WHERE THE JOURNEY STARTS

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HOW A BUILDING IN AN URBAN CONTEXT CAN SERVE AS A CENTER FOR NATURE

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CHALMERS



when looking at the building in the setting, a hope for a new consciousness to see the beauty there, as well."

– architect Sverre Fehn

"When I build on a site in nature that is totally unspoiled, it is a fight, an attack by our culture on nature. In this confrontation, I strive to make a building that will make people more aware of the beauty of the setting, and

Kan en byggnad fungera som en länk mellan naturen och den byggda miljön? Syftet med vårt examensarbete är att utforska hur vi genom arkitektur kan skapa ett rum för natur i staden. Vi undersöker vilka funktioner som följer med en placering i ett stadsrum och hur detta kan fungera som utgångspunkt för en resa ut i naturen.

Platsen för vårt projekt ligger i centrala Karlskrona, mitt i Blekinge arkipelag, ett område som utnämndes till biosfärsområde 2011. I Sverige finns det idag fem biosfärsområden; områden med höga natur- och kulturvärden, där lokala insatser arbetar aktivt för bevarande och utveckling av områdets natur och kultur.

Vid den lilla ön Stakholmen i Borgmästarefjärden föreslår vi ett naturum vars syfte är att bli en mötesplats med den omgivande naturen och kulturen i fokus. Många av dagens naturum är placerade i avlägsna naturmiljöer och man passerar sällan förbi dem av en slump. Ett urbant naturum är mer lättillgängligt, men har andra begränsningar och förutsättningar. Kan den här byggnaden, trots sin placering mitt i staden, uppfylla ändamålet att inspirera människor till att bättre förstå och lära känna naturen och kulturen i sin omgivning?

Kunskap om vår närmiljö är viktig, ja till och med nödvändig för att förstå den. Samhället blir mer och mer urbaniserat och naturen riskerar att få en minskad närvaro i många människors liv. En byggnad som framhäver miljöns betydelse och gör den tillgänglig och närvarande tror vi kan bidra till en ökad medvetenhet om natur och kultur, vilket gör människor mer benägna till en hållbar livsstil.

För att undersöka och utforska ämnet har vi gjort studiebesök, intervjuat personer insatta i ämnet, samt läst relevant litteratur. Genom workshops och skissarbete har vi arbetat för att utforska de arkitektoniska kvaliteterna i vår design. Vår vision har varit att tillvarata platsens styrkor och skapa en inspirerande mötesplats där naturen blir en självklar del av vår vardag.

SAMMANFATTNING

How can a building serve as a link between nature and the urban environment? The aim for this master thesis is to investigate how we through architecture can create a room for nature in the city. An exploration of what functions derive from the location and how an urban meeting point can serve as a beginning of a journey out to nature.

The site is located in the middle of the Blekinge archipelago. In 2011, the area was nominated a biosphere reserve, which is an area that shall promote sustainable development and demonstrate practical approaches to achieve balance between conservation of nature and human use of an area.

In central Karlskrona, near the small island Stakholmen, we propose a naturum, with the aim to increase the curiosity to explore the surrounding nature and culture. A naturum of today is often placed in a context where you never pass by coincidence. An urban naturum is easily accessible but has other prerequisites. Can this building, even though situated in the city, fulfil the purpose of inspiring people to understand and learn about nature?

Knowledge about our local environment is necessary to create an understanding and will to preserve and develop it. In society today nature is often seen as less important as we spend more and more time in the cities. We believe that through an increased awareness of our nature and culture, people could be inspired to have a more resilient lifestyle. A building that makes the environment more accessible can highlight the importance of the nature, which in turn makes people more conscious of the balance and beauty of nature.

Study trips, interviews and literature have been our ways of exploring the field. Through workshops, models and sketches, we have explored the architectural qualities of our design proposal. Our vision is to use the existing strengths of the site to create an inspiring place where nature becomes a natural part of our daily lives.

ABSTRACT

THANK YOU

Karlskrona municipality for welcoming us and our ideas. In particularly we thank Hans Juhlin and Emma Gren, for your support and help to find relevant material.

Mattias Lind (White), Anders Bergqvist (Naturvårdsverket) and Heleen Podsedkowska (Blekinge arkipelag) for sharing your knowledge and thoughts with us. Anders Tysklind (naturum Kosterhavet) and Ellen Hultman (naturum Tåkern) for your time and information when visiting the naturum.

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naturum

Since the seventies the Swedish Environmental Protection Agency, EPA (Naturvårdsverket), has built Visitors Centres linked to specific nature areas. In this report we will refer to Visitor Centres as naturum, which is a Swedish term, defined as "premises with information concerning a natural area" in the Swedish Academy dictionary. The word is given as a substantive and is not declinable. EPA owns the right to the trademark naturum. The picture/heading above shows the logotype of naturum.

INTRODUCTION

The architecture of *naturum* has inspired us for some time and has gained a lot of publicity in Sweden over the past 10 years. Buildings with a design that is distinctly inspired by its surroundings and often placed in a beautiful context. The conditions are less regulated than for many building projects and the goal of these buildings is to enhance the visitor's experience of nature. This puts great demands on both the design and execution of the building, which we find to be an exciting challenge. The architecture of naturum has almost become a phenomenon in Sweden over the past years. No other authority in Sweden has announced as many competitions as the Swedish Environmental Protection Agency. They have let some of Sweden's foremost architects interpret the surroundings and create architecture in harmony with nature. This has boosted Swedish architecture and has been an investment for the whole country.

In a large perspective this thesis aim to investigate how people can become more aware of sustainable development in their local environment. Today we face a number of threats; global warming, pollution, rising sea levels and natural disasters are some of them. It is important to create an understanding of the fact that many of these threats are due to human behaviour. We have a responsibility to understand how we can act to decrease pollution and climate changes. We believe knowledge about our local environment is necessary to understand and increase the will and interest to preserve and develop it. How can we as architects contribute to this? We live in a society where urbanization is an increasing trend. We tend to see nature as less important in our daily lives. By widening the perspective and increasing the awareness of our nature and culture, people can be inspired to have a more resilient lifestyle. A naturum can inform us that we all have a responsibility and show us what we can do. At the same time it has to be clear that we all are a part of a larger context, which we cannot always affect. A naturum cannot solve all problems, but at least be a step in the right direction towards a more sustainable society.

THE SITE

We have chosen to work in the city of Karlskrona where the municipality have visions for a naturum. Blekinge archipelago was nominated a biosphere reserve in 2011 and a naturum would work as a gathering point to enable a network between organisations and locals as well as a meeting place for locals in the city of Karlskrona.

The site for the project is the small island Stakholmen, close to the city centre. The central site has other prerequisites than most sites of naturum today, which are often placed surrounded by nature. We saw the urban setting as a challenge, with pros and cons. The function of a naturum is to increase awareness of the surrounding area's natural values and to inspire visitors to experience nature directly.¹ How is this possible in the urban setting of this project? Because of the distance to nature it is essential to create a place where visitors are inspired to continue their journey out to the archipelago. The naturum is not the final destination; it is a link between culture and nature. The central site makes it easily accessible for everyone, which contributes to activities during all seasons.

The existing qualities of Stakholmen as a recreational spot in the city should be preserved and taken care of. It should be considered a welcoming place, during all hours of the day, whether you are a guest to the naturum or not. An important aspect is that the building opens up both towards the city as well as the nature and facilitates an easy journey out to the archipelago.

A naturum is a building open for the general public, with high demands of accessibility and without a commercial interest. This adds a social dimension that we find intriguing. How can we give the building a physical form that demonstrates this as well as strengthening the sense of openness? The relatively adaptable programme provides a variety of uses in the building. It can function as a meeting place for "nature lovers" as well as community leaders or a playground for school children. The urban setting and closeness to other facilities in the city increases the opportunity to create a lively meeting place.

METHOD

To get a deeper knowledge in the topic, we have read literature and looked closer into some case studies, to understand architect's different approaches when dealing with nature. We also gained a lot of information through interviewing people involved in the topic. Parts of the interviews will be included in the text. All interviews were done in Swedish and when quoting from the interviews in the text we have done a free translation into English.

The people we have interviewed:

- architect in the field.
- his 25 years at EPA.
- reserve.
- building on water.

We started our process by investigating the site and its prerequisites, studying programs and entries for accomplished naturum-competitions as well as doing workshops. In the workshops we have used physical models, which have been an important tool to understand the scale and possible placements of the building and finally to find the right design of our proposal.

STRUCTURE

Our thesis is divided into different parts. The first consists of information about the site and its prerequisites. In the second part we will present our design proposal based upon our research and analysis of the site and subject. This part consists of concept and programme, drawings and illustrations. The third part present relevant parts of our process and analysis of the site. In the last part we give a general view of naturum, the present opinions and tendencies about the phenomenon. Two of the naturum we have visited are presented here.

Mattias Lind, architect at White. Has won several competitions for naturum in Sweden together with his colleague Ulla Antonsson and is an experienced

Anders Bergquist, a former employee at the Environmental Protection Agency (Naturvårdsverket). Was involved in many naturum projects during

• Heleen Podsedkowska, coordinator of Blekinge archipelago biosphere

Peter Santesson, at SF Pontona with great knowledge about pontoons and



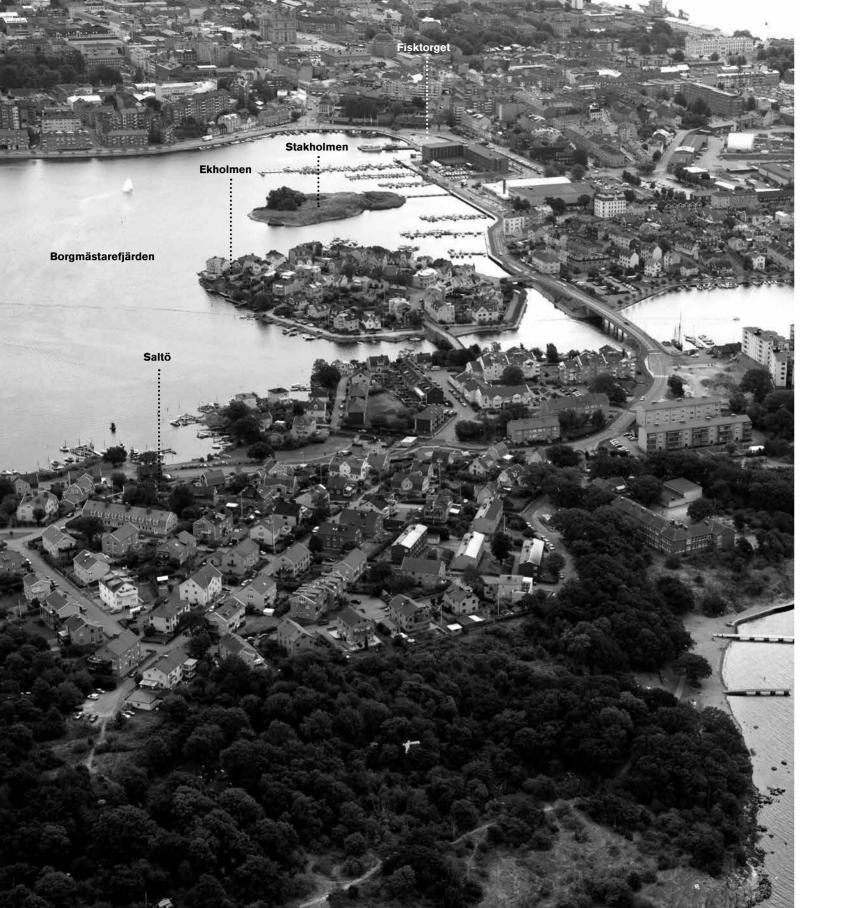
PRESENCE OF NATURE

Human beings have always enjoyed the presence of nature. Many Swedes find it essential for their quality of life to be able to go into nature every now and then. Nature close to populated areas is especially essential, with both biological and social values. The short distance between people and nature makes it easily accessible and therefore more frequently used.² The presence of nature creates a feeling of necessity to spend more time in nature. When doing so, we create an interest for it and, if the nature area is threatened, a will to work for nature preservation. The personal experience is essential for people to take an active part in preservation of threatened nature areas. The legal right to access private land and open country (Allemansrätten) has given Swedes a chance to access nature to a larger extent than in many other countries. Although, as society is getting more urbanized, nature becomes more distant to a lot of people.

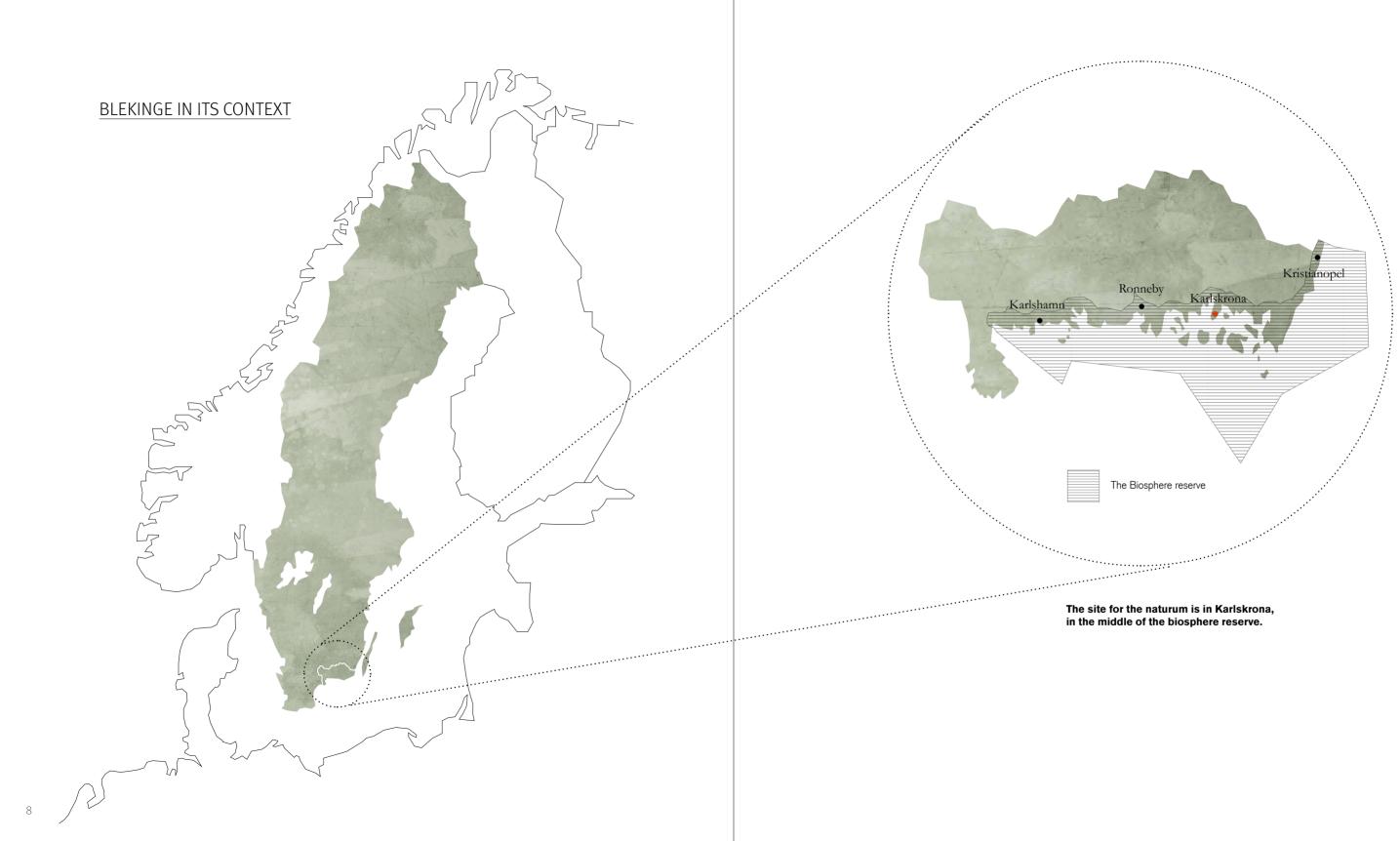
A knowledge-based approach to a better understanding of nature for the general public is one of the tasks for the Swedish Environmental Protection Agency. To build naturum in Sweden is one step to make nature more easily accessible and at the same time create a portal to the specific area where it is placed.³

People skating at ice-covered Borgmästarefjärden. The photo is taken from Ekholmen and Stakholmen is seen to the left. The two churches, Fredrikskyrkan och Trefaldighetskyrkan at Stortorget can be seen in the background.

Source: Föreningen Gamla Carlscrona







BIOSPHERE RESERVES

The biosphere is the part of the planet where all life takes place. It overlaps all spheres of the planet – *the lithosphere*, the hard surface of the Earth, the atmosphere, the layer of air surrounding it and the hydrosphere, all the water on the Farth

In 1968 UNESCO organized a "Biosphere Conference" which was the first conference investigating how to come to terms with the question of preservation of natural resources. The result of this conference was the first appearance of the UNESCO "Man and the Biosphere programme" in 1970. The main task and the original idea for the programme was to establish a world network of sites that could represent the main ecosystems on the planet and where research, training work and monitoring would be accomplished.5

The three main functions of a biosphere reserve is:

- Preservation of the landscape, ecosystems and species.
- Development of human and economic resources that are socio-culturally and ٠ ecologically sustainable.
- To provide support for research, monitoring and education.

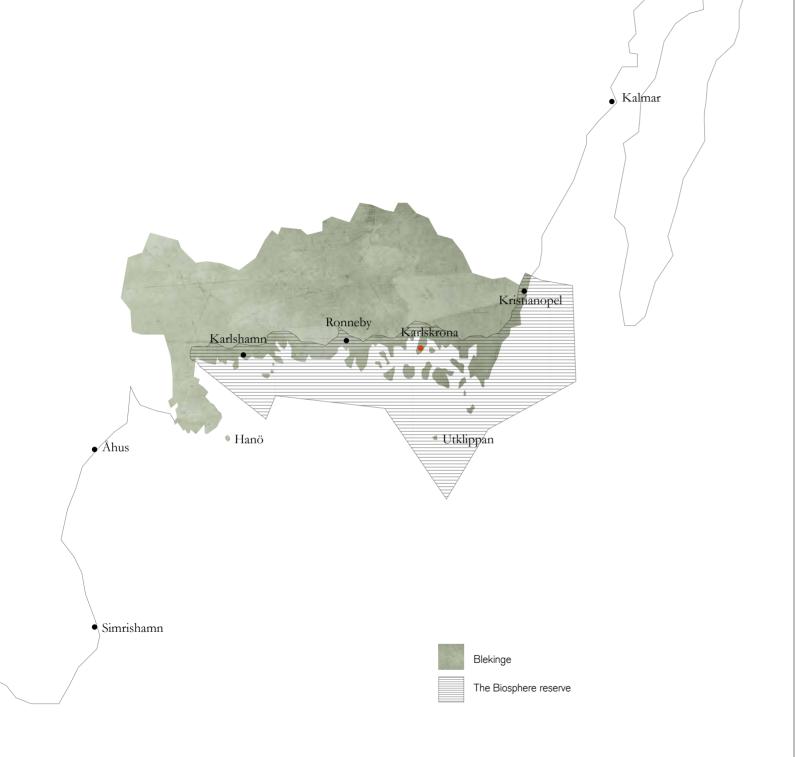
Today there are 621 biosphere reserves around the world.⁶ To become a biosphere reserve the area in question applies to UNESCO that give their approval.7 In the Nordic countries there are seven, five of which are located in Sweden. Those areas are: Kristianstads Vattenrike, Vänerskärgården with Kinnekulle, Älvlandskapet Nedre Dalälven, Blekinge Arkipelag and Östra Vätterbranterna.

