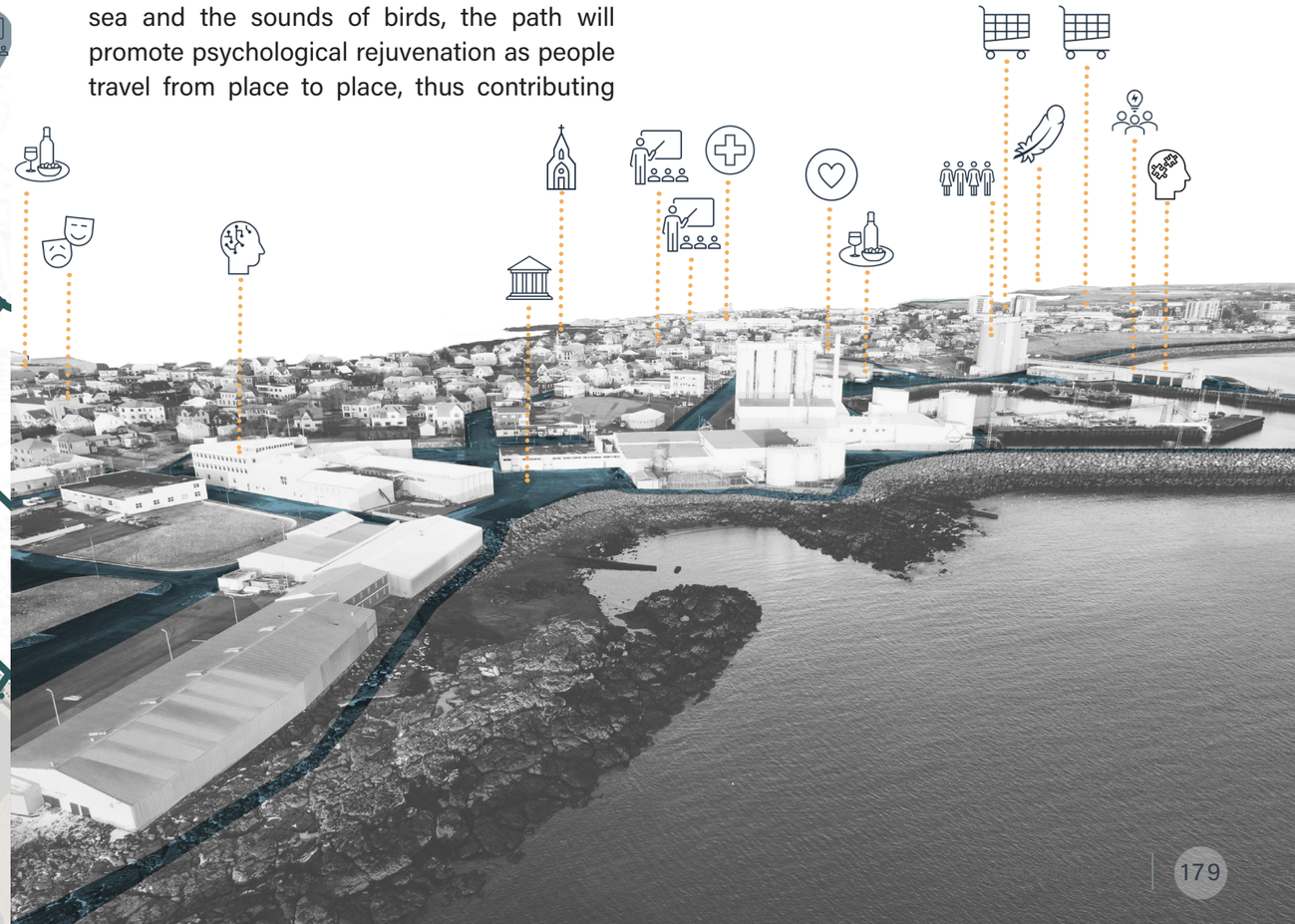
In areas where the sea barrier wall has been raised above visualization towards the sea it's important that the pathway follows the excess height it will create. This will be done by rising the pathway behind the seawall or the pathway will be put on top of the seawall with secure fences, protecting the pedestrians. By doing so the land will be protected from erosion but the visitors never loose visual connection with the sea.





