Ecotourism

Design a meaningful landscape for ecology and economy

P2 Report

December 18th, 2017

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Delta Interventions Studio
MSc Urbanism
Faculty of Architecture
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Acknowledge | Abstract

Due to the advancing technology, human activities clearly play an important role in creating landscapes. The Dutch natural landscape has now changed into a cultural landscape under control. This project explores the potential of cultural landscape in terms of boosting the economy by recreation and recovering the ecology. Taking one of the most illustrative area, Browersdam and Schouwen-Duiveland, Goeree-Overflakkee, as the case study, the project intends to test the hypothesis of perceiving Brouwersdam as opportunities to develop eco-tourism for the Integration of ecology and economics in Southwest Delta.

Based on the theories of landscape biography and landscape narrative, the project argues that the characteristic of landscape can help building a stronger identity for the development of tourism. The result is a biography of the changing landscape, that runs from the Rome times to the present-day, and that focuses on the study of the interrelationships between spatial transformations, social and economic changes and the construction of regional and local identities in the region. This approach also offers interesting possibilities for applications in the sphere of heritage management, landscape design and spatial planning. Learnings from theories and practices with context analysis, at the regional scale, it is possible to propose the operative landscape structures as the spatial framework for the future development of Eco-tourism.

Based on this spatial framework, strategies for transformation are introduced for Browersdam and its surrounding village. Then based on the typology of this spatial framework, several zoom-in sites will be selected to demonstrate possibilities and potentials through design intervention for integrating water infrastructure with spaces of local habitation and activities. To support the proposals with better feasibility, the project phasing and institutional framework will also be proposed, identifying the priority and potential actors in the process.

With reflections on the contribution to the fields and evaluation of influences, the thesis expects to provide a showcase with methodology, strategic tools, and spatial possibilities integrating different cases of interaction between human activities and river environment. More importantly, the project exhibits the spatial potential of a cultural landscape as an active role in engaging economic with nature, as well as guiding the spatial transformation of the territory for the future.

Content

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Introduction

The problem field chapter introduces a set of problematiques through visual and written mediums. I start from the Evolution of Dutch Southwest Delta from Rome times to the present. Based on the evolution, problems in different fields are illustrated. Through relations between various fields and grounds it frames the main issue to be addressed (written and visual).The problem field chapter introduces a set of problematiques through visual and written mediums. I start from the Evolution of Dutch Southwest Delta from Rome times to the present. Based on the evolution, problems in different fields are illustrated. Through relations between various fields and grounds it frames the main issue to be addressed (written and visual).

0
Introduction

North Sea & Dutch Southwest Delta

Delta regions are formed by sedimentation and erosion of sea and river, usually containing the most vibrant and rich ecosystems in the world. A rich variety of flora and fauna create a productive environment that sustains urbanization. The most densely populated areas like New York, Rotterdam and London are all established in delta areas and have developed into economic capitals.

North Sea has been a contested territory historically. It is the product of the dynamic relations between natural processes and the intensity of manmade activities as well as for the conformation of delta region, like Dutch Southwest Delta, Thames Estuary and Elbe Estuary [see ***figure 0-01***]. Driven by the consequences of extreme climate concerning climate change scenarios suggest that by 2100 sea levels could rise up to 3 – 3.5 meters, North Sea territory/region is facing challenge to provide a shifting position between land and water in which the sea becomes a transnational ground for climate adaptation strategies.

Among the Delta region along the North Sea, Dutch Southwest Delta is perhaps the most dynamic region in the low-lying Dutch Delta [see ***figure 0-02***]. The rapid development of the region around Rotterdam and The Hague has already been viewed with concern. It was feared that a densely populated metropolis would emerge, characterized by overcrowding, congestion and social inequalities [Meijer, 2016].

Although delta regions provide the bloom of the society, it also process the vulnerability of the urban environment. Starting from 2000BC, the relationship between water and land changed frequently. It is partly due to the storms and floods that washed away large pieces of land, and partly due to sedimentation, which led to the formation of new deposits. the damming of creeks also contributed to these changing dynamics between water and land. In 1953, Dutch Waternoodramp depict the vulnerability of the urban fabric to severe weather and cause 1,836 deaths and widespread property damage. From then on, people start to aware water management system are essential to the process of urbanization in the delta.