BLEKINGE ARCHIPELAGO BIOSPHERE RESERVE

In 2011 Blekinge archipelago was appointed to be a biosphere reserve. The area, which consists of the coastal parts as well as the archipelago of the region surrounding Karlskrona, Ronneby and Karlshamn, is 213 000 hectare and has the ambition to function as a forerunner in the country of innovative solutions that support a sustainable development.⁸ The concept of being a sustainable and living archipelago was highlighted in the application to UNESCO. Among other things the importance of traditional knowledge of the use of nature resources, both within small-scale fishing as well as in farming, is mentioned. Also the geomorphology and the geology in combination with the mild climate characterized by the closeness to the coastline and the brackish water have created unique conditions for a rich biodiversity in the area. Within the biosphere reserve there is 1 Culture reserve, 37 Nature reserves and 72 Natura 2000 areas, also many species that are on protection lists both in Sweden and internationally.⁹

The most remarkable thing about Blekinge archipelago biosphere reserve is the fact that it is the only biosphere reserve in Sweden with focus on the sea and the coastal areas. The vision for the area is to make it express a lively coast and archipelago where development happens in harmony between entrepreneurship and ecology as well as local participation and consideration for future generations.¹⁰ To reach the visions for the area some strategies have been put together. The strategies describe the sustainable direction that the development of the area should aim for and how to reach it. Some examples of the strategies (among others) are:¹¹

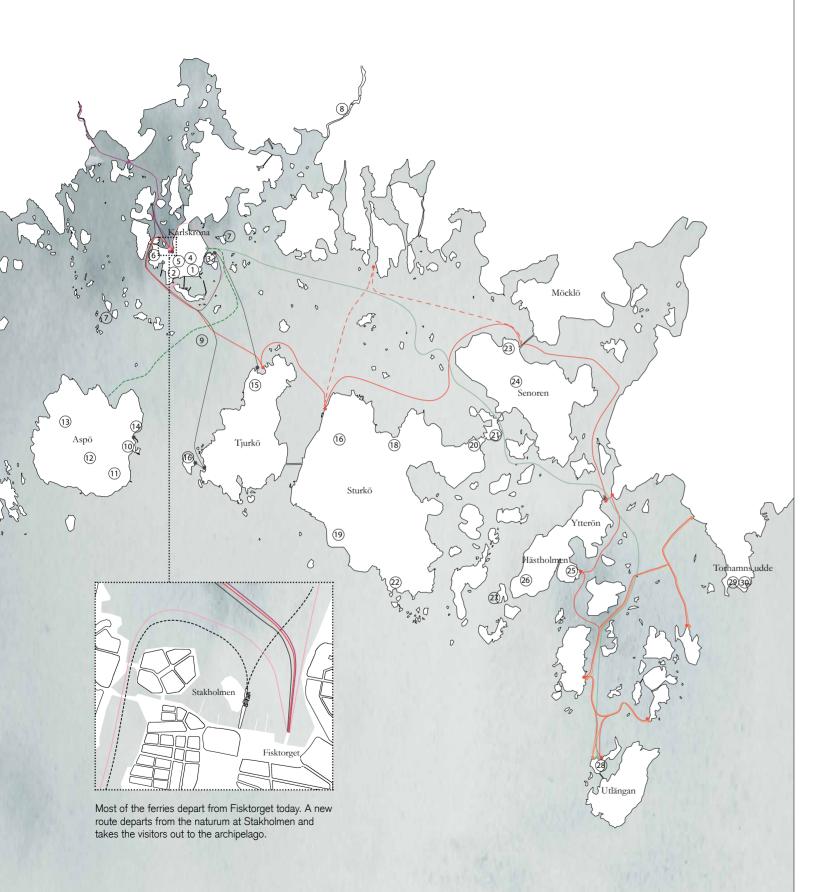
- Development projects a living archipelago
- To stimulate eco-tourism
- To prioritize the cultural heritage
- To establish the trademark of Blekinge archipelago
- Planning of integrated and sustainable buildings



THE ARCHIPELAGO ROUTE

The biosphere reserve is planning a route through the Blekinge archipelago. It will function as a way for common people to visit the archipelago and find the spots worth seeing in an easy way. Visitors can join in on the route anywhere along the way and go to as many or few stops as they want. Ways of transportation can be a private boat or kayak, buses, ferries or bikes and the bicycle path Sydostleden will be connected. The route will go from Hanö in the southwest archipelago, inside the belt of the skerries, to Utklippan and further on to Kristianopel in the northeast archipelago.¹²

The archipelago route will be a way of presenting the biosphere reserve and making it a destination for eco-tourists as well as people from the area. The trademark of Blekinge archipelago will be strengthened.



THINGS WORTH SEEING IN THE ARCHIPELAGO

The ferries that go out from Karlskrona take visitors to many different sights in the archipelago. The map shows the ferries in Karlskrona, most of them depart from Fisktorget.

WORLD HERITAGE

1. The Admirality church and Rosenbom 2. Old Naval shipyard 3. Stumholmen and the Naval Museum 4. The great square and churches 5. Grevagården with baroque gardens 6. Björkholmen 7. Mjölnarholmen, Kurrholmen 8. Lyckeby Crown Mill 9. Godnatt 10. Drottningkärs Citadell 16. Kungsholms Fortification MUSEUM AND TOURIST ATTRACTIONS 11. Ellenabbens Fortification

12. Gruvan 13. KA2 Museum, Aspö Berg

BOAT SERVICE IN THE ARCHIPELAGO

 Free car ru
 Karlskrona
 Karlskron
 Karlskron
 Karlskron
 Torhamn -
 Boat trip r
 Sea Taxi
 New Arch

- 14. Gamla Pest- och Kolerakyrkogården
- 15. Tjurkö Stonemasons
- 17. Sturkö Skans. Fortification
- 18. Sturkö Kvarn
- 19. Jättegrytorna
- 20. Västra Skällenäs Rune Stone
- 23. Vikingabyn Valshall
- 24. Fortet (Fortification)
- 25. Mårtenssons Shipyard
- 27. "Whiskey on the Rocks" U 137, 1981
- 28. Exhibition

NATURE RESERVES

- 21. Västra Skällö
- 22. Uttorps böte
- 26. Ö Hästholmen/Ytterön
- 29. Torhamns udde
- 30. Bird Observatory

running once an hour.

na - Nättraby

na - Tjurkö - Kungsholmen - Aspö

na - Östra Skärgården

na - Säljö - Östra Skärgården

- Östra Skärgården

round Trossö

hipelago Route, departing from the naturum.



KARLSKRONA

After suffering from defeat in the war against Denmark in the 1670, King Carl XI decided that Sweden was in need of a new naval base. The base should be situated in the Blekinge archipelago and the island Trossö was picked for the task and got the new name Carls-Crona (Carl's Crown) after the king. In 1683 Karlskrona became a seat of Government and that same year, Erik Dahlberg made plans for the town and its fortifications.¹³ The city was built in a rapid speed and in the beginning of the 18th century the second largest city in the country.¹⁴ The large square in Karlskrona is still the third in size in Europe after St Peter's Square in Rome and the Moscow Red Square, and is dominated by the two churches Fredrikskyrkan and Trefaldighetskyrkan.¹⁵

Karlskrona became the main base for the Swedish Navy and still is today. Many of the buildings have been kept intact through the years and the original street layout is well preserved. In 1998 the city was designated to be on UNESCO's list of world Heritages. The Justification for Inscription of this were:

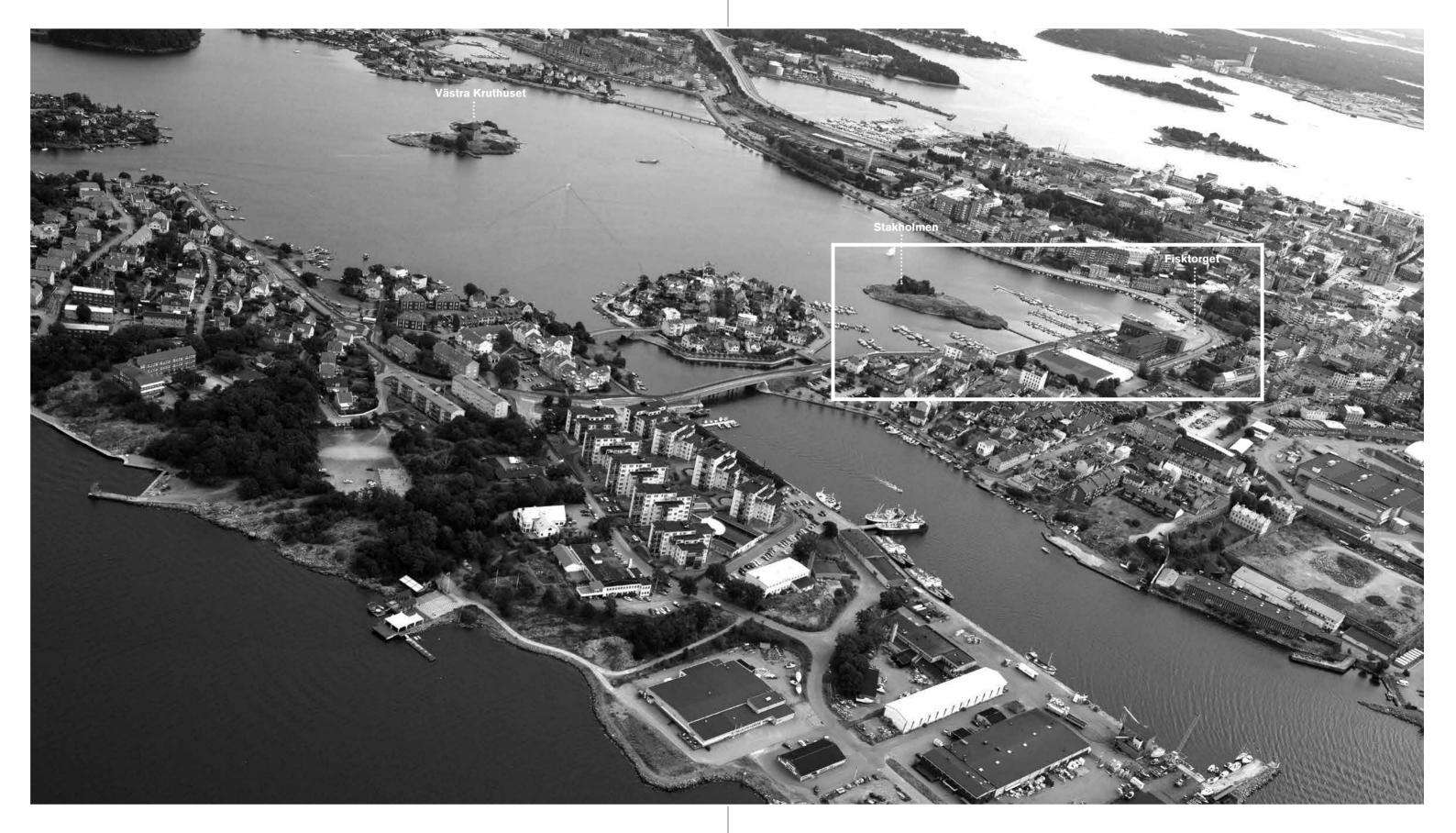
"Criterion (ii): Karlskrona is an exceptionally well preserved example of a European planned naval town, which incorporates elements derived from earlier establishments in other countries and which was in its turn to serve as the model for subsequent towns with similar functions."

"Criterion (iv): Naval bases played an important role in the centuries during which naval power was a determining factor in European Realpolitik, and Karlskrona is the best preserved and most complete of those that survive."¹⁶

Today Karlskrona is a middle-sized city in south-east of Sweden, with around 63,000 inhabitants. The city is built upon 33 islands, which makes the closeness to water present in the whole city.

Karlskrona is known for its historical buildings, small-scale city life and beautiful archipelago and is a popular destination for tourists from both Sweden and the rest of Scandinavia. The archipelago consists of 1650 islands and islets. The ferry connection to Gdenia in Poland also facilitates an easy journey from the countries on the other side of the Baltic Sea.

Blekinge Institute of Technology (BTH) was founded in 1989 and offers education and research aimed at providing a scientific and technological knowledge base.





FISKTORGET AND STAKHOLMEN

On Trossö only a few of the old buildings from the early 18th century are preserved. The concentrations of old buildings are around Fisktorget/ Borgmästarekajen, Alamedan and Skeppsbron.¹⁷ Historically Fisktorget (the fish square) has been a place for commerce. This is where the fishermen and women arrived from the archipelago to sell their fish. In 1904 a newly built market hall was inaugurated, a magnificent building with approximately 64 stands. That market hall was popular and well used for many years but in the 1940's the demolition era that could be seen in many Swedish cities came to Karlskrona. The market hall was torn down in 1951 and today a small statue of a woman selling fish is what remains of the market period on the square.¹⁸

Fisktorget today is the departure point for many of the ferries that go to the islands in the archipelago. It is also the site for one of the larger hotels in Karlskrona, which creates a good base for an attractive outdoor public space along the water, which Karlskrona is in need of.¹⁹ Historically the site has been very lively and active. It is close to the city center with sightlines towards the big square and also one of the first places you see if you enter the city by car.

Stakholmen is a small island close to Fisktorget in Borgmästarefjärden. It is connected to the mainland by a small footbridge, about 50 meters long. There are no buildings on the island today although there are remainders of fortifications.

There have previously been plans and wishes to activate the area around these parts of Trossö and Björkholmen. Fisktorget was a few years back very dominated by cars but is today mainly a pedestrian area. In the 1980's there were plans to place a public administration building on Stakholmen, with the purpose of activating it more. There was also a proposal of a walkway around the island.²⁰

Old picture of a woman selling eels at Fisktorget. Source: Blekinge Museums Arkiv



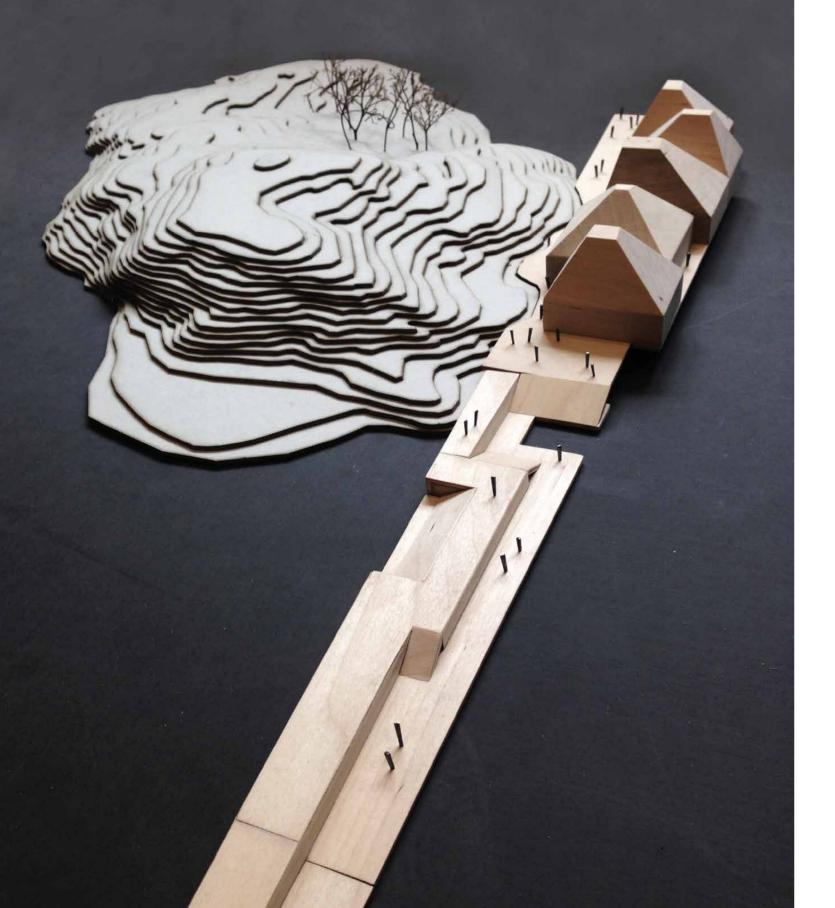
WHY STAKHOLMEN?

The municipality of Karlskrona had a vision about a naturum that would promote the biosphere reserve of Blekinge archipelago and work as a gathering point within the area. They also had a vision to make Stakholmen into something more than what it is today. It has always been a popular meeting place within the city but the floating walk bridge to the island is old, not accessible and has to be exchanged. The position close to Fisktorget with the ferries, the city center and the newly built hotel Scandic also provide Stakhomlen with great potential.

Stakholmen was one of the suggestions from the municipality of placing the naturum. Another alternative was placing it on one of the islands outside of Trossö, a placement that would be more typical for this kind of building. We weighed the pros and cons and saw potential in the urban setting. We find Borgmästarefjärden, with the small island Stakholmen, being a challenging and exciting choice. Being so natural in a way but at the same time in such a close connection with the city center.