4.6 INTEGRATED PATH SYSTEM

By implementing the coastal path, the town's entire path system will be more integrated and the town's inhabitants will have more travel options. The path is free of all motorized traffic, which reduces stimuli, increases connection with nature and creates greater safety. With constant visual connectivity, the smell of the sea and the sounds of birds, the path will promote psychological rejuvenation as people travel from place to place, thus contributing to the happiness of townspeople and visitors, whether they are walking the path in its entirety or taking a shorter (or longer) route in between of everyday errands and events. The path ties together the loose ends of the existing path system, the history and identity of the town, like a ribbon that neatly wraps a gift.



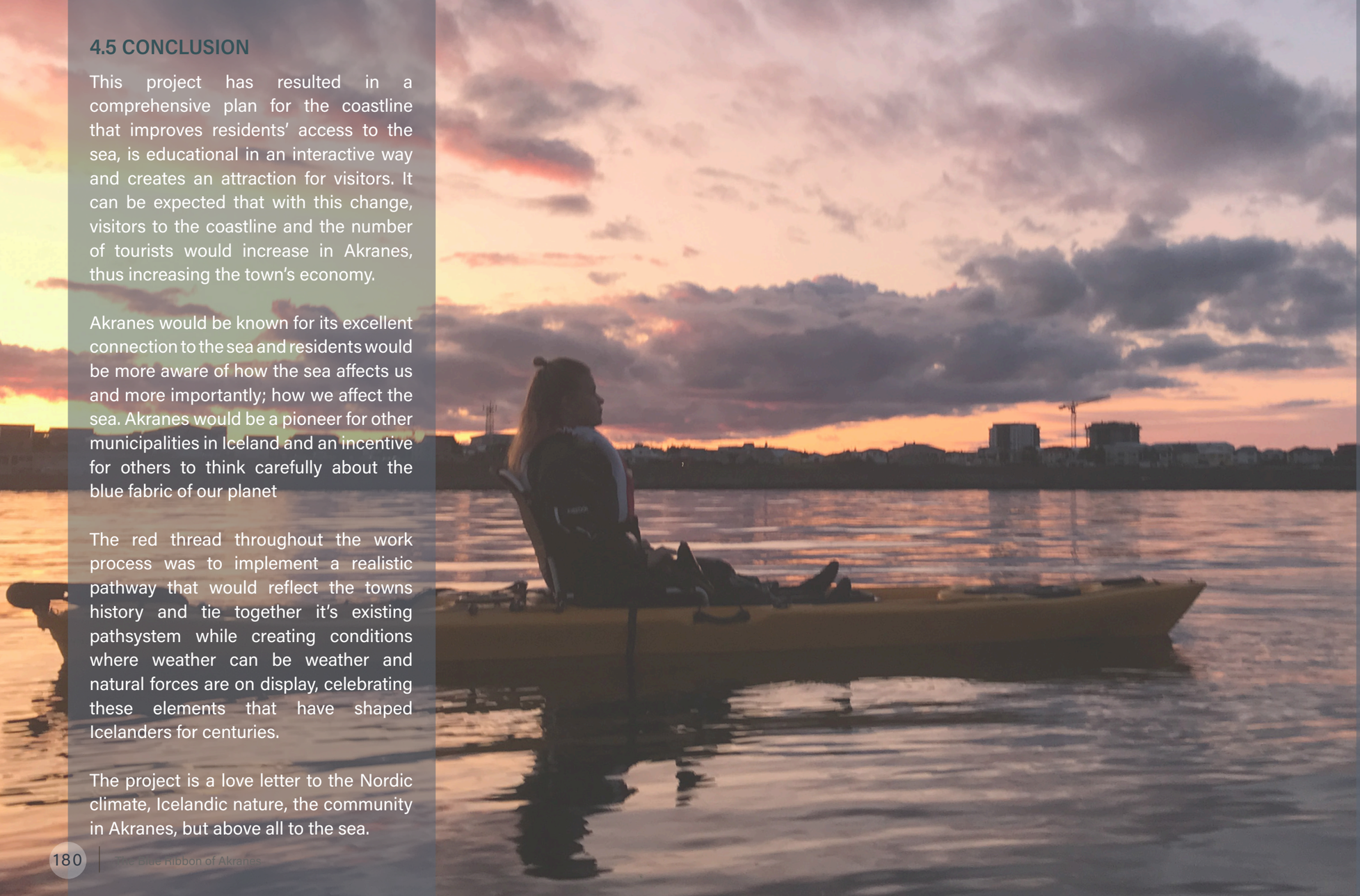
4.5 CONCLUSION

This project has resulted in a comprehensive plan for the coastline that improves residents' access to the sea, is educational in an interactive way and creates an attraction for visitors. It can be expected that with this change, visitors to the coastline and the number of tourists would increase in Akranes, thus increasing the town's economy.

Akranes would be known for its excellent connection to the sea and residents would be more aware of how the sea affects us and more importantly; how we affect the sea. Akranes would be a pioneer for other municipalities in Iceland and an incentive for others to think carefully about the blue fabric of our planet

The red thread throughout the work process was to implement a realistic pathway that would reflect the towns history and tie together it's existing pathsystem while creating conditions where weather can be weather and natural forces are on display, celebrating these elements that have shaped Icelanders for centuries.

The project is a love letter to the Nordic climate, Icelandic nature, the community in Akranes, but above all to the sea.



4.6 REFLECTION

I grew up listening to the waves while falling asleep and waking up looking at the glacier through my bedroom window. From a young age I felt the importance of having access to natural environments and feeling the freedom of jumping down the huge rocks of the seawall and exploring how the tides change the shore with every breath, experiencing it's power, life and movement.