Deltawerken project was just developed under this condition to ensure the process of urbanization. It is one of the defense system for protection against storm and sea level rising, especially the provinces of Zeeland, southern South Holland and North Brabant. The Deltawerken have been built for decades. The project was completed after completion of the Oosterscheldekering in 1986, the Maeslantkering in 1997 and after the completion of the increase of all dikes to delta height in the Harlingse Keerdam in August 2010. However, as the DeltaWerken provide water safety, today, it also causes ecological, social and cultural problematics. It cut off the inner lake from the North Sea and directly limit the flow of nutrients. The lack of oxygen led to deterioration of the water quality of the lake which caused negative effects for nature and economy (recreation and shellfish-fishery).

In order to prevent DeltaWerken become the obstacle for the future development of Dutch southwest Delta, this thesis aims to explore the potential of infrastructure and landscape and discuss on the future urbanization on the delta region by providing detailed plans for the Dutch Southwest Delta. Within the framework of the graduation studio Delta Intervention, this thesis will focus on the urban and landscape research and design in an urban delta and the project will touch the disciplines of urban design and landscape architecture.

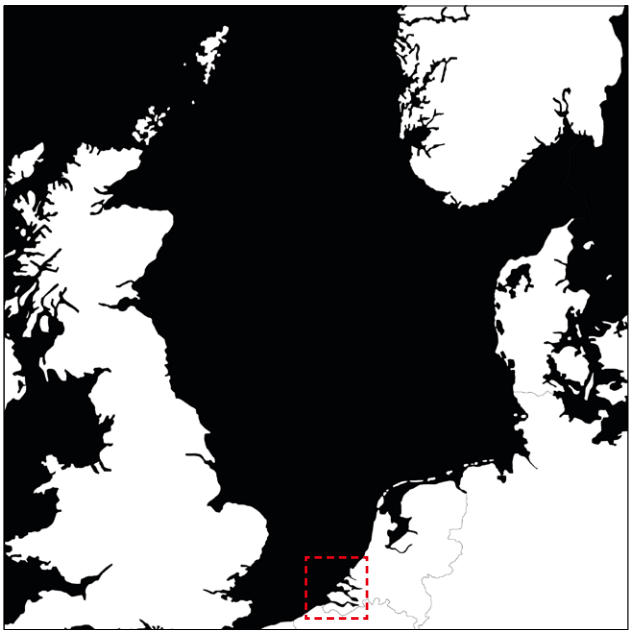


Figure 0-01: North Sea
Source: Map By Delta Urbanism Studio

Figure 0-02: Dutch Southwest Delta in 2017
Source: Map by Author (Data: http://opentopo.nl)

0
Introduction

Tourism in Dutch Southwest Delta

Netherland also has a long history in the development of tourism. And The development of the tourism in Southwest delta is always accompany with its landscape. The earliest style of recreation can relate to the productive landscape in Netherland. "The Harvesters" made by Pieter Bruegel can be an example to illustrate that (see ***figure 0-03***). As in many of Breughel's paintings, the focus is on peasants and their work. Notably, some of the peasants are shown eating while others are harvesting wheat, a diachronic depiction of both the production and consumption of food. Pears can be seen on the white cloth in front of the upright sitting woman who eats bread and cheese while a figure in the tree to the far right picks pears.

After the 19th century, as the infrastructure system developed, the road and the train was constructed, tourism really begun. We can see, many people from Rotterdam or Anterwp came to coastal area for leisure (see ***figure 0-04***). During that time, Benefit from the unique dune landscape and beach formed in the long history, some city like Ouddorp and Burgh become the hottest campsites. Benefit from that, these cities experience large expansion in the 20th century.

Today, Southwest Delta has a stronger recreational function. Recreation gradually dominate the value of landscape. Deltapark Neeltje Jans, a water theme park on an island in the middle of the Eastern Scheldt Storm Surge Barrier, is a place where you can enjoy gorgeous nature and culture(see ***figure 0-05***). It's an absolute must-do when visiting the Delta Works. Other highly recommended activities are a visit to National Park Oosterschelde or the Brouwersdam, where you can enjoy beautiful nature and the beaches of Grevelingenmeer lake.