View from Stakholmen to Ekholmen



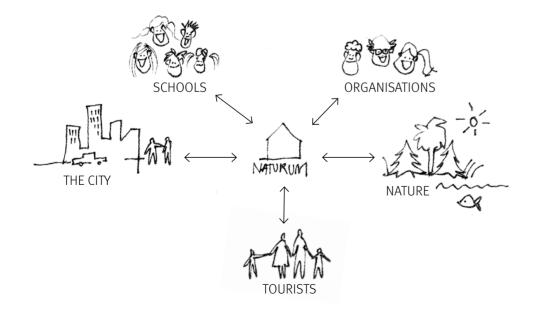
THE PROJECT

VISION

Our vision for this project is to create a proposal that includes more than a usual naturum. The close connection to the urban environment shall invite common people as well as confirmed nature enthusiasts. The building and its exhibition shall inspire and give information to its visitors and through this contribute and welcome people to the archipelago. The naturum shall be accessible from several directions, not just land, but here you can come with the ferry, the kayak, ice-skates or with your own private boat. A destination attractive both on a sunny summer day and a cold winter evening. Our intention is to design a building where the functions are divided in different sections, to create the opportunity to use the spaces in different times. School classes or local associations can come all year around and use the lecture hall, the exhibition or the workshop. It shall be a natural meeting point within the Blekinge archipelago biosphere reserve.

The connection to the dock and to the city is important and should be visible and inviting and the outdoor space surrounding the naturum should be a natural meeting place in the city during all hours of the day.

Our vision is that the archipelago route starts out at the naturum where the ferries take travellers directly to different sights in the archipelago.



AN URBAN NATURUM

Nature, culture, the ocean and the sky, elements that merge at the site of the naturum. In the middle of this meeting is the human being and her understanding and perception of what is going on around her. The Blekinge archipelago is a biosphere reserve, which does not only include nature, but also the humans and culture of the area. For that reason, the relation to the city is as important as the relation to nature. The naturum should be the merging point of the culture and the nature that inspire people to learn and experience more.

This naturum is, in contrast to most naturum, situated in an urban context. It will be open all days of the year and also in that way different from other naturum. The café, the learning center and the exhibition will be independent of each other and the can have different opening hours.

During the seasons that are not as dominated by tourists, the naturum can be used as an integrated part of the pedagogy of the schools of Karlskrona. A meeting place for children from different schools within the city and a natural way of learning more about their local environment.

The naturum should work as a complement to other public buildings in Karlskrona, for example the library and the museums. The auditorium works both as a conference and lecture hall where one part of the exhibition include movie showing about the biosphere reserve. It can also be used for children's theatre with a door to the backstage area. The art and experiment studio can be used in various ways both as a complement to the exhibition and as a separate part, open when the naturum is closed.





CONCEPT

The naturum serve as a link between the city and nature. A place that can create an interest of people to explore their surrounding nature and culture.

When seeing the silhouette of the building from a distance one is intrigued to come closer. When crossing the water on the deck that takes the visitor to the naturum is the start of the journey. In the building is where knowledge is collected and interest is risen to learn more and continue the path out to the deck again. From the ferry stop the visitor continue the journey out to the archipelago.

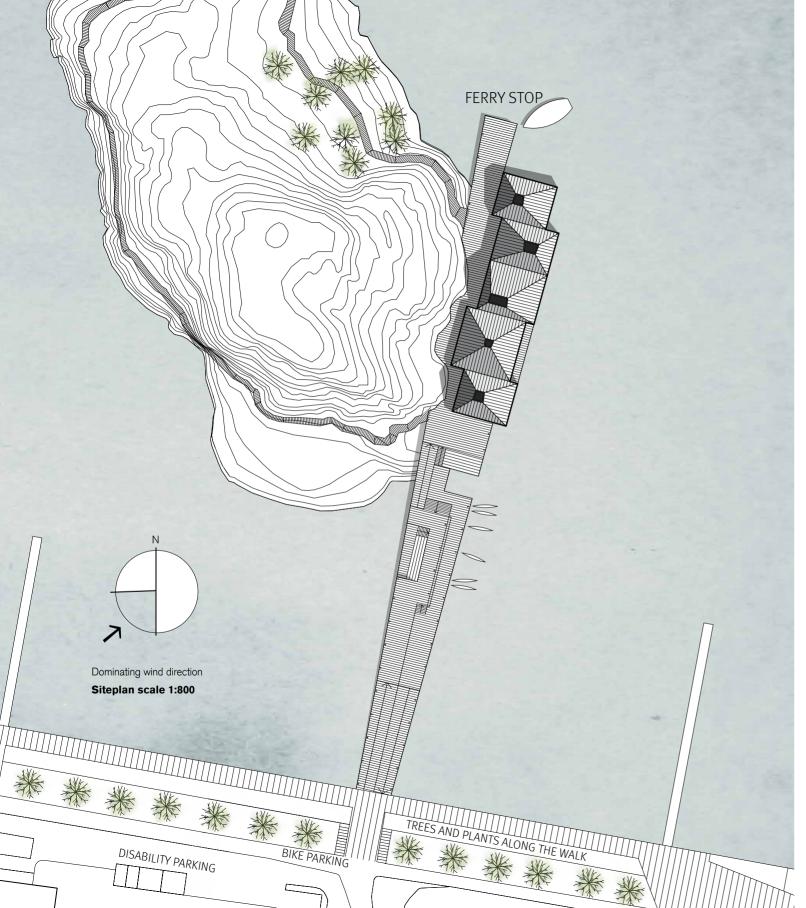




NATURE

HANG OUT





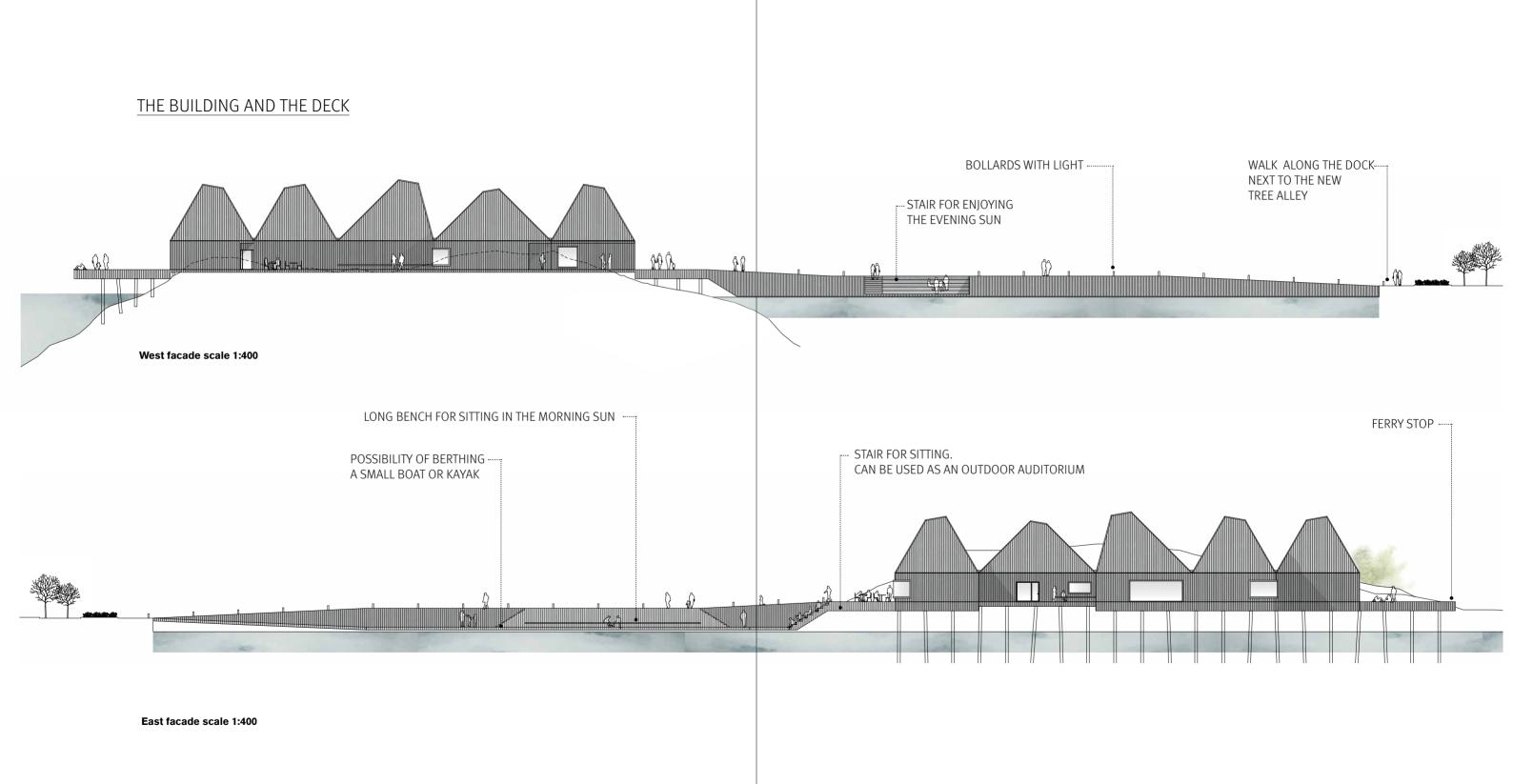
SITEPLAN

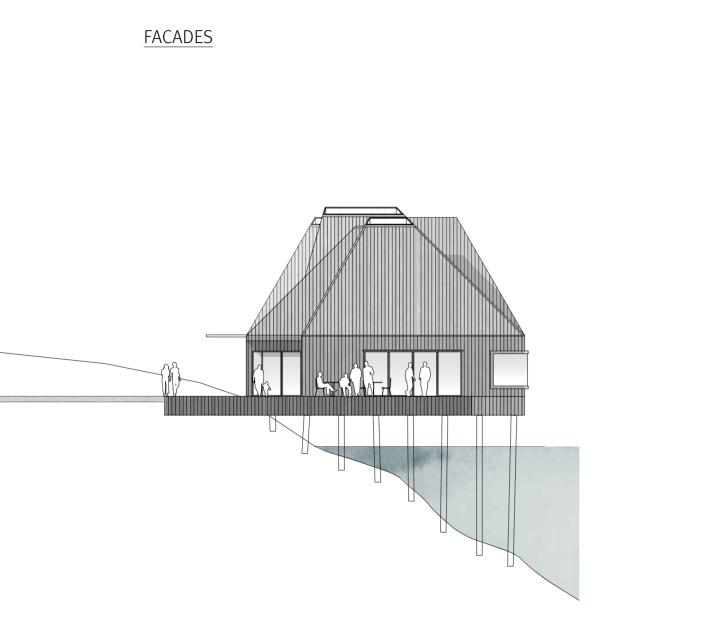
The naturum is placed on the southeast side of Stakholmen. This gives good light conditions to the outdoor spaces. A walk path around the island makes Stakholmen accessible and reachable.

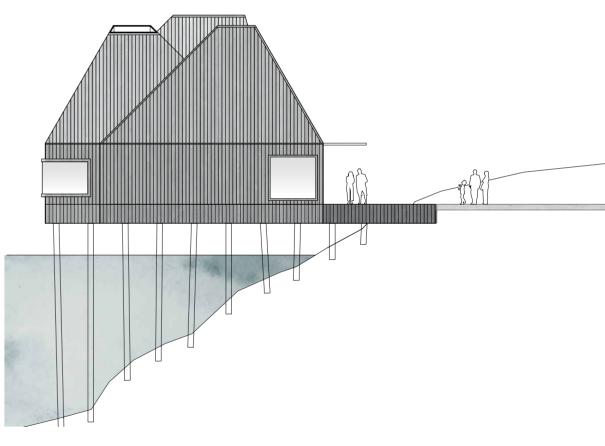
The deck will be an attraction in itself. A place to hang out, enjoy the sun and the views. The deck is divided in a high and a low part, both accessible for everyone.

At the far end of the deck a ferry stop is placed. This is to facilitate the journey to the archipelago and make it a natural part of the visit to the naturum. Not all ferries from Fisktorget will be moved here, but it will be the start of the archipelago route.

The dock becomes a walk path for strollers with seating and greenery.







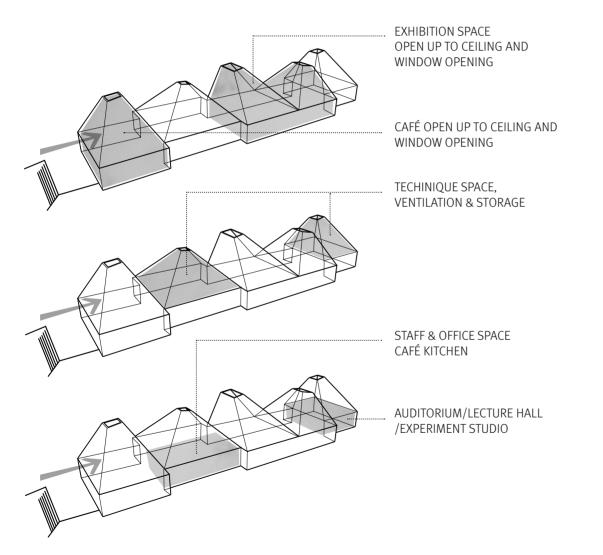
South facade scale 1:200

North facade scale 1:200



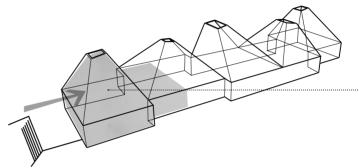
BUILDING DIAGRAM

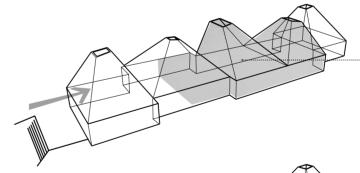
The building consists of 5 volumes that are slightly displaced from each other. Four of the volumes are open up to the roof window at the top, one is completely closed with a second floor for technique, ventilation and storage and one is half closed half opened.

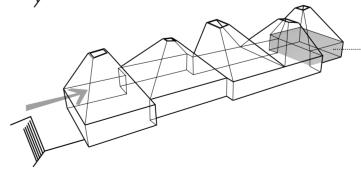


USE OF THE BUILDING

The Café, the Exhibition and the Learning centre can be used independently of each other. Part of what is special with a naturum in an urban setting is that the opening hours can be more generous than in an ordinary naturum. Therefore it is an advantage if parts of the building can be used when other parts are closed.







THE CAFÉ

THE EXHIBITION

THE LEARNING CENTER

A SUNNY SUMMERS DAY

During summer days the deck is a popular spot in the city of Karlskrona. The great position in relation to the sun makes it perfect for sunbathing and hanging out close to the water. Kayaks and smaller boats can be tied to the lower parts of the deck. The outdoor scene is used on summer evenings for smaller concerts and poet meetings. The dock between Fisktorget and Ekholmen is a popular walking passage and many people come here with their private boats.

At this time of the year there are approximately three people working at the same time in the naturum. Mostly in the reception and out in the exhibition area, always available and ready to answer questions. In the café there are two to three employees working at the same time.

Tourists come throughout the whole day. Both Swedes and foreigners, and the naturum is a popular tourist attraction in Karlskrona. When taking a trip out in the archipelago, the naturum is a natural start on the journey and guided tours through the exhibition start several times during the day. In the auditorium a short movie about the biosphere reserve start every half an hour.

The art studio is hosting a summer course for children. Every day starts in the studio and then they use the whole island, Stakholmen, as a "classroom". Expedition tours for anyone who is interested in the learning more about the archipelago start by ferry and go to different entry places in the biosphere reserve every day during the summer.

"The deck is my favourite. I sit there and dip my feet into the water" - Johan



The art studio is great! And Stakholmen has many nice spots to sit and paint" - Anna



"We have never been to Karlskrona before but heard about the naturum and had - Pavel & Ania

A TUESDAY IN FEBRUARY

Two to three people work in the naturum during this time of the year. They sit mostly in the office spaces, but are always close by reception area to welcome anyone who walks through the door. The café is open and a popular lunch place in Karlskrona.

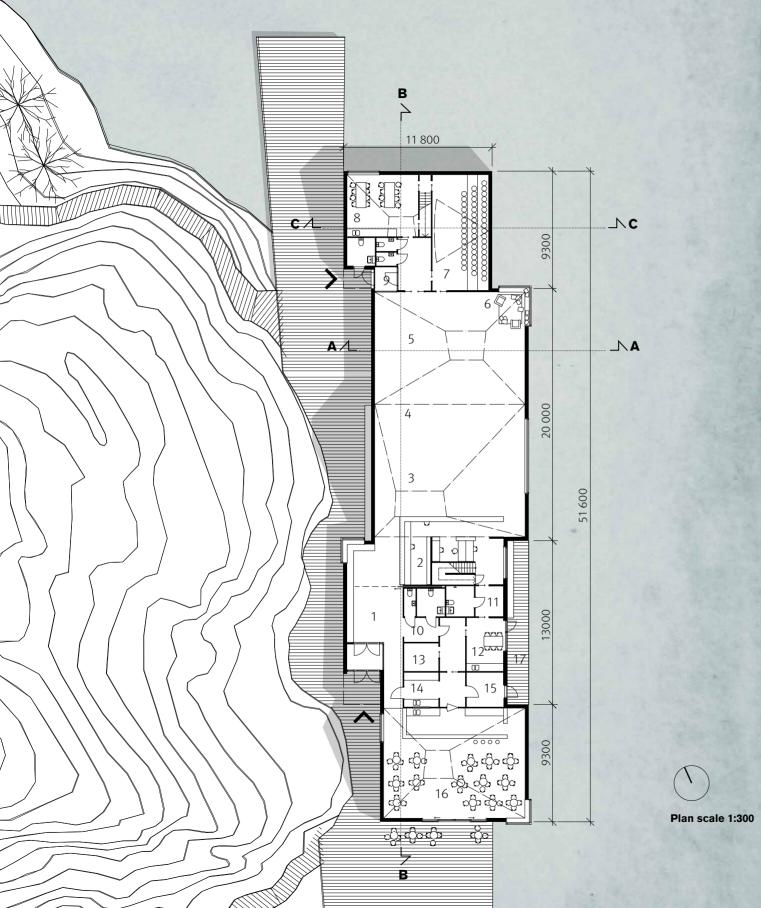
In the morning the auditorium is used for children's theatre. The actors use the art studio, which is then transformed into a backstage area. School children from all over Blekinge come to the naturum to learn about the biosphere reserve and about sustainable development. The reading corner is today used by a group of pensioners that have a book circle.

Borgmästarefjärden is covered with ice and in the afternoon a popular gathering point for ice-skaters. The lower parts of the deck works well to sit on for a short break every now and then and a hot chocolate from the café is welcomed for a chilly skater. The outdoor toilet is open all hours of the day and can be used by anyone.



"As soon as the ice is thick enough we go here a lot. And the hot chocolate in the café tastes so good on cold winter days!" Martina & Sadik

"I come here every week. The reading corner works very well for our book circle." - Robert



PLAN

The naturum, as well as the café, will be open on a daily basis around 10 to 18. During low season (September – April) the naturum will have around 2-3 people working, and approximately the same number in the café. During the summer season there can be more people working. The staff in the naturum and the café share some common premises. It is possible for the café and the naturum to have different opening hours, independent of each other.