As an adult, the beach has always been a sanctuary for me, a place of 'home.' I gravitate to marine environments when I'm under a lot of stress, and when I moved abroad, I felt how much I missed that constant presence of the ocean. It's my belief that everyone should have access to those kinds of experiences and I hope that the coastal path in Akranes will give others the opportunity.

5

PART 05: BIBLIOGRAPHY

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Figure 1: The Arctic Circle (2016, Hugo Ahlenius) https://www.grida.no/resources/7845

Figure 2: Outlines of the island (2019, Vemaps) https://vemaps.com/iceland/is-03

Figure 3: Southwest Corner of Iceland (n.d.) Authors design based on a map from Google Earth.

Figure 4: Sandbanks on Langisandur in 1933 (1933, Ljósmyndasafn Akraness) http://www.ljosmyndasafn.akranes.is/myndir/mynd/?ID=52033&Nr=1&texti=a%F0+fara+%E1+langasand&cat1=&cat2=&cat=&ljosmyndari=&timabil=&PageIndex=1

Figure 5: Weather data for Akranes (2022, Icelandic Met Office) Personal Communication.

Figure 6: Solar data for Akranes (2022, Based on data from https://www.suncalc.org/#/64.3213,-22.0722,13/2022.06.21/19:04/1/3

Figure 7: The many areas where boats used to be launched, Haraldsson, G. (2011). Saga Akraness (Vol. 1). Akranes: Uppheimar.

Figure 8: The Harbour without current landfill (n.d., Ljósmyndasafn Akraness) http://www.ljosmyndasafn.akranes.is/myndir/mynd/?ID=60535&Nr=1&texti=60535&cat1=&cat2=&cat=&ljosmyndari=&timabil=&PageIndex=1

Figure 9: The Coastline 1908 and 2022 (2022). Authors design based on data from Landmælingar Íslands https://www.lmi.is/is/landupplysingar/soguleg-gogn/soguleg-gogn

Figure 10: Streets from 1908 that still exist today (2022). Authors design based on data from Landmælingar Íslands https://www.lmi.is/is/landupplysingar/soguleg-gogn/soguleg-gogn

Figure 11: Women stacking dried saltfish (n.d., Ljósmyndasafn Akraness) Available at: http://www.ljosmyndasafn.akranes.is/myndir/mynd/?ID=7080&Nr=15&texti=saltfiskur&cat1=&cat2=&cat=&ljosmyndari=&timabil=&PageIndex=1

Figure 12: Fish processing workers (n.d., Ljósmyndasafn Akraness) Available at: http://www.ljosmyndasafn.akranes.is/myndir/mynd/?ID=19987&Nr=1&texti=19987&cat1=&cat2=&cat=&ljosmyndari=&timabil=&PageIndex=1