Figure 0-03: *The Harvesters (by Pieter Bruegel)*
Source: https://www.metmuseum.org/art/collection/search/435809

Figure 0-04: Swimming at the beach around 1932
Source: http://films.serc.nl/zuid-holland/rotterdam/

Figure 0-05: Themapark Deltapark, Neeltje Jans, Oosterscheldekering, spelende kinderen met water, waterval in 2003
Source: https://beeldbank.rws.nl, Rijkswaterstaat

1
Problem Field

The first chapter provide problem field of this project by introducing a set of problematiques through visual and written mediums. I start from the Evolution of Dutch Southwest Delta from Rome times to the present. Based on the evolution, the trend to develop tourism can be found in recent years. Then, problems and challenge of the development of tourism in different fields are illustrated. Through relations between various fields and grounds it frames the main issue to be addressed.

1
Problem Field

Evolution of Dutch Southwest Delta

(3x3x3 Analysis)

The main history of man in Dutch Southwest Delta dates back to Roman times. The arrival of the Romans at about 50 BC bring the economic changes for this region, which become a turning point in the relationship between man and landscape. For the first time, there is an ordered infrastructure development. There are ports and paved roads for transport and military. At that time, Domburg and Goedereede became the major transit port of products from the entire western part of the Roman Empire. Based on these ports, trade with towns in England and elsewhere in Western Europe was possible. So does the support of the products for the Roman army along the Rhine River. The Roman army takes away many local products. The intensive land use leads to increased erosion and accelerated surface water running off. As a result, rivers occur more often beyond their banks.

As the geography of Southwest Delta has been thoroughly changed, land formed and loss over time. Due to the natural run off caused by massive vegetation and more and more peatlands gained in the coastal area, the sea level began to rise from the third century. Attached with the soil subsidence, it made most of the land in Southwest Delta underwater.

1000-1300: Dynamic Natural landscape

Since the Middle Ages , people start to battle against water. About 9th century, in order to defense the Vikings, castles and walls were built. Slowly but surely, from the 11th century on, the islands were reclaimed from the sea. Small islands grew into larger areas through diking-in. Dike was built regularly and water boards also came into being. They provide a well-planned system for the development of agriculture. Trade increased and brought prosperity and the population grew.

At the same time, it led to the growth of a large number of villages and the found of many cities in the 12th and 13th centuries, including Goedereede and Domburg. These cities were a major trading center especially in the 14th and 15th century. The beaches with their dunes appeared to be a firm seaweed, which protected the vulnerable peatlands against the erosion of the sea. Under the relatively humid climate conditions, the remaining livestock areas diverge well. Throughout the Middle Ages, their favorable location and expanding shipping increased the activity on and around the island.

In the late Middle Ages the Dutch coast begins to return. The cause of this reversal is not exactly known, but the decrease of the sand supply to the coast probably plays a major role. Moreover, from historical information it seems likely that the increase of the storm frequency was an important factor in this coastal erosion. Also, from then on, man can cope with the still-ongoing sea-level riots and maintain for many centuries in this landscape.

1500-1850: Increasing human influence

During the 16th and 17th centuries, the southwest delta, like Holland, had a great blooming period. A number of cities such as Goedereede, Middelburg, Vlissingen, Zierikzee and Veere, then played an important role in the Low Countries as an international port city. Middelburg was until the end of the 16th century the largest trading city of the Northern Netherlands. After the fall of Antwerp in 1585 and the arrival of many Flemish, social and cultural life got a great boost. This marked the start of a Golden Age for the Southwest Delta. It can still be seen in the many monuments that have left their

imprint on many cities such as Middelburg, Veere, Zierikzee, Tholen, Vlissingen and Brouwershaven.

Also, the development of the international ports boost the trade in the Baltic Sea, Asia and the West and earn a large amount of for people in 17th century. It provides the necessary financial resources for the drying of larger lakes. The dryers not only provide new agricultural land, but also bring significant improvements in safety and drainage.

However, French domination (1795-1813) brought considerable changes. Because of the rule of Napoleon, trade was hardly possible any longer. Only farming could hold its own. Many cities became an agricultural village after dying of the surrounding polders. When the French left, they left it impoverished. From that period, in almost all the cities, a vast amount of buildings were demolished. The 19th century can with reason be called the century of demolition. The government tried to stimulate the economy but it was difficult.

1850-2017: Cultural landscape under Control

In 1868, the railway from Bergen op Zoom to Goes was opened. Five years later, it was extended to Vlissingen. At the same time, the Canal through Walcheren and the Vlissingen harbour works were completed. Another most important changes were the appearance of trams on Walcheren and later, also in Goedereede, Zeeuwsch-Vlaanderen and on Schouwen later in 20th Century.