Total area: 580 m²

- 1. ENTRANCE HALL
- 2. RECEPTION DESK & WORK PLACES
- 3. INTRODUCTION EXHIBITION
- 4. TEMPORARY EXHIBITION
- 5. PERMANENT EXHIBITION
- 6. READING CORNER
- 7. AUDITORIUM
- 8. STUDIO/MEETING ROOM
- 9. EXIT TO THE BOATS
- 10. CLOAKROOM
- 11. PRINTING/COPY ROOM
- 12. LUNCH ROOM
- 13. RESTING ROOM
- 14. KITCHEN
- 15. GARBAGE ROOM
- 16. CAFÉ
- 17. BALCONY FOR STAFF

PROGRAMME

ENTRANCE HALL + CLOAKROOM 38 M²

When the visitors arrive to naturum the reception desk is visible from the entrance. It is possible for a larger group of people to gather together with a guide in the entrance hall and then be guided through the exhibition before they continue their journey to the archipelago. In connection to the entrance hall there is a cloakroom and toilets for the visitors.

RECEPTION DESK, SHOP AND WORK PLACES 33 M²

The reception desk is the central point in the building and easily reachable for both visitors and staff. A spacious reception desk is needed and the staffs have a good view over the exhibition spaces. A store with brochures, books and other materials is placed in the reception.

COMMON AREA FOR STAFF 38 M²

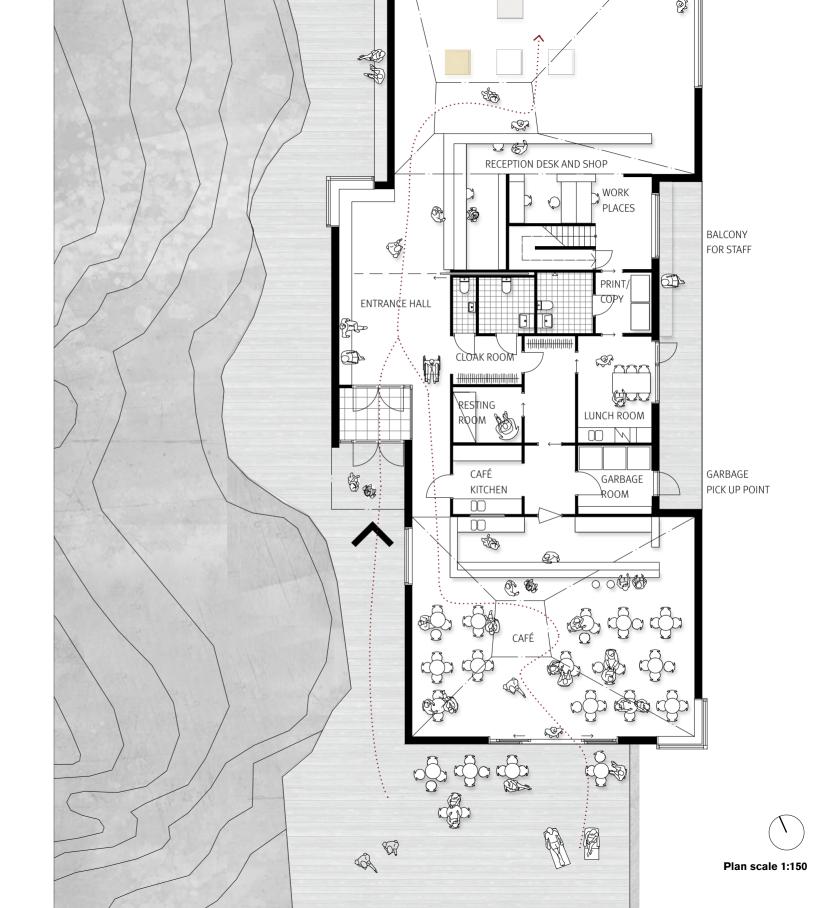
The staff for the naturum and the café share some premises; cloakroom, resting room, wc and kitchen. Working places for the naturum's staff is in connection to the reception desk. During low season there might not be one person in the reception all the time, but the staff is always available when visitors arrive.

CAFÉ 77 M² + 34 M²

The café can be reached from outside and be used when the naturum is closed. It has seating for approximately 60-70 people indoor, plus outdoor seating.

TOILETS 15 M²

The toilets are placed in connection to the two entrances. There is also an outdoor toilet, which can be used when the naturum is closed.



EXHIBITION 200 M²

The exhibition is divided into one introduction exhibition, for a fast overview of the biosphere reserve, one thematic/temporary exhibition that can be changed now and then, and one permanent exhibition.

SMALL LIBRARY, READING CORNER 8 M²

A small group of comfortable chairs and pillows are placed in connection to the exhibition where visitors can sit and read magazines and books about the biosphere.

STUDIO/MEETING ROOM 27 M²

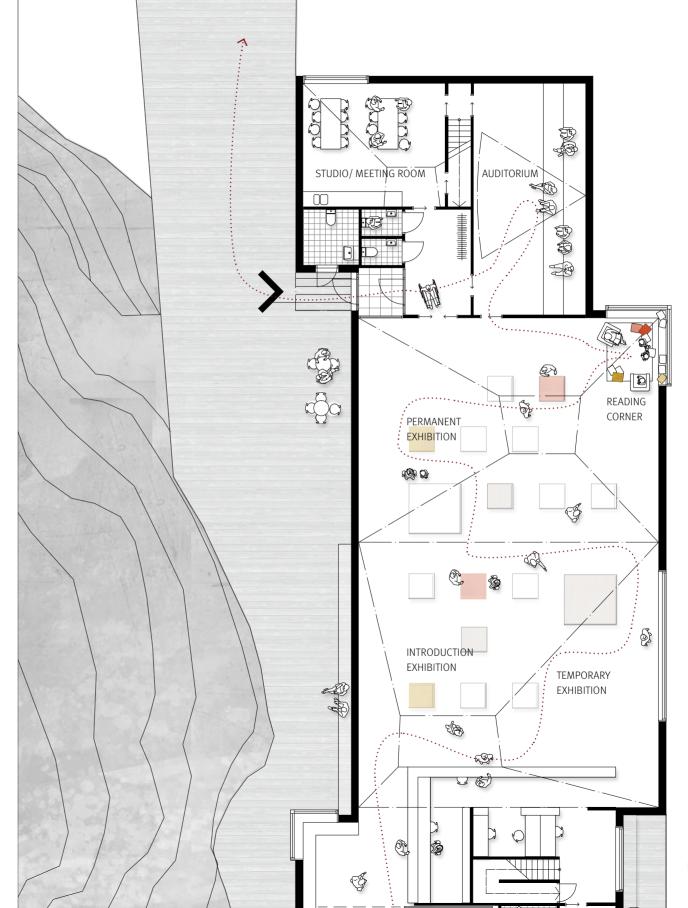
A flexible room that contain workbenches, water supply and sink. The furniture can be arranged in different ways. The room can be used after closing time, for example by local organizations. It is placed in connection to the auditorium.

AUDITORIUM 40 M²

The auditorium will be used for movies, conferences, workshops, evening lectures, children's theatre and other activities. It fits approximately 40 people. The auditorium is in connection to the exhibition, but is possible to separate during special events or conferences. The art studio can be used as backstage area during children's theatre.

TECHNICAL DEVICES 60 M²

Ventilation and technical devices are placed in level two.

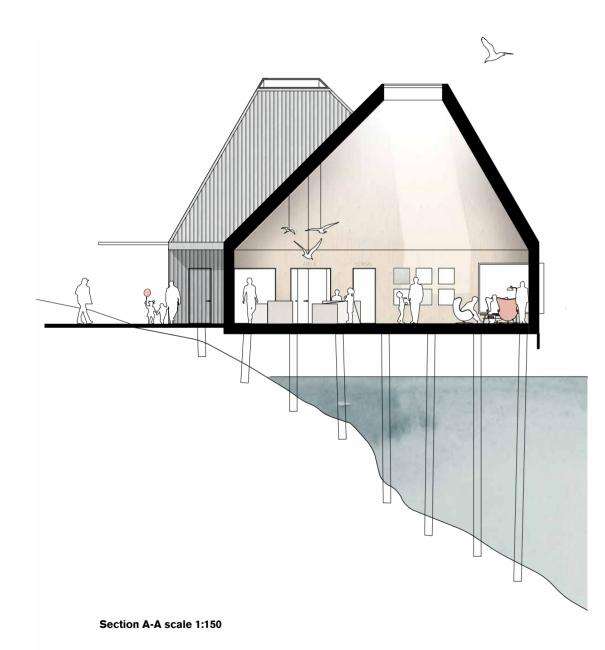




Plan scale 1:150



THE EXHIBITION





View from the entrance towards the exhibition



Deciduous forest Beech and oak forest on the southern coast of Blekinge. The only place in Sweden where this kind of forest grovs this far out in the archipelago.



Aquarium With fish from the Baltic sea in the Blekinge archielago.

The permanent exhibition will be divided in to a few different topic areas.

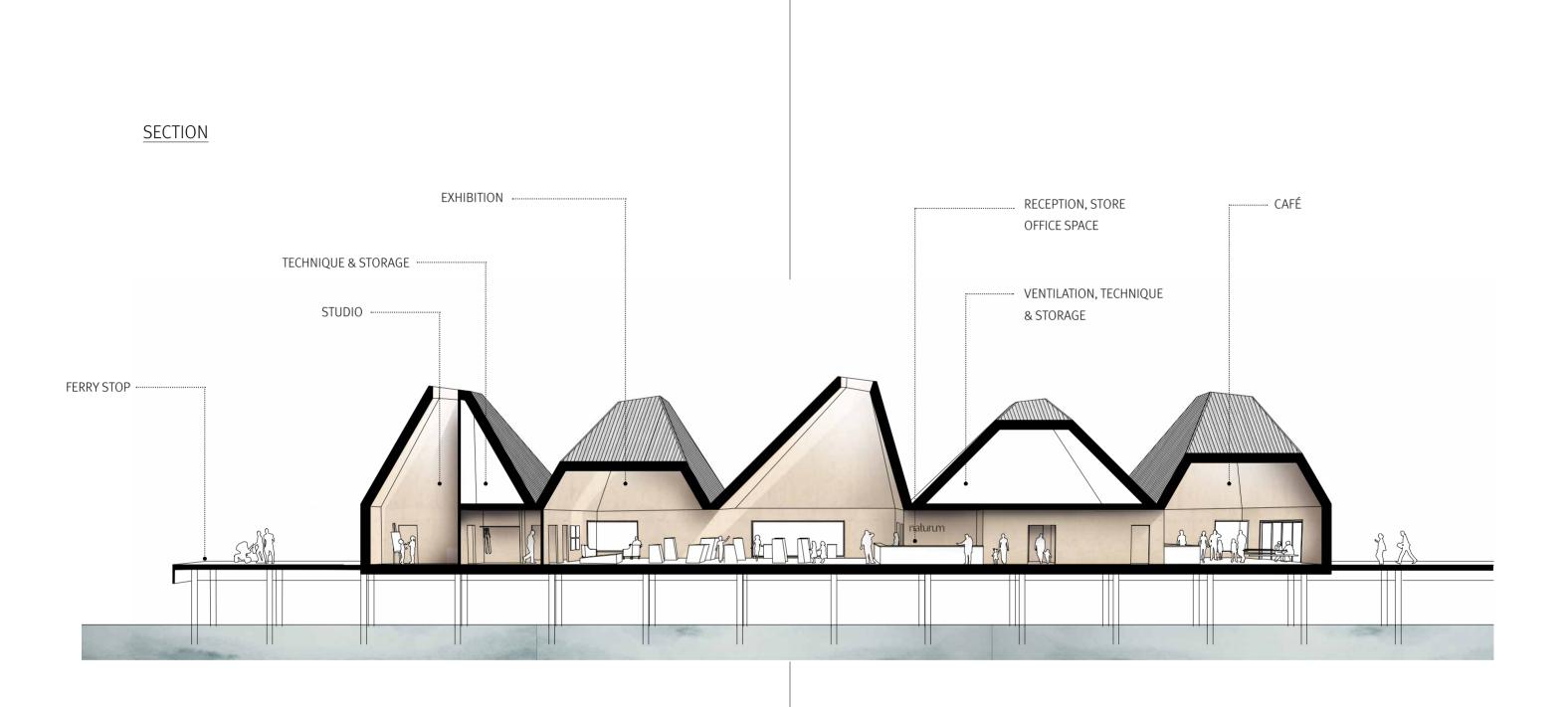


Culture landscape Information about the special culture of the biosphere reserve. The tradition of wooden boat building and stonemasonry.



Farmland and fishing

Traditional industries of the area.



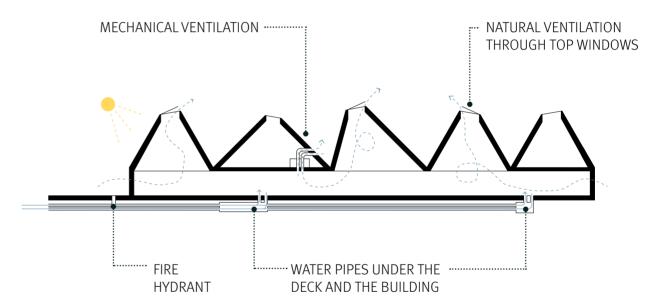
Section B-B scale 1:200

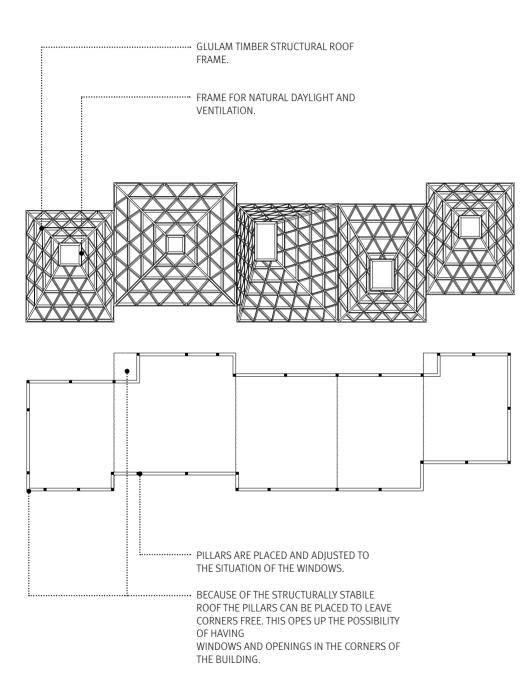
THE STUDIO & AUDITORIUM



VENTILATION AND WATER PRINCIPLES

The building has a natural ventilation through openings in the exterior walls and the top windows in the roofs. On the second floor above the staff section a mechanical ventilation gets fresh air in to the building.

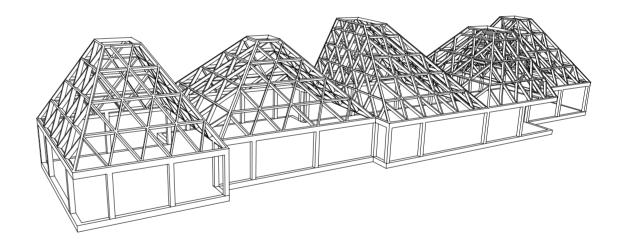


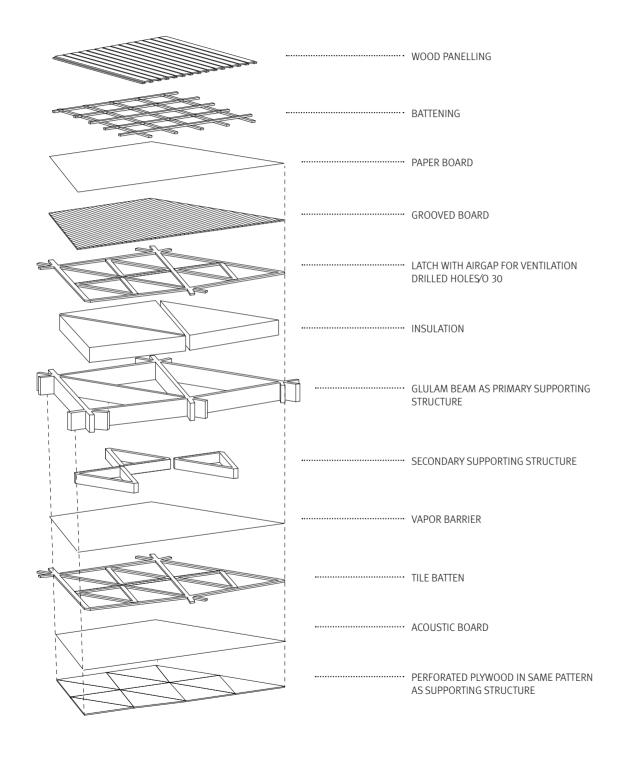


SUPPORTING STRUCTURE

The supporting structure of the building is mainly the roof and supporting pillars in the walls. A glulam timber frame builds up the roof, which support and stabilize it. This leaves an opportunity for the corners of the building to be free of pillars and also to place the pillars quite freely along the facades of the building.

The glulam timber creates an interesting pattern, which is visible through the pattern of the plywood in the ceiling of the building.





MATERIALS

The façade material is oak painted with iron vitriol. This gives a light grey colour and keeps the structure of the wood visible. The connection to the surrounding stone and cliffs, the ocean and the sky is obvious and also to old worn down boat sheds in the archipelago of Blekinge. The shape and form of the building is connected to the small-scale architecture of the archipelago as the building is divided into smaller volumes. The roofs with bold angles and openings at the top create interesting spaces on both the inside and outside. The topography of the outside could be connected to cliffs, waves, and possibly a twisted interpretation of Kruthuset further out in Borgmästarefjärden.

The inside is cladded with light plywood boards, shaped as the pattern of the beam construction in the roof, to give an understanding of the structure of the building. The natural light is coming in from the roof and with few but large windows with selected views towards the city, creates a calm atmosphere and enhances the beauty of the surrounding. The plywood is perforated with small holes and on the inside an acoustic board makes the sound environment in the building good.

The building elements, such as roofs, walls and slabs are all following the Swedish standard of c/c 600 to minimize the waste of material. To lower the impact on the surrounding cliffs and the seabed the building is standing on pillars that go down in to the stone.