Figure 13: The Cement factory (n.d., Ljósmyndasafn Akraness Available at: http://www.ljosmyndasafn. akranes.is/myndir/mynd/?ID=52846&Nr=1&texti=52846&cat1=&cat2=&cat=&ljosmyndari=&timabil=&PageIndex=1

Figure 14: The Shipyard (n.d., Ljósmyndasafn Akraness) Available at: http://www.ljosmyndasafn.akranes.is/myndir/mynd/?ID=60031&Nr=1&texti=60031&cat1=&cat2=&cat=&ljosmyndari=&timabil=&PageIndex=1

Figure 15: Football in Akranes (n.d., Ljósmyndasafn Akraness) Available at: http://www.ljosmyndasafn.akranes.is/myndir/mynd/?ID=28669&Nr=1&texti=28669&cat1=&cat2=&cat=&ljosmyndari=&timabil=&PageIndex=1

Figure 16: Potatogarden landscape in Akranes (n.d., Ljósmyndasafn Akraness) Available at: http://www.ljosmyndasafn.akranes.is/myndir/mynd/?ID=7093&Nr=6&texti=7093&cat1=&cat2=&cat=&ljosmyndari=&timabil=&PageIndex=1

Figure 17: Swimming in the harbour (n.d., Ljósmyndasafn Akraness) Available at: http://www.ljosmyndasafn.akranes.is/myndir/mynd/?ID=32422&Nr=1&texti=32422&cat1=&cat2=&cat=&ljosmyndari=&timabil=&PageIndex=1

Figure 18: Madame Friang and the Lighthouses (1969., Ljósmyndasafn Akraness) Available at: http://www.ljosmyndasafn.akranes.is/myndir/mynd/?ID=19984&Nr=1&texti=19984&cat1=&cat2=&cat=&ljosmyndari=&timabil=&PageIndex=1

Figure 19: The depth of the ocean around Akranes (2022) Authors design based on data from Árni Þór Vésteinsson, Icelandic Coast Guard, personal communication May 31. 2022

Figure 20: Kelp (2022) Available at: https://theconversation.com/kelp-wont-help-why-seaweed-may-not-be-a-silver-bullet-for-carbon-storage-after-all-178018

Figure 21: Gathering at the new harbour in Steinsvör (n.d., Ljósmyndasafn Akraness) Available at: http://www.ljosmyndasafn.akranes.is/myndir/mynd/?ID=53030&Nr=1&texti=53030&cat1=&cat2=&cat=&ljosmyndari=&timabil=&PageIndex=1

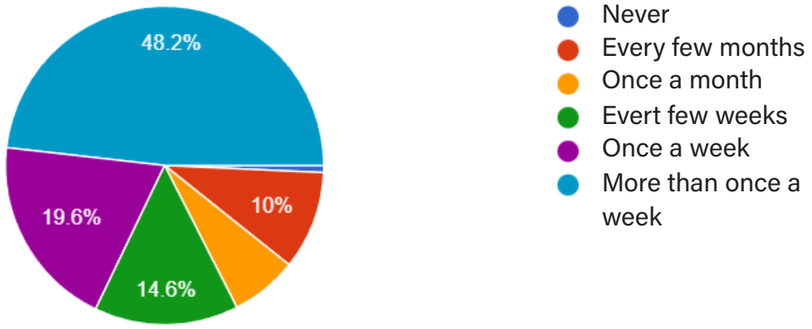
Figure 22: Municipalities proposal of protected areas (2006, Akraneskaupstaður) Authors design based on data from the municipalities masterplan 2003-2017. Available at: https://www.akranes.is/thjonusta/skipulagsmal/adalskipulag