The Second World War (1940-1945) left its marks in Southwest Delta, traces of which can still be seen. During the Second World War, Rhine Delta has been strategically important several times. As a result, a number of cities and areas suffered from fighting, bombing and inundations. During the winter of 1944-1945, Schouwen-Duiveland was still suffering under German terror. Post-war reconstruction got off to a slow start due to the shortage of material and working machines.

When things were finally back to about the pre-war norm, the February 1, 1953 flood disaster caused this area another setback. This disaster caused the deaths of 1835 people in the southwest of the Netherlands and left a major part of Southwest Delta islands underwater. Afterward, the water defense system Deltawerken was developed. The subsequent construction of the Deltawerken changed the face of the province. The infrastructure, although very distinct by the number of bridges, tunnels and dams, has not shaped the geography of the province so much as the geography of the province has shaped its infrastructure. The dams, tunnels and bridges that are currently a vital part of the province's road system were constructed over the span of decades and came to replace old ferry lines.

The Dutch natural landscape has now changed into a cultural landscape under control. Due to the advancing technology, the soil condition and the substrate is no longer an obstacle to the realization of our ambitions. However, it was not until the beginning of the 21st century that it becomes gradually clear that this kind of control also cause many additional risks and costs. Today, these problems even create the dilemma of re-opening the estuaries of the Dutch Southwest Delta.

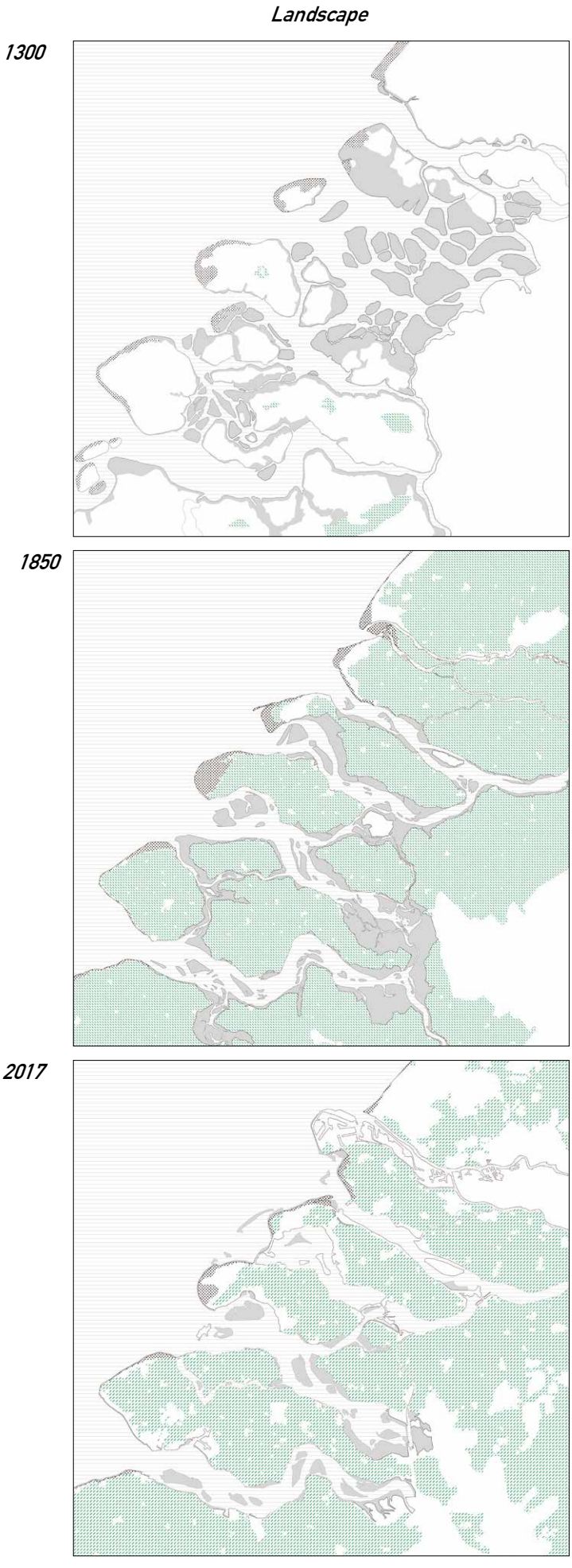


Figure1-01: Evolution of Landscape, Occupation, Infrustructure in Southwest Delta from 1300 to 1850 to 2017