DETAILS









Oak painted with iron vitriol



Boat house



Plywood



Kruthuset

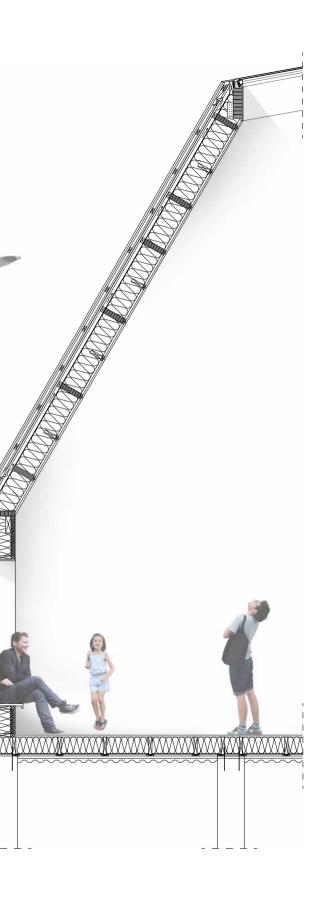


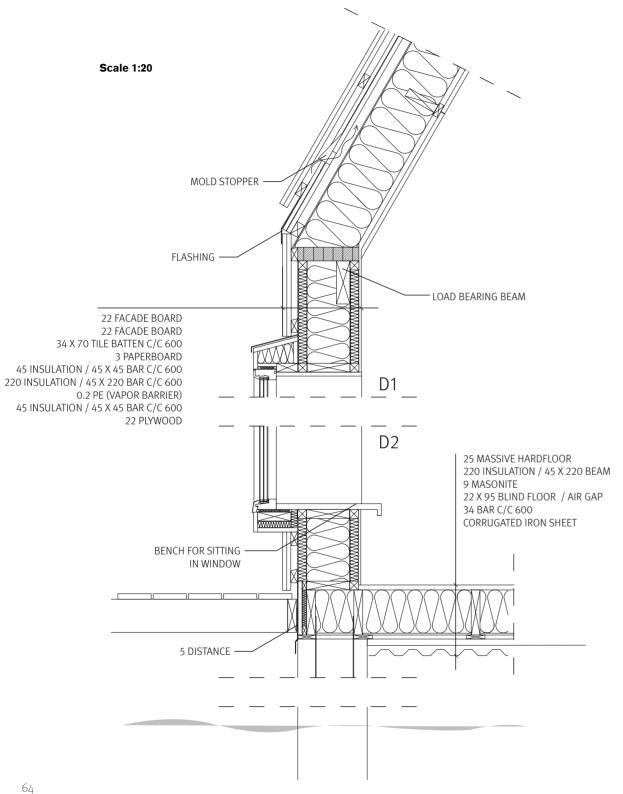
Forest

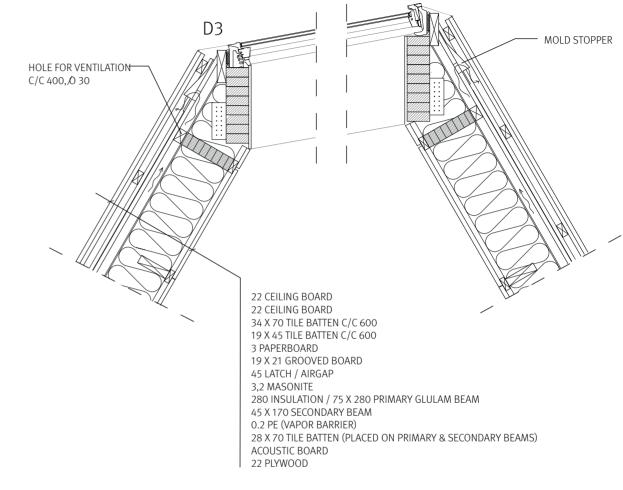


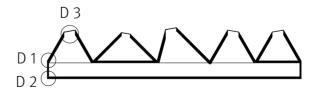


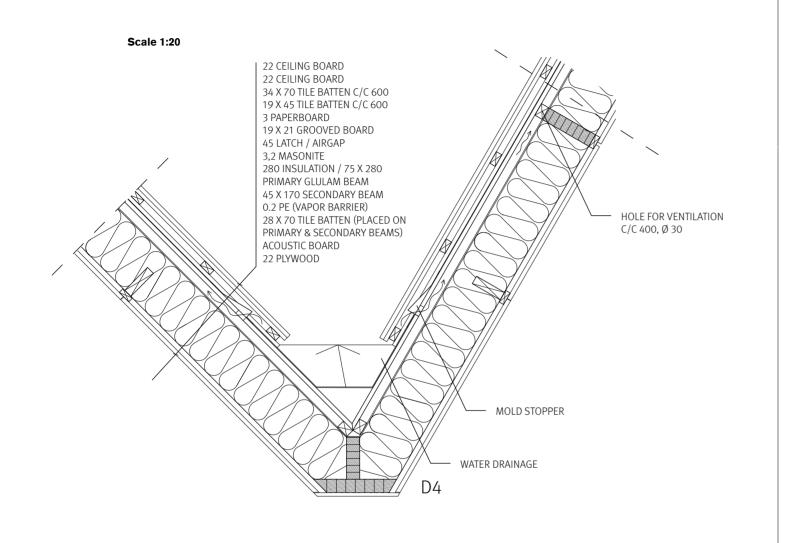
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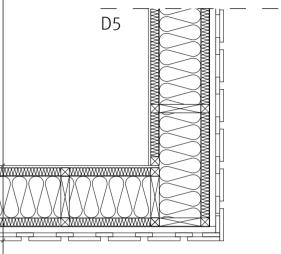


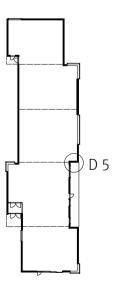


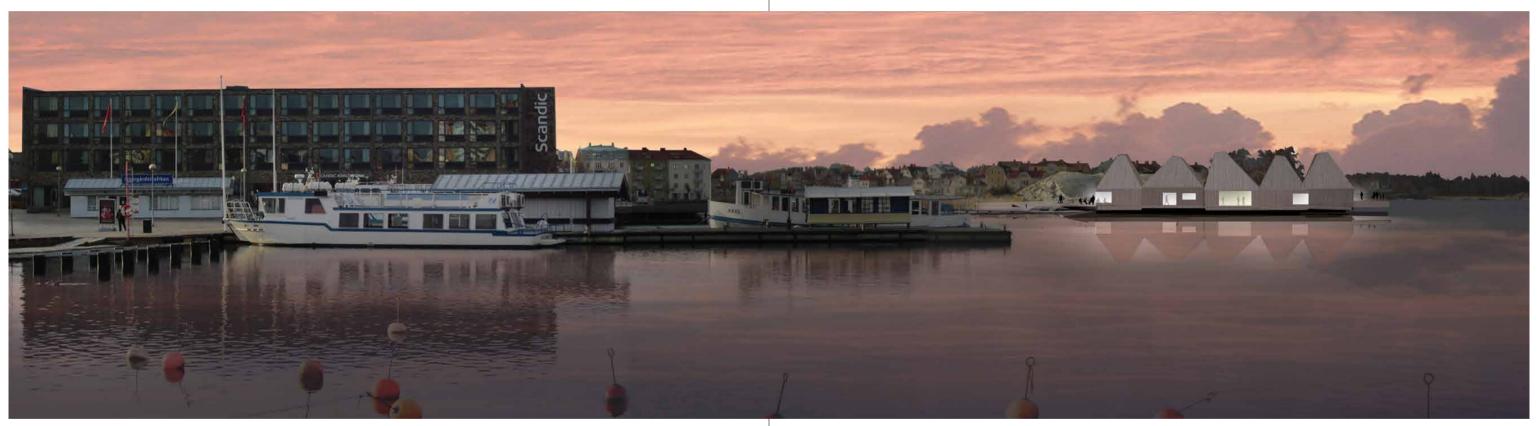


22 PLYWOOD 45 INSULATION / 45 X 45 BAR C/C 600 0.2 PE (VAPOR BARRIER) 220 INSULATION / 45 X 220 BAR C/C 600 45 INSULATION / 45 X 45 BAR C/C 600 3 PAPERBOARD 34 X 70 TILE BATTEN C/C 600 22 FACADE BOARD 22 FACADE BOARD

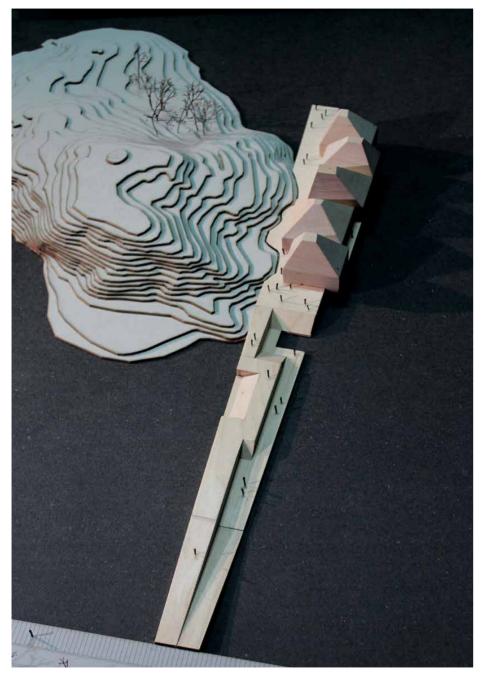
PILLAR 220 X 220







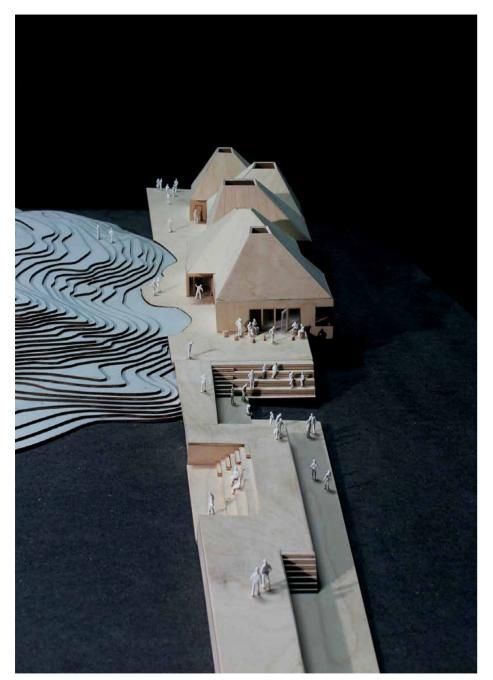
View from the city towards Stakholmen and the naturum.



Pictures of modell scale 1:200





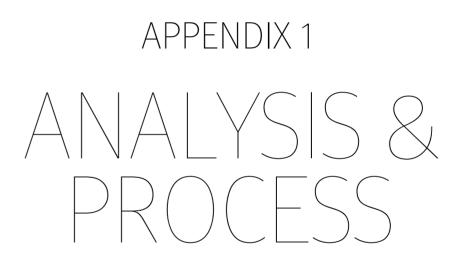


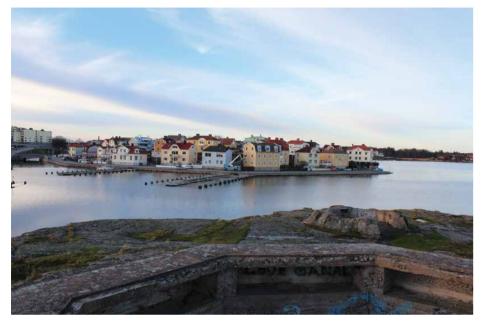
Pictures of modell scale 1:100











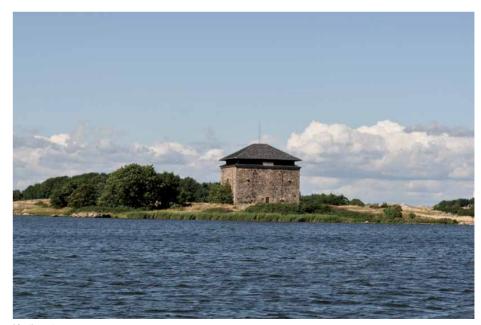
View from Stakhomen to Ekhomen.



View from Stakhomen towards the city center.



The Fishing lady at Fisktorget.



Kruthuset



Fisktorget, two old women carrying baskets with fish. To the left the boat Wrångö is ready to leave the quay for a trip out to the archipelago. Source: Blekinge Museums Arkiv





DISTANCE

The site is situated close to the citycenter with a walking distance to most of Karlskrona. Walking distance time:

The site - Train station 17 minutes The site - Main square 13 minutes The site - Stumholmen 21 minutes

Important walking paths Primary car roads



CLOSE BY

The naturum can work as an integrated part of the schools of Karlskrona. On this map the schools and preschools as well as tourist attractions close by are pointed out.

- THE SITE SCHOOLS Aspero Friskola (High School) 1 Fischerströmska Gymnasiet (High School) 2 Galären (Elementary School, year 1-9) 3 4 NTI Gymnasium (High School) Amiralitetsskolan (Year 6-9) 5 Rosenfeldtsskolan (Elementary School, year 0-6) 6 7 Saltöskolan (Elementary School, year 0-6) PRESCHOOLS 1 Förskola Borgmästaren 2 Adlerstens Förskola Rosenfeldts Förskola 3 Saltkråkans Förskola 4 5 Sjöstjärnans Förskola 6 Trossögårdens Förskola WORTH A VISIT Blekinge Museum 1 Amiralitets park 2 3 Bastion Aurora 4 Marin Museum 5 Bastion Kungshall WORLD HERITAGE

 - The Great Square

1

2

3

- Stumholmen the Naval Base
- West Powder House
- 4 5
 - the Rope Walk



Coast line of today

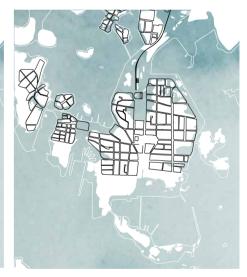
RISING SEA LEVELS

The climate is changing and this will affect the whole society in the future. To cope with the changes some aspects of climate change has to be taken into consideration when working with the physical planning of our cities. The municipalities have different guidelines depending on where in the country they are situated. In the southern coastal areas the lowest foundation level for new buildings is between 2,3 and 2,6 meter above sea level. This gives a good margin when looking at the minimum sea rise of 2100. Although none of the municipalities reach the security level of the worst case scenario which is 2,8 meters. The lowest foundation level in Karlskrona is 2,33 meters.²¹

The lowest parts of our building is placed 2, 8 meters above todays sea level. This to cope with the future worst case scensario of sea rise.



Minimum sea rise in 2100:1,8 m The levels are are given in the hight system RH 2000. Future flooding areas within the central parts of Karlskrona.



Worst case scenario in 2100: 2,8 m



The market hall at Fisktorget, in the beginning of the 20th century. The building was demolished in the 50's. Source: Blekinge Museums Arkiv



WORKSHOP I

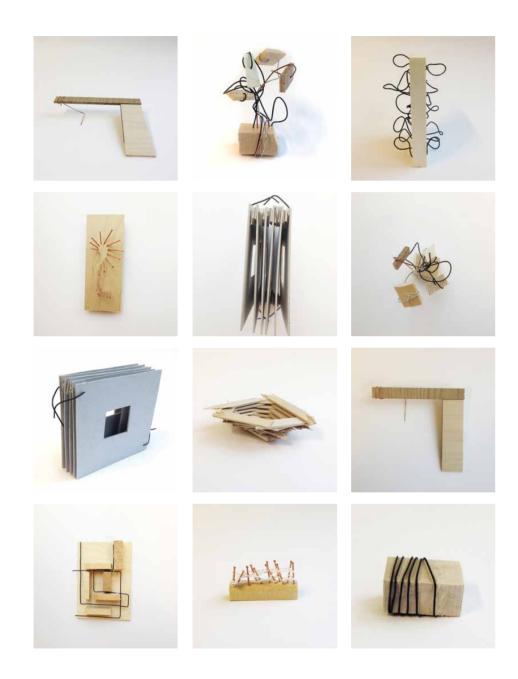
To start the process of our design proposal for the naturum we visited Karlskrona. Stakholmen was covered in snow and the sea with ice. We walked around the island and the surroundings for a couple of hours to get a good feeling of the identity - Genius Loci - of the place.

With inspiration from a master thesis with focus on finding a method of working in early stages of a project with workshop as a tool we started to think about what inspired us at this place. What feelings did we get? Could we picture a building here? What qualities did we want our project to hold?

At the site we formulated statements. Our interpretation of the island and its surroundings, the program and the task we had in front of us. The statements we came up with were: *Journey, Seclusion & Serenity* and *Intrigue*.

Back at Chalmers we continued working with the statements and developed them further. The second part of this workshop was to produce quick models without presumptions. No direct connection with the task of the project, although with the three statements as a point of departure. We tried not to be restricted, and while using our hands, finding new ways of thinking. The immediate interaction between the action and the result of the action felt rewarding and inspiring.







In step three we interpreted what thoughts the models expressed. We tried both to interpret our own models but also each other's, trying to explain which statement it was connected to and sometimes ending up with very different results.

In the last step we created guidelines for how to implement the investigations we had done into our project and the final design. A set of rules where we discussed the previous steps and found what is important in each model. How can the statements and the investigation of them influence the design of our project?

JOURNEY

The journey symbolizes both the way through the building, with its exhibition, as well as the start of the journey to the biosphere area. Fisktorget, just east of the site, is the starting point for many of the ferries today, taking travellers to the archipelago. What if the ferries would depart from Stakholmen instead?

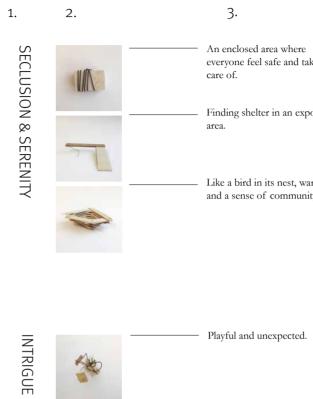
SECLUSION & SERENITY

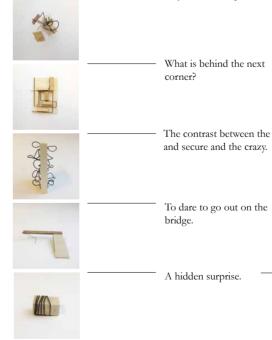
Despite the central spot in the city, the feeling of seclusion is present. Stakholmen should be an oasis in Karlskrona for everyone that comes here, both tourists and inhabitants. Both visitors to the naturum and visitors to Stakholmen.

INTRIGUE

When seeing the building from a far distance the visitor should be intrigued to come closer. When at the site the building and its outdoor environment feels inviting and easily accessible. You want to enter and to learn more, although after going through the building you are not completely satisfied. Rather intrigued to continue the journey out into the biosphere area.