PART 06: ANNEX

CHARTS FROM SURVEY RESULTS CONDUCTED JUNE 2022

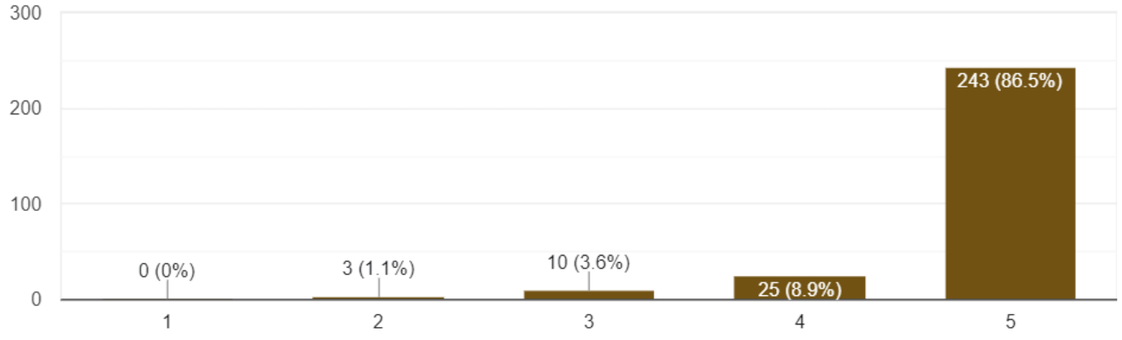
How often on avarage do you believe you go to the coastline of Akranes?

280 responses



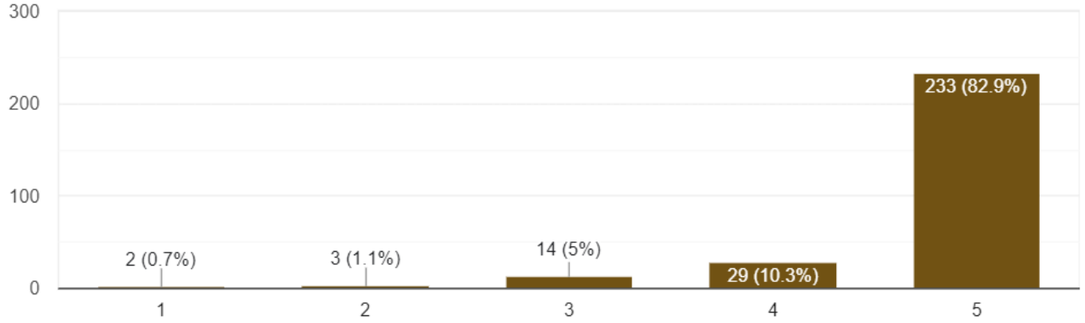
How important is it for you as a resident of Akranes to have access along the coastline?

281 responses



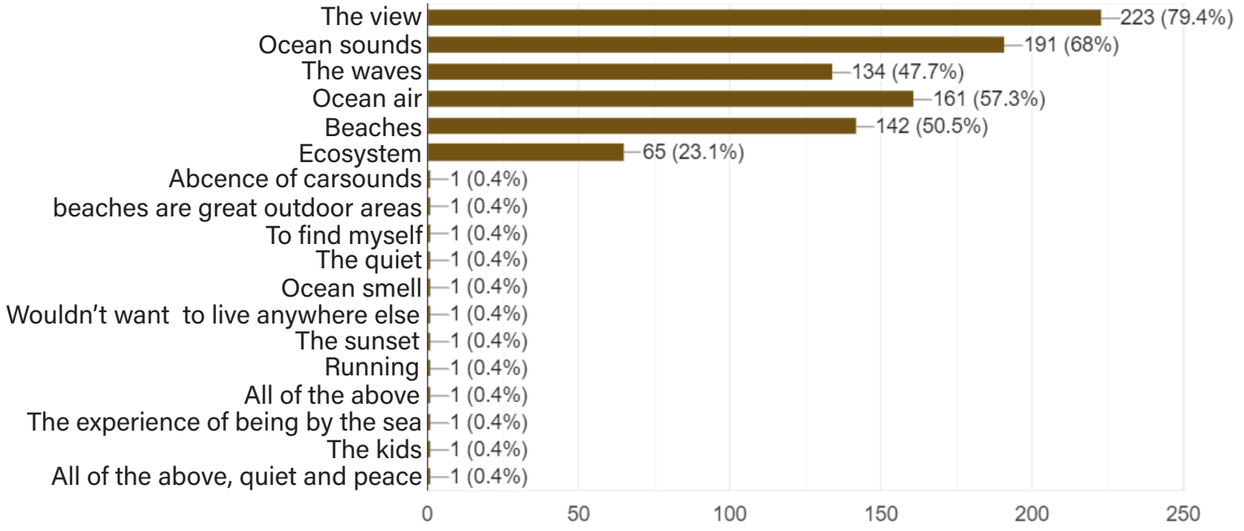
How important is it for you as a resident of Akranes to have access to the sea?