Landscape
Sea
Sand Plate
Dune
Agriculture
Land

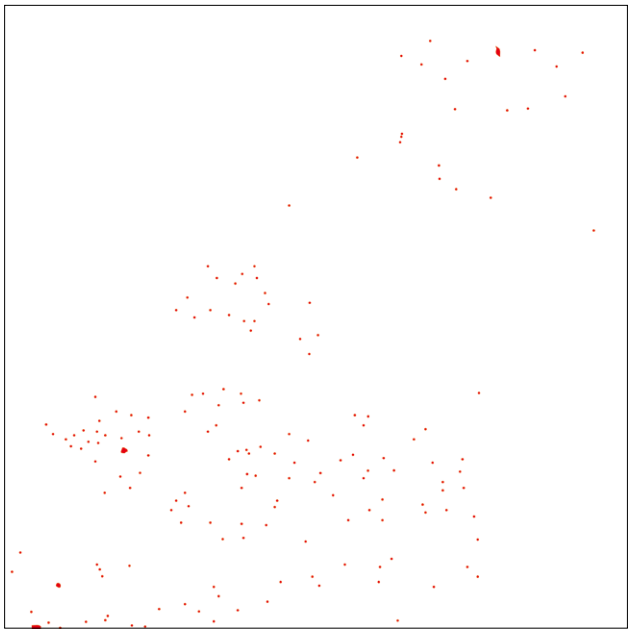
Occupation

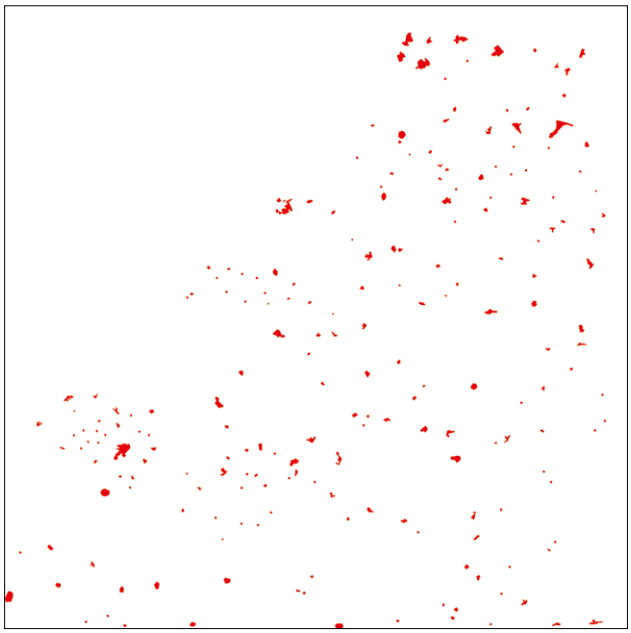
Infrustructure
Castle & Wall
Main road
Submain road
Ship Route
Railway
Dam
Dike

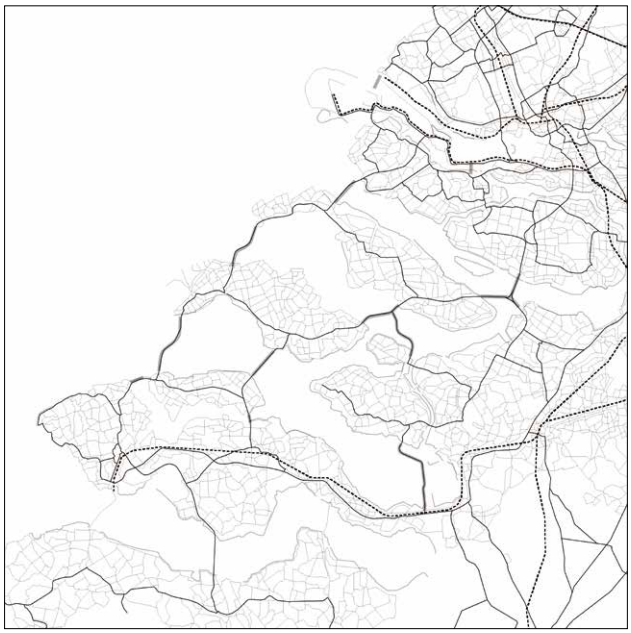
Source: Map by Author (Data: http://opentopo.nl)