1.	2.	3.	4.
JOURNEY	AMA AND	Which way to go? When to turn and when to stop?	The path through the building is something more than an ordinary and predictable exhibition.
~		What happens during the way? The inbetween space is as intriguing as the journey itself.	Can the building be divided into several different volumes where inbetween/outdoor spaces are created.
		Alternative routes. Paths crossing. Surprises along the way and everywhere you go you end up somewhere spectacular.	Alternatives way to arrive to the building. By boat, iceskates by foot, car or kayak.
	Residence of the local data	A springboard, start on the continous journey.	The building and the exhibition awaken an interest and a curiosity to continue out on the journey to the archipelago. The contrast between the urban context and the nature.
	A woven pathway.	A woven pathway.	Contrast in materials. Soft and hard.
	WERN	Sequences and layers	Sequences of rooms and
			happenings. Framing views.





4.

lken	Smaller volumes with identity दा "मालगठ" på bn	
posed	Using the existing height differences to create interesting formations of room and shelter.	
armth	An inviting place where you can come during all hours of the day. Use materials in a new way and investigate surfaces.	
	Can be seen from many different places in the city and creates an interest to come closer.	
:	Spread out volumes over the island.	
ne calm ————— y.	An exhibition that doesn't get boring. Interactive and intriguing.	
e	Exciting and welcoming. Different levels, above and below.	
	Curiosity to fint what is on the other side of the island. A seethrough facade.	



WORKSHOP II "FINDING THE RIGHT POSITION"

What is the best place for the volumes? We tried to find the best spot for placing the building at Stakholmen. At this point having no clear idea of where the final project would be situated.

We investigated sun and wind conditions, is it possible to find a spot that is more sheltered than others? Using wooden blocks as volumes to see what looks good from a distance. We also tried to find a place where a building would not have to make too much impact on the rocks.

After investigating and analyzing pros and cons for different placements of the building we chose to place the building on the south-east side of the island on poles above the water. North of the naturum we place a ferry stop to facilitate an easy journey to the archipelago. Reasons for placing it here were:

- The naturum becomes the link between the city and nature
- Visible from many spots in the city of Karlskrona
- Good sun and wind conditions •
- part of the visit and an attraction in itself.

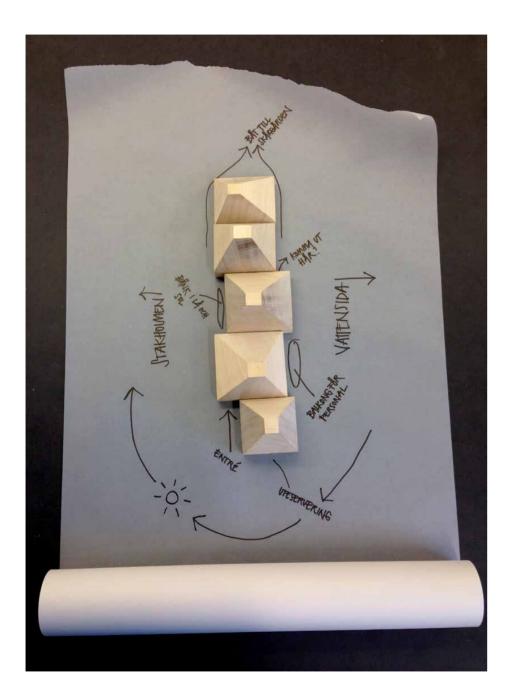
Important to think about when doing so:

- archipelago
- naturum
- The decks and the island should be accessible for everyone

• The way out to the naturum, the deck, becomes an integrated and important

• Guests to the naturum should want to continue to Stakholmen and to the

• Anyone should feel welcome to use the decks, not only visitors to the



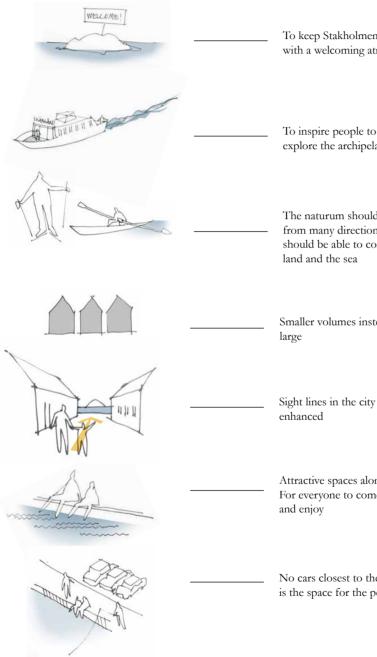
WORKSHOP III

What is needed to create a place that feels welcoming and open for everyone? After deciding on the spot for the naturum we did a workshop investigating different ways to place the volumes. How much space and distance is needed to create a welcoming place? When do a building become a barrier? What do we associate with openness and which aspects can enhance this feeling? Some points we came up with were:

- An open ground floor
- A clear entrance •
- Human scale
- Details / Tactility
- People •
- Sun and lee
- Shelter •
- Accessibility •
- Sightlines (where do I end up if I go out this way?)

It is important to keep Stakholmen an open place for everyone, not just visitors to the naturum. Both when closed and during opening hours it should be possible for anyone to use the decks of the pontoons outside of the buildings as well as to walk past and continue to Stakholmen.

How wide should the deck be not to shelter and feel intimidating for guests to Stakholmen? What do I see when walking out on the deck? What happens on Stakholmen that intrigues me to go there? Do I see the naturum all the way from the dock?



To keep Stakholmen open and with a welcoming atmosphere

To inspire people to travel out and explore the archipelago

The naturum should be reachable from many directions and one should be able to come both from

Smaller volumes instead of one

Sight lines in the city are kept and

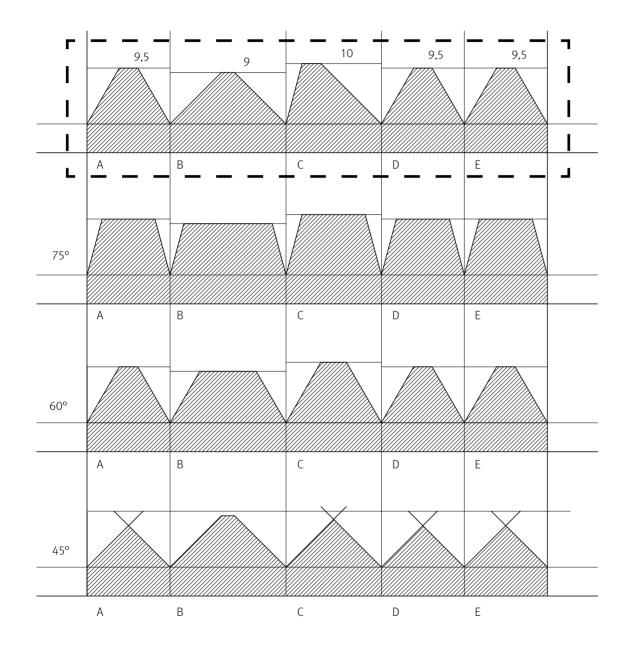
Attractive spaces along the water. For everyone to come, hang out

No cars closest to the water. This is the space for the people!

WORKSHOP CONCLUSION

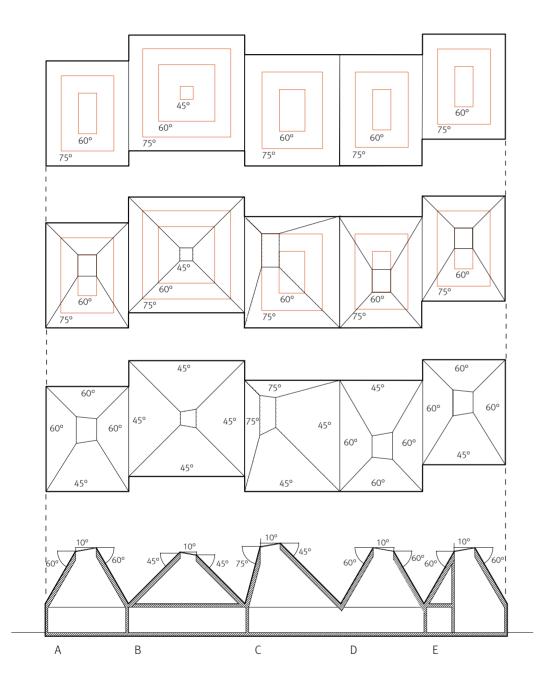
The method of working through workshops gave us new ways of thinking and looking upon the project. We tried to understand the site, the feeling of the place, and to think about the project without presumption. The first workshop resulted in design principles that we used further on as guidelines and ways of working with the project.

When trying different placements of the building as well as looking at the volumes, the model workshops were a good way of seeing pros and cons. We worked with different scales and with both abstract and realistic models, which gave us different results that we took with us as we entered the design phase of the project.



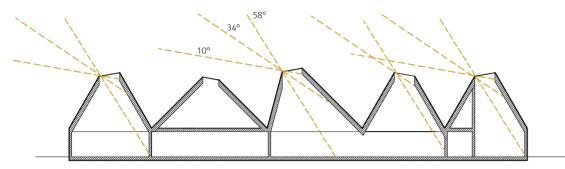
ROOF ANGLES

After deciding on the setup of the plan of the building we started working with the section of the roofs. To find a system for the angles of the roof we decided on three different ones with an interval of 15°. The angles are 45°, 60° and 75°. We started out with a height of 10 meters to see how the roofs ended up when doing so. When mixing the different angles we got a height of 9, 9,5 and 10 meters on the volumes. Volume A and E have the same measurements.

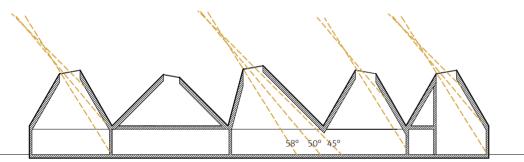


TOP WINDOW

To find the right position for the opening in the roof we started to see how big the opening could be when using the different angles and the height of 9, 9,5 and 10 meters. We wanted the openings to let as much sun as possible in to the building, especially in the volumes with the café and the exhibition, but not be too large. We also tilted the opening 10°.



Sun angle 13.00 Vernal equinox (March 20th) - 34° Midsummer (June 20th) - 58° Autumnal equinox (September 23rd) - 34° Mid winter (December 20th) - 10°



Sun angle in June 11.00 - 50° 13.00 - 58° 16.00 - 45°

LIGHT STUDIES

The sun angle in south Scandinavia is quite low for most parts of the year. In the middle of the summer the exhibition will be illuminated by natural sunlight, the rest of the year the light beam will not reach the floor, although it will play on the walls.

CLINE			
SUN	ANGLE	IIN	KARLSKRONA

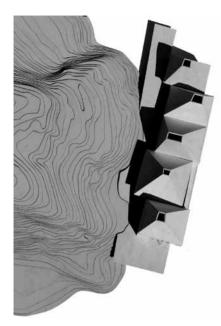
Vernal equinox (March 20th)

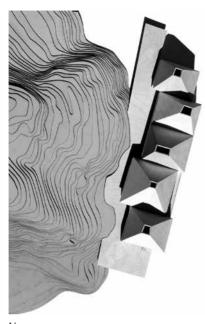
Midsummer (June 20th)

Autumnal equinox (September 23rd)

Mid winter (December 20th)

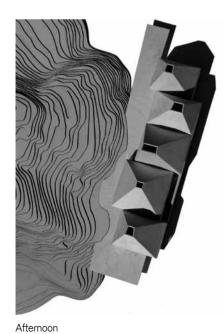
11.00	13.00	16.00
32°	34°	18°
50°	58°	45°
29°	34°	23°
10°	10°	_





Morning

Noon



Evening

LIGHT STUDIES

Light studies about the outdoor environment of the naturum. The deck will be inlightened during most part of the day in the summer time. The outdoor seating for the café gusets will be an appreciated spot in the city of Karlskrona.

This light study shows how the sun shadows the building during different times of the day.

REFERENCE PROJECTS & INSPIRATION



Casa das historias Souto de Moura. Building form and expression. Top light. *Image source: C+A, issue 16*



Fujitsubo Archivision Hirotani Studio. Building form and expression. Top light. *Image source: www.dezeen.com*



Leimondo Nursery School Archivision Hirotani Studio. Building form and expression. Top light. Image source: www.archdaily.com



Webb Chapel picnic pavillion Cooper Joseph Studio. Building form and expression. Top light. Image source: www.dezeen.com



Söderöra Summer House Tham Videgård. Building form and expression. Top light. Image source: www.tvark.se



Cut out cabin Fantastic Norway. Facade material and expression. *Image source: fantasticnorway.no*



House Karlsson Tham Videgård. Facade and expression. Image source: www.tvark.se





St Kilda Foreshore Promenade Jackson Clements Burrows. The deck. Image source: www.jcba.com.au





Photos from the Pontoon factory SF Pontona.

FLOATING BUILDINGS

When building close to the water there are some issues that have to be taken into consideration. In Karlskrona new buildings must be built at least 2,21 meters above todays sea level. One of our early thoughts for the project was that it should be built on floating pontoons. This to be able to have the building in a closer connection to the water as it in that case would not have to be 2,21 meters above sea level, but instead could rise as the water raised.

We visited SF Pontona in Vallhamn. Peter Santesson showed us around the pontoon factory and told us about the process of developing and manufacturing pontoons, both used as decks and as a basis for floating buildings. We sat down with Peter and had a long conversation about our project, measurements, weight and other prerequisites. One thing we found out was that the depth of the water should be at least around 2,5 meters. This to keep the naturum afloat since a building is heavy and it is important to have a buffer zone as the weight can increase when many guests enter the building for example.

The plan for our project was to place the building as a link between the dock and Stakholmen. Back at Chalmers we tried to find relevant information about the depth of the water at our specific site. When finding this information it turned out to be too shallow. The water depth was only 1,36 meters at this point. We thought about the possibility of dredging the seabed, but after looking at pros and cons we decides that we had a hard time motivating such a large impact on the bottom as that would cause. We also considered other placements around Stakholmen that could be better suited for this kind of building, but the water is quite shallow around the whole island and we decided to abandon the idea of a floating building. "One might say that architecture erects a temporary boundary between nature and culture. That architecture is matter (nature's matter) fashioned into space (human space). Arguable, architecture balances on the slash in nature/culture. Or indeed, perhaps is the slash. One could speak of slash architecture."

- architecture theorist Claes Caldenby

APPENDIX 2 NATURUM



NATURE TOURISM

Studies show that tourism and recreation in natural environment is a growing phenomenon both in Sweden and internationally. Also shown is that when presenting areas as national parks and world heritage areas, it is something that clearly has a positive effect on the amount of tourists that visit.²² Reasons for the increased tourism can be better accessibility, advertising and that the name in itself contains an attraction. In Sweden, the EPA (Naturvårdsverket) have been working with the issue of people considering national parks as prohibited and restricted areas instead of seeing them as recourses with great possibilities. Traditionally there has been a restriction against pursuing commercial activity in Swedish national parks, although a new drive from the EPA is working to form a more sharp aesthetical image and profile for the entrances of national parks. This is done as a conscious move for increased nature tourism.²³

Nature protection and nature tourism are sometimes two contradictory aspects. When inviting people to visit nature areas, the environment is exploited in a way that it would not be otherwise. Ecotourism is the most increasing genre among different kinds of tourisms.²⁴ The term ecotourism derive from the Mexican architect Hector Ceballos-Lascurain who introduced it in the beginning of the 1980's. He registered the increasing interest among bird-watching tourists and understood the opportunity of tourists contributing economically at the same time as the environment was protected. He used the term ecotourism to describe the phenomenon which he defined "travelling to relatively undisturbed or uncontaminated natural areas with the specific objectives of studying, admiring and enjoying the scenery and its wild plants and animals, as well as any existing cultural manifestations (both past and present) found in these areas".²⁵ In the collaboration plan for the Blekinge archipelago biosphere reserve it is mentioned that the high nature and culture values that exist in the area makes it especially well suited for ecotourism.²⁶

Photo from Borgmästarefjärden in the early 20th century. Stakholmen and Kruthuset can be seen in the background. Source: Blekinge Museums Arkiv

ARCHITECTURE AND NATURE

"Building is a brutal confrontation of culture on nature, and in that confrontation you can find balance and beauty"

– architect Sverre Fehn

There are always some fundamental questions architects must relate to. One of them is the interaction between nature and the built environment. To build in nature, in an untouched environment, is controversial and raise many questions. What does building in nature imply? What do we have to take into consideration when building in a vulnerable or protected area? Is it possible to enhance the experience of nature through architecture? Or is it a way to destroy the experience of being in the untouched landscape?

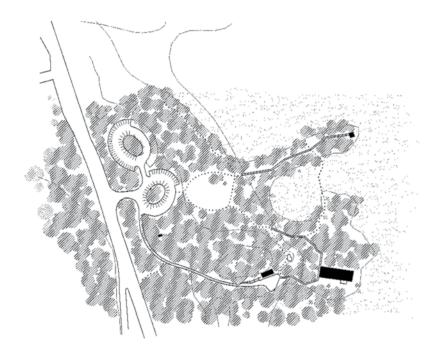
Architecture and nature are interconnected. As theorist Claes Caldenby writes in an essay about the nature's encounter with nature: "Nature is not so natural as we would perhaps like to think she is. This can be seen in architecture's more palpable relations to nature. One of them is the matter which is taken from nature and shaped into architectural spaces which shelter us from the forces of nature. Another is the fact of architecture taking its place in something which is nature, more or less, and transforming it into culture. There are plenty of hybrids here where the nature/culture boundary line is not easily drawn."²⁷

The relation between nature and architecture is of course a great matter of interest when designing a naturum. What attitude and approach do we have when dealing with nature? Claes Caldenby means that there is a potential conflict already in the two words *build* and *nature*.²⁸ He writes that most of what we call nature has long since been under cultivation by man. "If we are talking about untouched nature, then building amounts to a cultivation which to a greater or lesser degree extends beyond the individual edifice, not only in the form of foundations but also in the way one gets to the building and the way in which it is interlinked with the community infrastructure."²⁹

There are various ways to tackle the nature and many different approaches and attitudes how to relate to the surroundings. Either the building becomes a part of the nature and blends into the surroundings or it distinctly sticks out from it. And then of course there is everything in between.

Where does naturum fit in according to this? Many of the buildings are blending into the nature, in the sense of more organic shapes, while others have a more recognizable typology. The use of wood as material is a general feature in most of them. Some of them are placed close to cities, others far out in the wilderness. A sinuous footbridge with the building in the end is a common site plan, as Caldenby says: "The culture's tentacles into the wild".³⁰ Naturum is an example of a building, built in the borderland between nature and culture. In the "confrontation of culture on nature", as architect Sverre Fehn pointed out in the introductory quotation.