281 responses



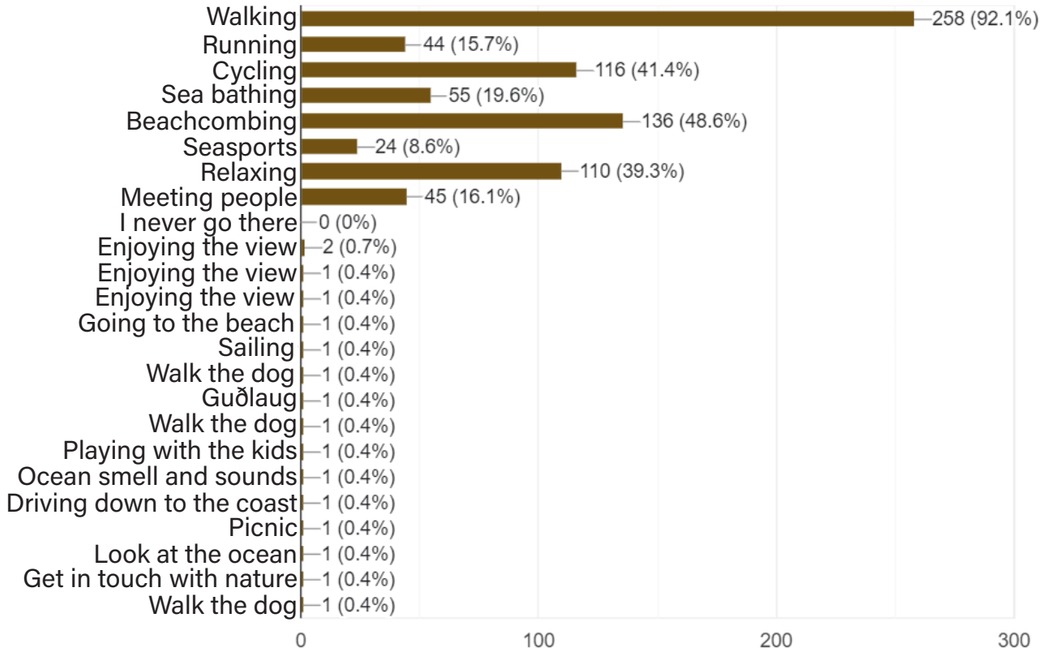
What, if anything, in nature draws you most to the town's shoreline?

281 responses



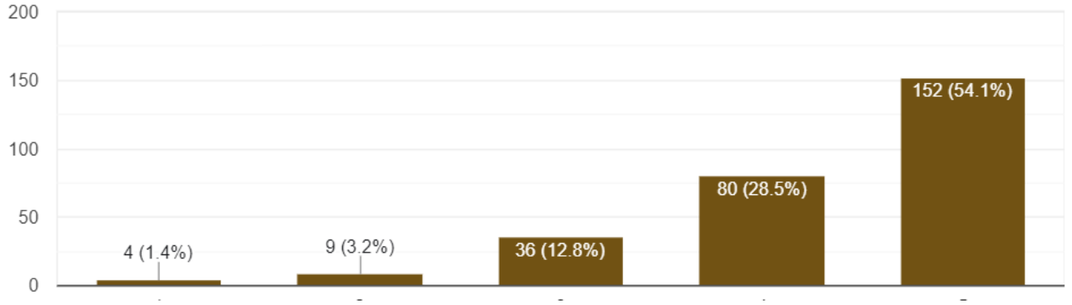
What, if anything, do you use the coastline for the most?