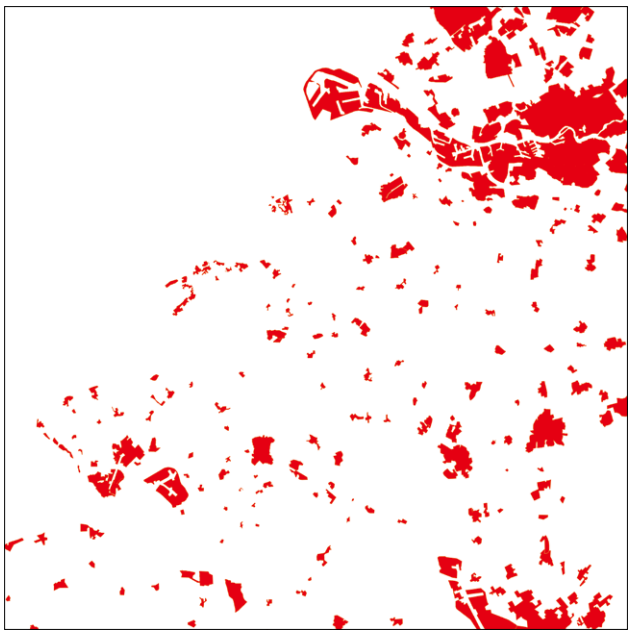
Infrustructure

Occupation









1
Problem Field

Cultural change
New possibility for Eco-tourism

Start from Port Harbour

The development of the Southwest Delta start from port. This region was firstly used by the Romans at about 50 BC for transport and military. During the 16th and 17th centuries, this region had a great blooming period. A number of cities such as Middelburg, Vlissingen, Zierikzee and Veere, played an important role as an international port city. Middelburg was until the end of the 16th century the largest trading city of the Northern Netherlands and until the third quarter of the 17th century, with 27,000 to 30,000 inhabitants, the fourth largest city of the country. Entering into the 19th century, Vlissingen was regarded as a potential main port, situated next to a deep channel, which guaranteed permanent accessibility. During the 1860s a special railroad was constructed to link Vlissingen with the German hinterland, and a series of new harbors were planned around the city. However, this second turning inside out was not realized.

From Port to Agriculture Harbour

After the reclamation of peat lakes in the interior of the region in 19th century, the port activities of Amsterdam and especially of Rotterdam exploded; while the other ports in Southwest Delta fell in further decay. At he same time, agriculture increased again. (Bosma, Makhloufi, 2012) After a disastrous flood in the Southwest Delta in 1953, the government decided to close the Rhine-Scheldt estuary too. The prestigious project Deltawerken supplied the closing of all sea gates go the estuary with dikes - except the Westerscheldt River, providing the entrance to the port of Antwerp. Also these Deltawerken produced not only in an improvement of the safety, but also in an improvement of the agricultural conditions for the Southwest Delta, resulting to a higher productivity of the surrounding agricultural land.

Currently, many delta cities have lost their direct relation with water due to the reclamation of land. The historic identity of a harbor city has been changed in an agricultural harbor city. The internal areas in the delta have disappeared and the dike functions as a hard border between two worlds: the polder and the open water.

From Agriculture to Recreation Harbour

Thanks to the development of infrastructure system, Southwest delta was transformed from a poor and peripheral series of isolated islands to an industrialized, wealthy and integrated part of the nation. The New Waterway increased in importance; instead of an entrance it became the central axis of a 100-km2 industrial port area. Also in other parts of the Southwest delta several new industrial areas were developed, while agriculture took profit from the new fresh water basins in the area because of the damming of the estuaries.

Moreover, the Southwest delta became an important destination for tourism and recreation. Especially in the vicinity of Ouddorp and Recognition is a lot of tourism to be found. The beaches at Goeree-Overflakkee are popular with many Germans . The dikes and polder roads are very popular with cyclists and hikers. The Delta Programme 2018 is joining forces in a regional programme to improve the quality of the living environment; boost recreation and tourism; encourage innovation in fisheries, agriculture, recreation, and healthcare; realise sustainable energy; serve as testing ground for innovations; and improve access and traffic safety.