Some consider building in a protected or a vulnerable environment as controversial. We protect vulnerable nature by creating national parks or nature reserves, and at the same time we build naturum in those areas. How can the Swedish Environmental Protection Agency raise a building in a national park for instance, some wonder. The function of a naturum is to describe, explain and increase awareness of the surrounding area's natural values.³¹ The purpose of national parks is to "preserve a large, contiguous area of certain type of landscape in its natural state or essentially unaltered".³² At the same time every building is a stress for the environment and may not be the best way to take care of the nature. To build in intact nature always involves encroachment more or less far beyond the individual house and its foundation. You must reach the house and connect it to existing infrastructure and this in turn affects the vulnerable environment. On the other hand, there is a value to make the nature more accessible for the public.



Store Mosse site plan scale 1:4000

The visitors reach the building by footbridges, which leaves the ground intact. *Source: Sveriges naturum s.117*

Anders Bergquist, a former employee at the Swedish Environmental Protection Agency, EPA, says that naturum exists to make these areas more accessible for the public. We protect nature to preserve the biodiversity and the nature itself, but inviting people to enjoy it and preserve it for coming generations is as important. Architecture like naturum is about framing and enhancement of the beauty, about storytelling and about making areas accessible. It is a way to attract the general public, to show our amazing natural resources and to disseminate knowledge about nature and nature conservation. How the naturum is designed and how it is placed in its surrounding is of great importance in relation to these questions.

When building in nature it is essential to be aware of what impact the building has on the environment. A principle EPA has is to create buildings that are possible to dismantle if not needed anymore, without leaving traces in the nature. To blast into stone is for example not reversible. You can never restore a mountain shaped by ice during the glacial period. It is essential that the architecture respect the surroundings and work as an inspiring example of a sustainable building. One example of a naturum where the building is gently placed in the nature is Store Mosse naturum. The volume almost floats over the vulnerable bog with only four supports into the ground. The visitors reach the building by footbridges, which leave the ground intact.³³

In our case the building is not placed right in the wilderness, but rather in the borderland between city and nature. This site raises other questions. What qualities in the city can we derive advantages from? In what ways can the architecture attract people to visit nature? And how can the building work as a complement to other public buildings in town? The aim to inspire visitors to experience nature directly must be fulfilled. To facilitate a journey out in nature and to make an exhibition that inspires people to continue their excursion outdoors is important. Instead of being the destination of a journey, the central placement makes it the start of a journey. It also contributes to more visitors – to catch those who just passing by. The archipelago is a biosphere reserve, which not only include the nature, but also the humans and culture. For that reason the relation to the city is as important as the relation to nature.

NATURUM

Since the seventies the Swedish Environmental Protection Agency, EPA, has built naturum (Visitors Centres) linked to specific nature areas. The naturum is preferably to be located in or near an attractive natural area of great value for nature conservation and outdoor recreation, often a natural reserve or a national park. The function is to act as a gateway into nature. Such facilitates exist in many countries, even though there may be slight differences. EPA coined the term naturum in the beginning of the seventies, when they started some pilot projects based on American models - the Visitor Centres in American national parks. Most of the naturum in Sweden are arranged and built by EPA, but as long as you follow the criteria, a municipality or any other instance can build. In these cases they have to apply for the permission to use the trademark naturum.

Unlike the American model, where all buildings have the same nostalgic cowboy style, the Swedish ones are more modern and varied buildings that take advantages of every site's specific conditions and qualities. They are often distinctly inspired by their surroundings. During the past years many of the buildings have become icons, with great focus on architecture. Although it has not always been like this. Today there are 31 naturum in Sweden, since the mid nineties EPA has built almost one a year.³⁴ The first naturum opened in Sweden in 1973 and wasn't even a building. Ingrid Espmark, at that time the Director of EPA's Public Relations, put together an exhibition in a couple of caravans and placed them in specific nature areas on the island Öland.³⁵ They stayed put for one summer. The next year Espmark opened one more naturum. Still it wasn't more spectacular than plain interior in an already existing barn.³⁶

When talking to Anders Bergquist, he mentions naturum Hornborgarsjön, built in 1986, as a turning point when architecture became important. Before Hornborgasjön, there were no specific principles for the buildings, but since then, the following naturum have more or less followed a definite line of policy.37 Most likely due to the guidelines the project leader Tomas Hertzman and Gunilla Hagberg, responsible architect at White, formed during the work with Hornborgasjön. One of the features that later became frequently reoccurring in many naturum was to create direct contact with the nature, to unite the indoor and outdoor environment, according to Gunilla Hagberg.38

The guidelines briefly say:³⁹

- The building must be specific for the site.
- that case would be limited.
- of its surroundings.

A naturum is a building presenting ecology, but not necessarily an ecological building. The building's ecological footprint must be the smallest possible, but it does not have to be a passive house since the architectural expression it

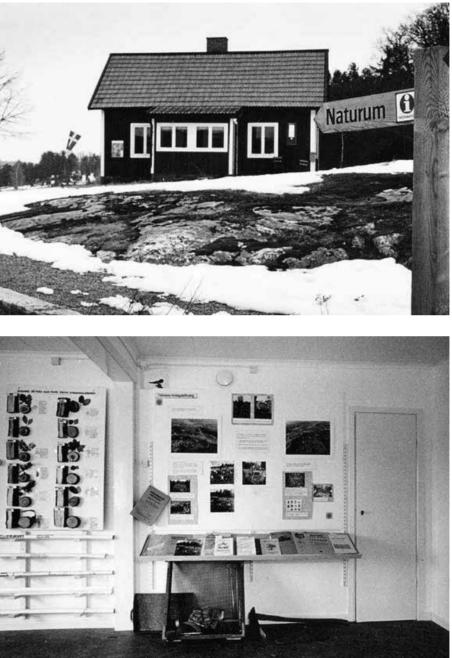
The architecture must be contemporary. Even if the mission requires protection of the site, the building must not be camouflaged or mimic nature. On the contrary, the building must be seen and be an assertive element in the environment and communicate clearly as a landmark and articulate the beauty

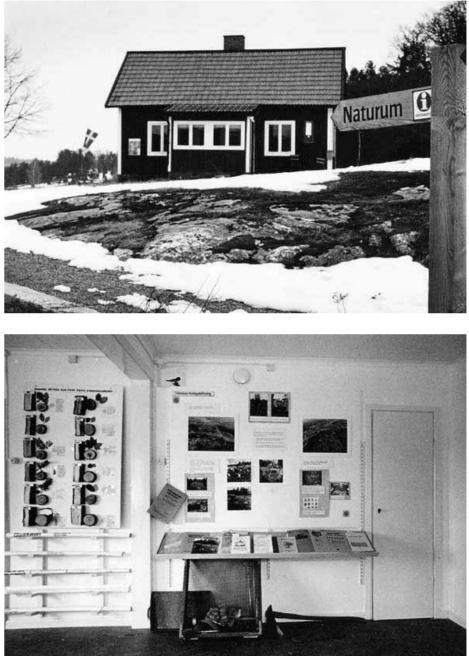




Above. Naturum Vattenriket in Kristianstad, 2011. White Arkitekter. Source: White

Below. Naturum Hornborgarsjön, 1986. White Arkitekter. Source: Länsstyrelsen





Exhibitions in an

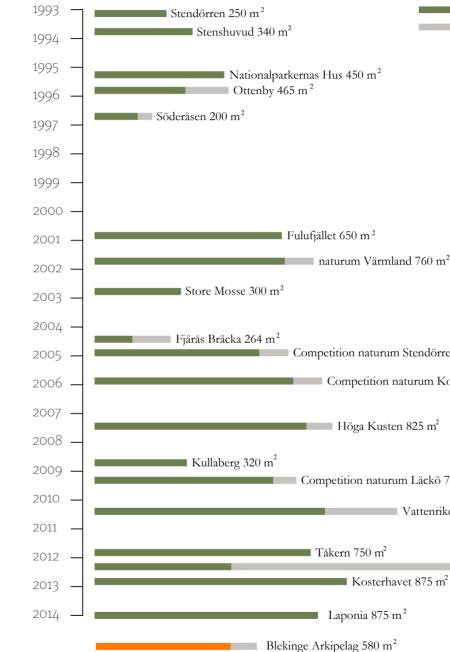
existing cottage. What the early naturum could look like. The photos shows a naturum in Vallentuna in the early 80's. Photo: Yngve Sjögren. *Source: Vallentuna Bildarkiv*

NATURUM IN SWEDEN TODAY

A map of all 31 naturum in Sweden today and a timeline of all naturum built in Sweden since 1993. Noticeable is that the size of the buildings have been increasing since the early 1990's.

In our proposal the naturum is 580 m^2 , which is smaller than the recently built naturum in Sweden.





Exhibition Size Cafeteria/Restaurant Size

Competition naturum Stendörren 672 m² (not built)

Competition naturum Kosterhavet 790 m² (not built)

Höga Kusten 825 m²

Competition naturum Läckö 700 m² (not built)

Vattenriket 1050 m²

Vänerskärgården Victoriahuset 1275 m²

Kosterhavet 875 m²

Laponia 875 m²

THE PURPOSE OF NATURUM

"The naturum is either a destination: I go there. Then I go back. Or it can be placed on the way to something else. To be able to go there and then continue further creates another dimension."

- architect Mattias Lind

The Swedish Environmental Protection Agency, EPA defines naturum as an important means to disseminate knowledge about nature and nature conservation as well as to enrich the outdoor recreation for the general public. The purpose is to inform the visitors about the area's natural features, recreational values and human history, by activities and exhibitions.⁴⁰ It is also to guide people to nature and give the visitors an interesting and pleasant experience.

The purpose of naturum is explained in National Guidelines for naturum in Sweden:⁴¹

• Enhance knowledge about the values of a natural area from the perspectives of natural science, natural and cultural history, culture and experiences to be had;

• Give visitors a deeper understanding of the natural area by explaining to them what has happened, what is happening now and why it is happening;

• Give visitors guidance about possible sights, experiences and activities in the area as well as suitable ways of getting there;

• Motivate/influence visitors to behave in the natural area and make use of it in such a way that its values are preserved;

• Create an understanding of the need to preserve and tend to nature in general and the specific area in particular;

• Stimulate interest in nature, nature conservation and nature studies, and help meet various educational needs;

• Provide knowledge from the perspective of cultural history about how human beings have used and impacted on nature;

• Disseminate knowledge about the protected natural areas and other outdoor recreation destinations of a region.

Even though the buildings can be seen as attractions in themself, it is the nature surrounding them that is the main focus, together with activities; for example guided excursions, exhibition, lectures and information movies. A visit in nature should be included when visiting a naturum. Providing an easy access to the nature area should therefore be part of the design.

"It is important that a naturum does not become a museum. The visitors shall not be satisfied if they have visited the naturum without being out in nature. We have to create a curiosity and inspire people to continue out into nature, preferably together with a guide."

- Anders Bergquist, former employee at the Swedish Environmental Protection Agency

According to Anders Bergquist and architect Mattias Lind, the personal meeting is one of the most important things to disseminate knowledge. The design of the building and the placing of the reception desk and meeting points are therefore a very important task for the architect. The distance between visitor and staff should be as short as possible, according to Mattias Lind. He says that in this kind of building the interaction between people should be in focus. To create places for conversation and allow space where people can meet.

Accessibility and sustainability are two words Anders Bergquist mentions several times during our interview. When building a naturum all materials should fulfil the demands of Sunda Hus [Healthy Houses] or Basta (databases with eco-friendly materials). If other materials are used, these should be well motivated and documented. The accessibility is another demand; all buildings shall be fully accessible for all people, with all kind of disabilities. "All guidelines and principles about accessibility is our law. If we cannot fulfil the accessibility everywhere, we rather choose not to do it at all." Anders says.

THE DEBATE

There have been discussions about the costs of naturum in Sweden over the past years. In 1998, when the Government presented new demands for tax funded building projects, the focus of architecture became even more important than before. The guiding principles stated: "Quality and aesthetic values should not be subordinate to short-term economic considerations."42 EPA was one of the Swedish departments that took this statement most seriously. They emphasized that a naturum must be an enticement in itself due to its design and its content, and also enhance the value and identity of the site.43 Buildings you will remember when you leave. This in turn led to the requirement of creating spectacular architecture, or landmarks.44 As the focus of architecture became larger, the criticism increased. The main argument was that it is wrong to spend money on expensive buildings instead of protecting the nature. The costs are of course relative, but as the scale of the projects has increased, the costs went the same way. In relation to the earliest naturum there is a clear difference. None of the naturum built in the 90's exceeded 10 million SEK.⁴⁵ Vattenriket in Kristianstad (2011) had a cost of 65 million SEK, Tåkern (2011) 30 million, Vänerskärgården (2012) 47 million and Kosterhavet (2012) 28 million SEK.⁴⁶

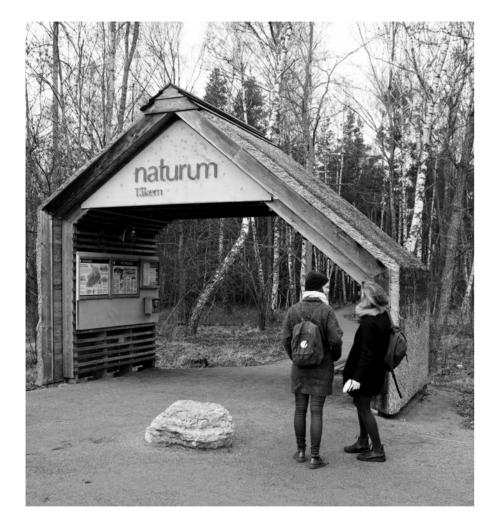
Some argue that the high costs, for tax-funded buildings, is unnecessary. Architecture journalist, Mark Isitt writes about the Swedish naturum; "Even in an American perspective, EPA's investment in naturum seems a bit overambitious."⁴⁷ He refers to the idea of letting some of Sweden's foremost architects interpret the surroundings and create impressive architecture in the middle of the forest, far from the civilization.

In an article from 2009 in Dagens Nyheter, journalist Malin Siwe describes the Environmental Protection Agency as "Architectural Support Agency", referring to the focus of architecture, which she means has become more important than the content and the nature.⁴⁸ She presumes that there would be almost the same amount of visitors to nature preserves and national parks, even without the naturum. "The enticement is the nature itself, not the exhibitions," she says.⁴⁹

The article was the beginning of a setback.⁵⁰ A few months later the former minister for the environment, Anders Carlgren, declared an alteration in the budget. Instead of spending money on expensive buildings, the money was now supposed for buying forest and to protect the nature.⁵¹ Some of the planned projects came to a standstill. Later on a decision was taken and EPA was given a total sum of maximum 20 million Swedish crowns for each naturum.⁵² The planned projects could be completed, even if some of them had to be transformed, and some solved the financing with help from local foundations.⁵³

The amount of visitors to naturum every year is slightly more than one million in total.⁵⁴ It is hard to say how many visitors the sites would have had without the buildings. Probably fewer, according to Mattias Lind and Anders Bergquist. Both argue that great architecture can attract a lot of people in itself, which in turn means that more people visit the nature areas. Anders says that it is of great important to invest in these buildings due to the large amount of visitors to the naturum every year.

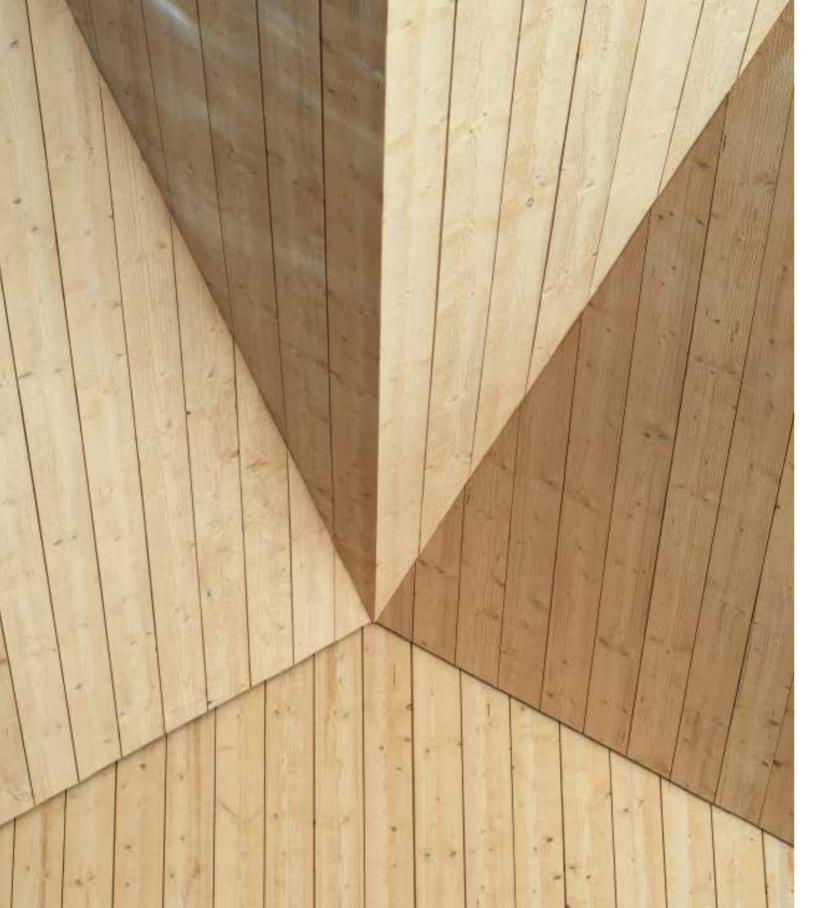
Vattenriket, a naturum in Kristanstad, reached 160 000 visitors in its first year.⁵⁵ This was four times more than expected. According to the head of the biosphere-office in Kristianstad, Sven-Erik Magnusson, one important factor of the large amount visitors to Vattenriket was the remarkable architecture.⁵⁶ He mentions that this have led to a larger interest of the nature, not only for people already interested in the study of nature, but also for the general public.⁵⁷ "A naturum works as a symbol, showing that you take care of the landscape and investigate in the nature and sustainable development", he says.⁵⁸



CASE STUDIES

To gain a better understanding for the phenomenon naturum we did two case studies of recently built naturum in Sweden. Kosterhavet in north Bohuslän and Tåkern in Östergötland.

These buildings follow the guidelines of naturum that we have mentioned earlier (in the chapter about naturum). They are specific for the sites and contemporary in their design. Both of them are characterized by a distinct ambition to blend into their surrounding, but in different ways. Tåkern, by Wingårdh Architects, blends into the reeds in the interface between land and water. Kosterhavet, by White, connects to the surrounding traditional houses instead.



KOSTERHAVET

On the west coast of Sweden, in Bohuslän, the country's only coral reef is located and also the only national park in Sweden to be predominantly located under water. In Ekenäs on the island of Sydkoster, the naturum Kosterhavet was built in 2012. The architects were Mattias Lind and Ulla Antonsson from White Architects, who had won the invited competition. This was the third naturum for the two architects, who previously have designed Store Mosse in Småland and Skuleberget in Höga Kusten.