280 responses



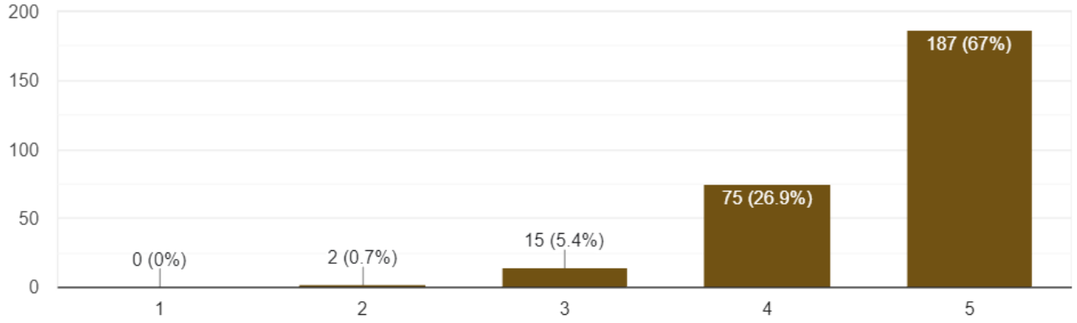
If you were mentally tired and found it difficult to concentrate due to a lot of stress, e.g. at work or school how likely are you to go to the beach to help you relax and focus?

281 responses



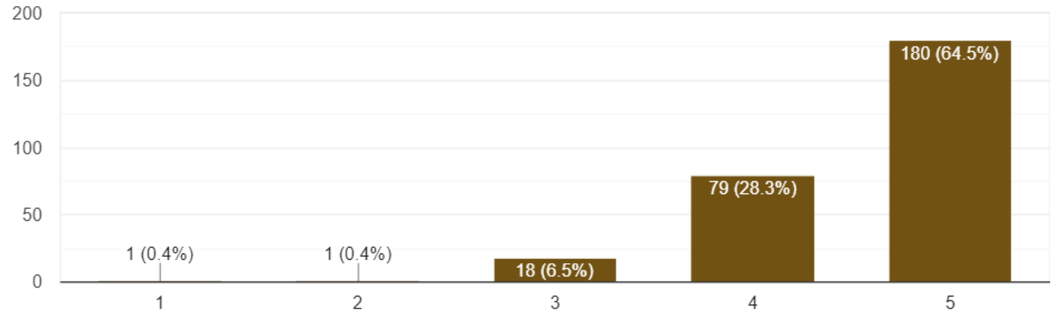
How likely do you think the town's image would be enhanced by focusing on the coastline and sea-related recreation?

279 responses



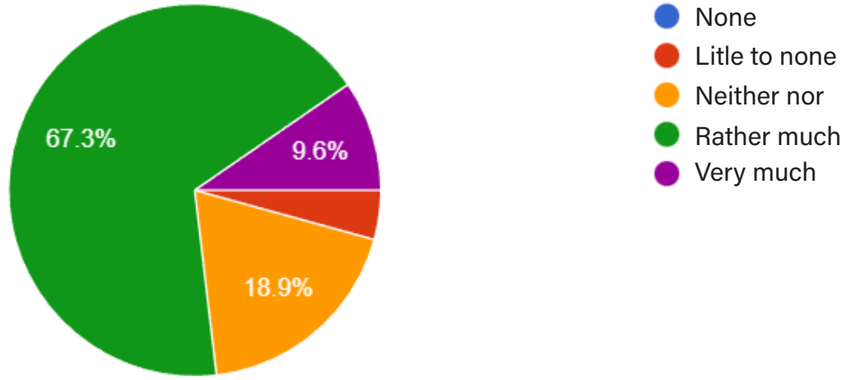
How likely do you think the attractiveness of the town would increase with an emphasis on the coastline and sea-related activities?

279 responses



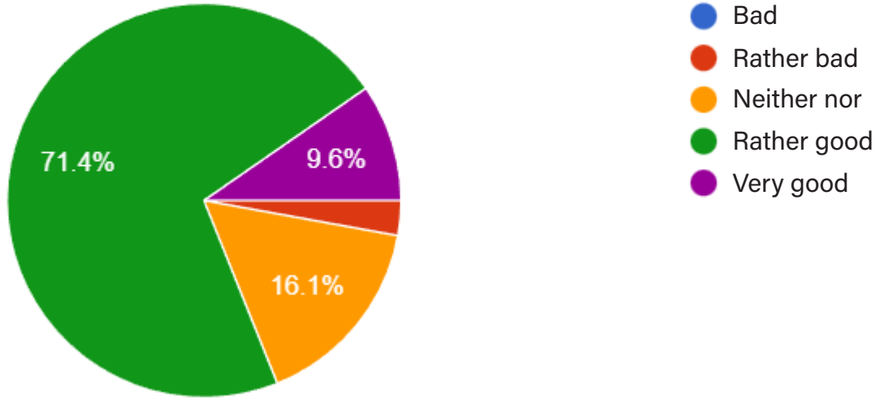
What is your experience of the current usability of the coastline?

281 responses



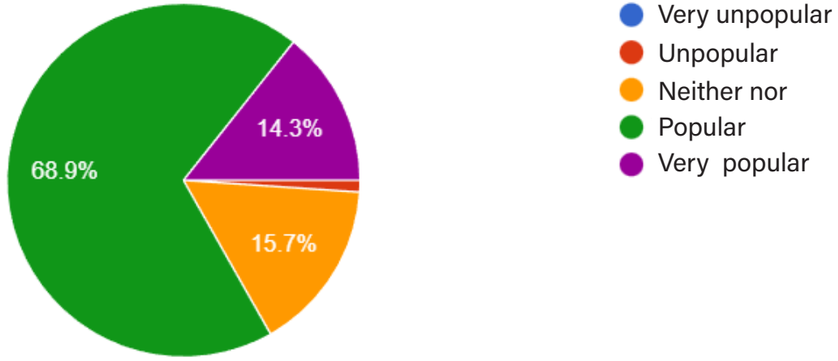
What is your experience of the appearance of the coastline?

280 responses



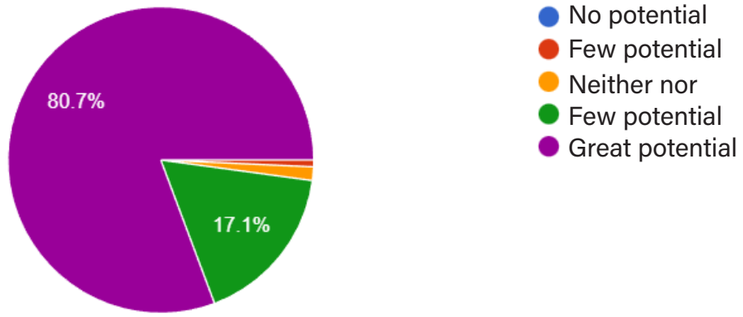
What is your experience of the current popularity of the coastline?

280 responses



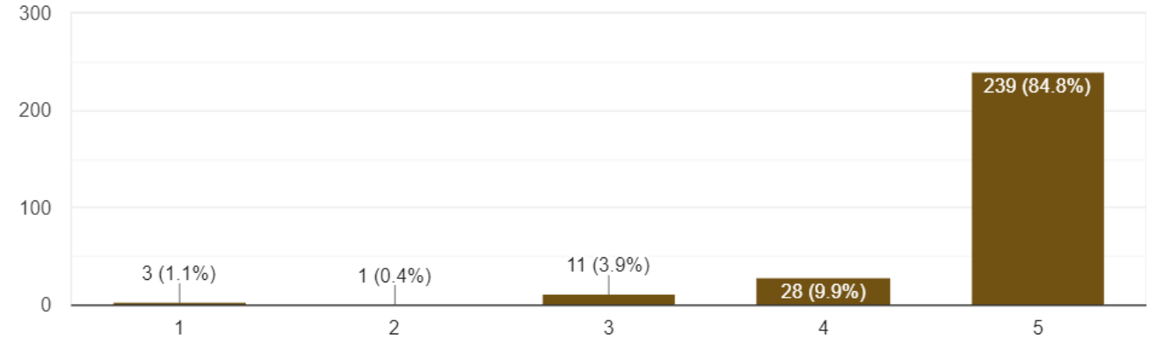
What is your belief in the potential of the coastline as an outdoor recreation area in the future?

280 responses



If you could travel the entire length of the town's coastline unhindered, how likely would you be to take advantage of it?

282 responses



Other questions:

In 1-4 words, what do you think best describes Akranesi? (222 responds)

What do you think is missing in order for you to increase your presence/trips to or along the coastline? (223 responds)

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