From the beginning the building was supposed to be located on the other side of the island, in the inlet between the north and the south island. Maybe a more obvious choice of site, but the plans were shelved. With a new site and a slimmed-down budget, the project was resumed.

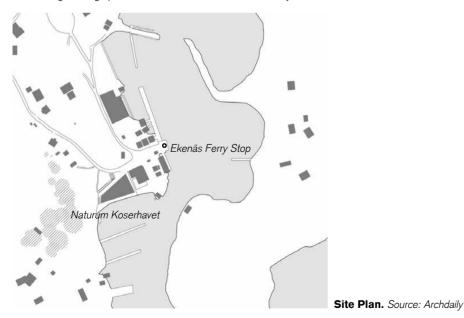
Given prerequisites were indicated in the programme for the competition. For example the building was to have a local accent, blend with its surroundings and take its cue from the traditional architecture of the local surrounding. It also had to be a wooden-building with a saddleback roof, painted with red distemper.⁵⁹

We arrived with the ferry from Strömstad to Sydkoster on a misty winters day in January. The naturum is placed right next to the Ekenäs ferry stop. A building that resembles the old boathouses in a way with red colour and white window frames. But at the same time it has a very modern feel to it and although the prerequisites were many, the architects have managed to create a contemporary building with its own identity, among the surrounding buildings.

The roof ridges run from one side to the other, creating a jagged look. But instead of going straight from one side to the next, the roof ridges zigzag their way across the building. From the outside the playful roof is not directly noticeable, as you only see one side at a time. But from the inside the zigzag roof is more palpable and you can imagine the metaphor of being under the waves of the ocean. When talking to Mattias Lind he says that the metaphor is very abstract and that most people will never understand the connection, although that doesn't matter. What matters is that there is an in-built inspiration in the construction, which we wouldn't have found if we had built the naturum somewhere else. A building that tells a story in itself and that works even without the exhibition is how a naturum basically should work, he says.



The interpretation of the traditional boathoses is obvious. Despite quite specific prerequisites in the competition programme, the architects managed to create a building with an own identity in the surrounding. *Photograph: Åke E:son Lindman. Source: Archdaily*



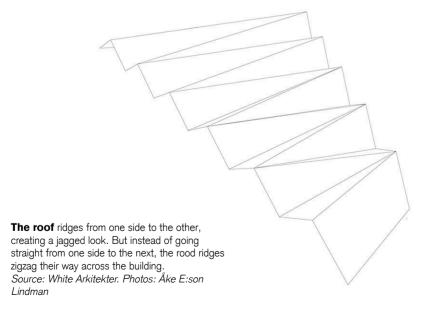
The interior has white-painted spruce boarding and soap-scoured flooring, simple and beautiful as a contrast with the red exterior. The exhibition is playfully mounted on black boxes like piled up blocks. The building feels minimalistic and homogeneous. Despite the different scale, the interpretation of the traditional boathouses is obvious. But instead of a repetition of many sheds, Kosterhavet is one coherent volume. The roof ridges divide the volume and make the building look smaller than it actually is.

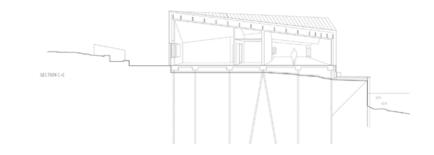
Directly when you enter the building you get a magnificent view towards the sea and the national park through a large panorama window. The large window is one out of few in the building. Mattias Lind explains this by the fact that the exhibition inside doesn't need daylight; the windows are there mainly to create an effect. "Better one exaggerated panorama than several small ones. That way you get a much more dramatic effect, suddenly standing there in front of the sea and the view and doing it properly."⁶⁰ "Nature is everywhere. You can decide where to focus the interest through architecture", Mattias says.

The dock outside of the naturum was an important part for the architects. It is designed to provide an easy access for tour boats so that a journey out to the archipelago becomes a natural part of the visit to the naturum. In this way the naturum works as a portal to the national park.

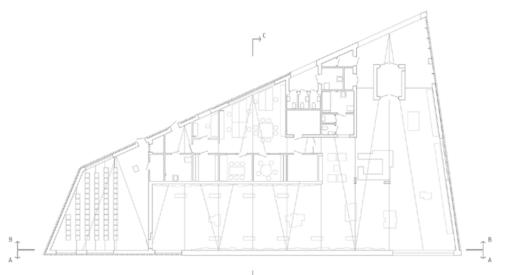


Reception desk and panorama window towards the sea; one of the buildings few windows.



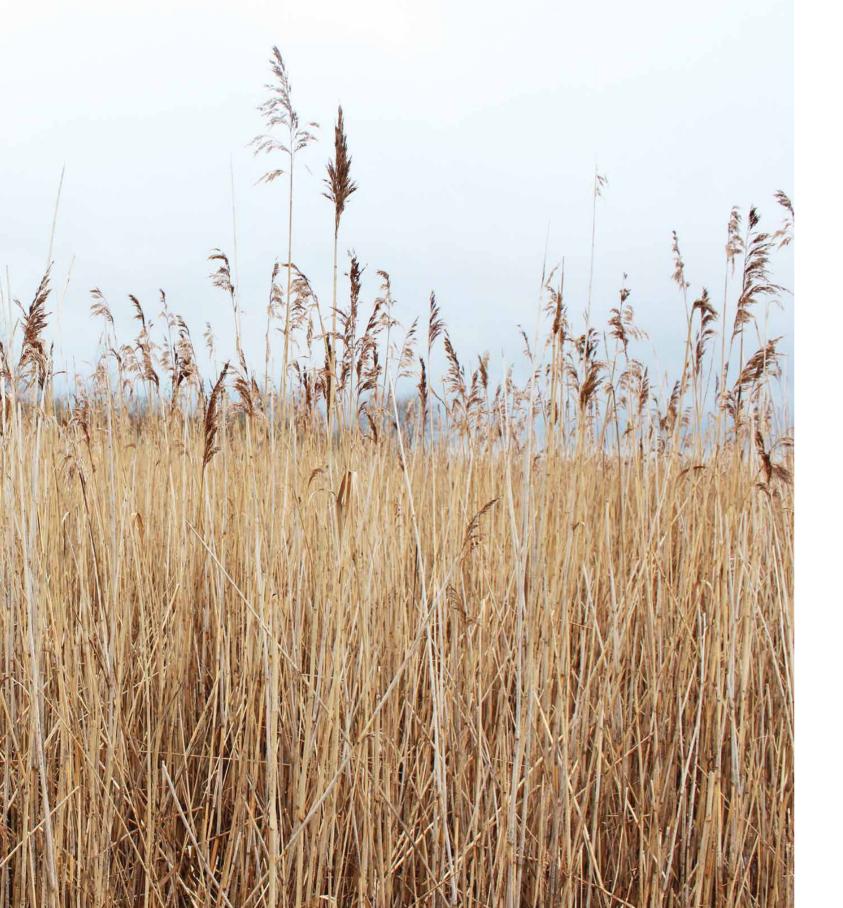






Sections and plan scale 1:400. Source: Archdaily





<u>TÅKERN</u>

In 2012 the naturum Tåkern in Östergötland was inaugurated. The lake Tåkern is widely regarded as one of the foremost bird lakes in northern Europe, with a great variety of bird species.⁶¹ Wingårdh Architects got the commission to design a naturum after a winning proposal in an invited competition.

The plan of the building is a courtyard, open towards the sun from the south and closed towards the lake. Alternating between the open and the enclosed. The volume only has a few windows and not until you are inside you get a view over the lake. "We wanted the naturum to elevate the dramatic tension between the open and the secretive. That's why it has a sheltered, unifying but closed-up side facing the shoreline woods. Visitors have no chance of looking out across the lake until they are standing inside the building,"⁶² says Gert Wingårdh, the architect responsible for Tåkern.

The building is covered with reeds. A natural choice since reeds occupy over a quarter of the lake's area. Reed is a durable building material and a reed-thatched roof is said to last for 60 years, more than twice as long as a straw-thatched one.⁶³ Thatch is also a practical material as it can easily be renewed if it would be damaged.⁶⁴ Reeds are a traditional cladding and for the architects it became an opportunity of closing in on tradition.⁶⁵ Although instead of the traditional roofing, the entire volume is covered with reed, it looks like a solid block cut from the reeds. Wingårdhs wanted to make a clear geometry and created a monolith.⁶⁶ An element camouflaged in the landscape, with a material that link the building to the wetlands where it stands. The roof ridge is covered in glass and illuminates the exhibitions inside. In addition to skylights at the ridge, the building only has a few more windows in its public parts. Along the entrance axis you get the first glimpse over the lake Tåkern. In the far corner of the exhibition, a long and low window offers a panoramic view.

The naturum is connected with a storage building and a watchtower overlooking the wetlands. You reach the watchtower through a 140 meters long winding ramp, which makes the tower accessible for wheelchairs and walkers.





Above. Naturum Tåkern, the Visitor Centre to the left and the bird watching tower to the right.

Below. The building is covered with reeds from the lake Tåkern.

We came to Tåkern on a February morning. The weather conditions were typical for this time of the year with grey skies and a light drizzle of rain. Walking from the parking lot through the forest we caught a glimpse of the building further down the pathway, as grey as its surroundings, but still, somehow remarkable. The architects aimed at a building that could be both invisible and astonishing,⁶⁷ and after visiting, we think that they have succeeded. It is a building that blends into the environment, despite its expressive identity. The architecture is unexpected and astonishing, without competing with the surroundings. Tåkern works as a background for the bird life and the visitors, and creates an interaction between culture and nature.

We think it is a building that has attained the main idea of a naturum. The building attracts visitors with its architecture and it is contemporary and playful in its shape and volume. The whole building is characterized by the intention to create new shapes with traditional, sustainable and locally produced materials. The building encourages activity, walking and exploring the surrounding landscape.

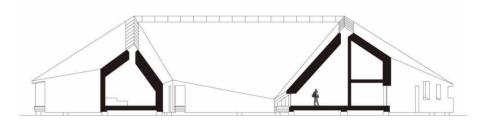
Tåkern was nominated the Kasper Salin award in 2012. According to Mikael Bergquist, in the magazine Arkitektur, Tåkern should be counted as one of the best projects done by Wingårdh Architects in recent years. He writes that the naturum has given bird watching a setting and respect never seen before.⁶⁸



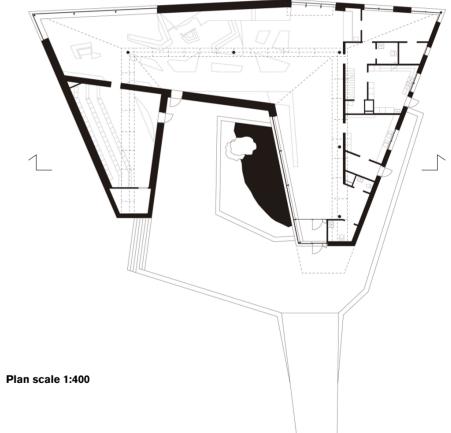
Courtyard. The sunny courtyard towards the south. *Photo: Åke E:son Lindman. Source: Arkitektur*



Facade and area plan. The Visitor Centre, the service building and the bird watch tower, with its 140 meters winding ramp. *Source: Wingårdhs*



Section scale 1:400



DISCUSSION ABOUT THE FUTURE

"One thing you should not underestimate with architecture in nature is the fact that one is constantly engaged with framing and enhancing. The National parks are selected sites, pointed out as valuable. Architecture's role is then to make this understandable and to some extent enhance it."

– Dan Hallemar

We investigated the history of naturum, starting with a simple caravan in the seventies to today's exclusive architecture. Naturum Laponia, by Wingårdhs Architets, will be opened this year (2014) and after that the only planned project is a rebuilding of a naturum in Trollskogen, Öland.

Discussions about the increasing costs have been on-going for some years, and when the architecture investments seem to have come to a standstill, what will the consequences be? To spread information and knowledge about the nature is an essential part of the environmental protection. In that sense naturum has a function of being an attraction in itself, to interest more visitors and in that way spread knowledge. But what can the alternatives be? Do we really need specific buildings to inform and make people aware of the nature?

When asking Anders Bergquist and Mattias Lind about the future we got two slightly different answers. Bergquist doesn't believe there will be so many naturum built in the future. At least not by EPA as initiator. Instead he thinks there will be more investments of small-scale projects, like the identity projects for the national parks. Anders says that the need is fulfilled with the 31 naturum Sweden will have, Laponia included.⁶⁹ Mattias Lind, on the other hand hopes the investment of naturum will continue. He says that Sweden is unique with all various types of nature, and he is of the opinion that we should make these areas accessible for more people and be a shining example for the rest of the world. To show our nature is essential to create awareness among the general public. We have to work in different ways to disseminate knowledge and naturum is one way to attain this, he thinks. According to him it is important to have three perspectives; *defend, take care of* and *exhibit*. The nature tourism is increasing in Sweden and Mattias thinks the naturum is good for the branding of Sweden's nature and that the costs are proportionately small. Sweden needs attractive destinations to develop the tourist map and it is a pity that the issue of costs is in focus. He says that EPA is a shining example. An investment like the naturum competitions, initiated by the Government, is unusual and deserves support.⁷⁰ Even if there are some projects that recently have been more expensive, Mattias emphasizes that this have been an investment for the whole country, and not only the big cities, where most of the State-owned museums are situated.

What we can see is that the Swedish naturum have resulted in a new kind of typology, where architects control how people experience the nature in one sense. The relatively free programme a naturum implies has formed opportunities for architects to create amazing architecture in harmony with nature. Public buildings made for human interaction, experiencing and learning, without commercial interest or consumption. Architecture that maximize the experience of nature and also works as a springboard out to the nature. EPA and the architects have perceived this and realized it at several sites in Sweden. EPA's high architectural ambitions have resulted in several imaginative and beautiful buildings all over the country.

REFLECTION

"Where the journey starts" has for us been an interesting and instructive process. Our vision was to investigate if architecture could inspire people to get to know and explore the surrounding nature and culture and through this play a more important role in their lives. We see the purpose of naturum – to enhance knowledge about the values of the natural area where it is situated – as very important. Also the fact that a naturum should inspire people to continue their journey into nature. Knowledge about our local environment is necessary to understand and increase the will and interest to preserve and develop it and a naturum could be one step in the right direction.

AN URBAN NATURUM

The location of our project is different to most other naturum. While most naturum are located in nature-dominated areas, our project is placed in a context where both nature and city is present. To a certain extent this changes the prerequisites and we asked ourselves how we could make it into a benefit and not an obstacle. This naturum can reach a broader group of people and offer more generous opening hours, since it by its location is easily accessible. We wanted to get the attention of people passing by, and therefore the building is intriguing in its expression. It was also important to make the deck inviting both at a distance and up close. This is where architecture plays an important role. By its design the building can be used in many different ways and work as an addition to the existing institutions of Karlskrona, as the hotel Scandic, the library and the museums. We divided the building in parts that can be used independently of each other. The café can be open during evenings when the exhibition is closed. The learning center can work as an integrated part of the exhibition, but also be used by itself. A conference evening for the biosphere reserve or a movie showing for a club or society in the city, the field of application is infinite. An urban naturum is special in the way that the everyday use throughout the whole year is important, not only during the summer period, which is the case in most other naturum.

METHOD

We have worked with this project in many different scales; looking at the context of Blekinge archipelago, the city of Karlskrona and the specific site. In the building we have worked with volume studies all the way to a detailed level where we show a construction solution and the choice of materials. Seeing the project in different perspectives and scales has given us a broad understanding and an exciting process.

Our intention for the project was to use the strengths of the site. With our proposal we keep and enhance the qualities of Stakholmen, which is much used by the inhabitants of Karlskrona today. The outdoor environment has been as important as the inside. The deck is part of the experience when visiting the naturum. A new meeting place, accessible for everybody to hang out, enjoy the views, the sun and the closeness to water. The architecture of the building and the deck is simple in its use of materials, yet contemporary in its form and expression. Through the choice of grey wood panel, the building connects to the surrounding cliffs and the roofs create an exciting atmosphere both from the outside and in the exhibition rooms.

When we started working with this project we never could have imagined the final result. The shape and the position have altered many times during the process. Even though we sometimes took a step in the wrong direction, we found our way back. In the long run those sidesteps have contributed with something beneficial to the project and all decisions we have made have been carefully reflected upon.

During our work we have had many interesting discussions both the two of us and with people with knowledge of the subject, which has given us inspiration that has been of great use in our design. The naturum we have visited have given us an insight into the work of Naturvårdsverket. This has been necessary for us to understand the use of naturum and essential when we have worked with the floorplans and the design. When interviewing Heleen Podsedkowska, coordinator for the biosphere reserve, we got an overview of the on-going work within the area. We believe that our project can contribute to promote the biosphere reserve and create a natural meeting place for people working with the reserve, as well as for the inhabitants of Blekinge. The interview with architect Mattias Lind, gave us another dimension of information. His knowledge about the architect's role when building naturum has been of great value in this project, but also for us as architects in general and for our future work.

Having read litterature, visiting reference projects and interviewing people with knowledge of the subject, has given us a broad understanding in the field. This has been a unique opportunity that we have appreciated. To have the time to deepen our knowledge in the field has also been a benefit and strength in our process, when having to make all the decisions a project includes.

VISION

The on-going debate about the necessity of naturum has been exciting to read and discuss. While some mean that it is wrong to spend a lot of money on high building costs, instead of nature conservation, we believe naturum is one way to make the nature accessible for the public. Architecture that is able to enhance the value of nature is important, especially for those who are not able to visit the nature by foot, hiking or in other ways. We may need to think of possible alternatives to naturum. To develop new ways and more alternatives to make people aware of nature can be a mission for architects in the future. Maximize the experience with minimal encroachment. The nature is of course a huge asset and resource, which we have to take care of. Naturum is most likely a good way to motivate people to visit nature. Hopefully it is also a way to give a better understanding about our valuable nature areas and how to visit and enjoy nature in a sustainable way. Throughout the now 40-year history of naturum in Sweden, the salient idea has been this - shepherding visitors from civilization to wilderness, as Mark Isitt wrote in the book "Visitors Centres in Sweden".

We hope that our project can raise the question of a future naturum in Karlskrona and that it will work as a good example of how this kind of building would contribute to the city. We also hope that we will inspire people to look upon naturum in a new way in the future. We believe that this type of building can work both in remote nature areas as well as an integrated part of the city. The urban naturum can attract both locals and tourists and make nature more present within the city. We hope our journey can act as a starting point for several new ones within the field of naturum.

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