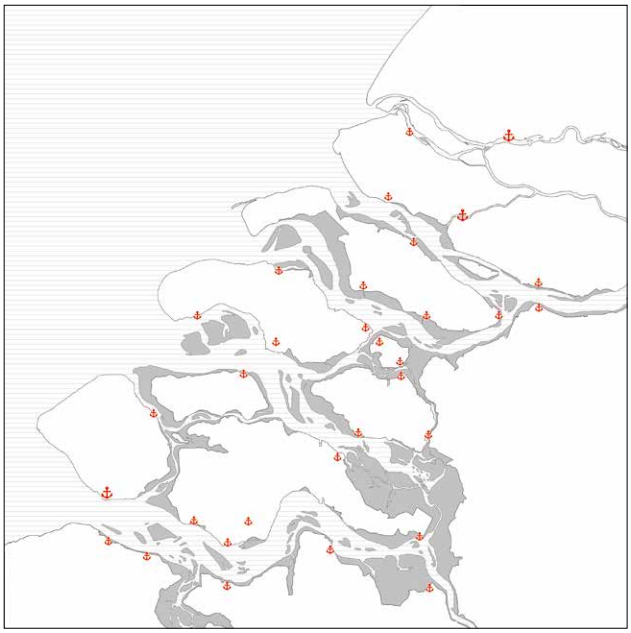


Figure1-02: Port in 1850

Port

Illustration: Entering into the 19th century, a number of cities such as Middelburg, Vlissingen, Zierikzee and Veere, played an important role as an international port city. Agriculture also benefit from reclimation.
Scouce: Map by Author (Data: http://opentopo.nl)

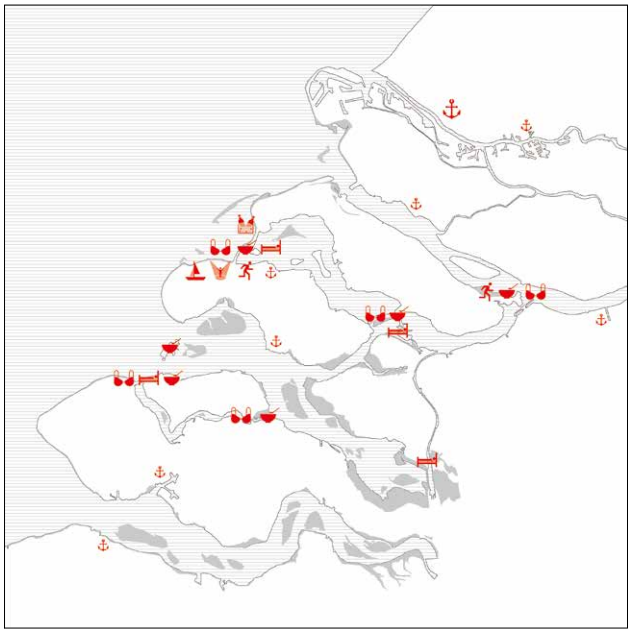


Figure1-03: Port & Program in 2017

Port
Surfing spot
Seach area
National concert
Bar
Restaurant
Hotel

Illustration: In the 21st century, port city decline. More leisure program appear.
Scouce: Map by Author (Data:http://www.worldportsource.com/ports/NLD.php)

1
Problem Field

Social-economical Challenge

Population decreasing

Based on a study conducted by the GIS Competence Centre of the Ministry of Economic Affairs, The areas with the highest rates of population decline are Zeeland Flanders, southern Limburg and northern and eastern Groningen. Here, the population is projected to fall by 16% by 2040. In certain other parts of the country, population decline is anticipated but has not yet actually started. In these areas, the population is projected to fall by 4% by 2040. In the rest of the Netherlands, population growth of 11% is forecast over the same period.

When people move away from villages, jobs, schools, shops and other facilities also disappear. The government needs to tackle the causes and effects of population decline, for instance by cutting down on the number of new homes being built.

Lower spatial quality in inner city

When young people move to bigger towns and cities, the average age of the population in the place they leave behind automatically goes up. A community with a higher proportion of older inhabitants may be less attractive to businesses, which may additionally have difficulty finding suitable staff locally. Other effects of population decline include: a drop in house prices because more homes are unoccupied; fewer new homes being built; less turnover for shopkeepers and businesses; fewer sports facilities; local residents have to travel further to reach the facilities they want and so on.

The delta cities at the coast are in general wealthier. The 'WOZ-waarde' (value of real estate) is in the municipality of Goedereede higher than in Oostflakkee. Vacant houses and poor public space make this statement visible on street level.

In areas with the highest rates of decline, the proportion of elderly people is higher than elsewhere, increasing pressure on local care services. The challenge is to enable older people to live at home for as long as possible, and to identify what provisions they need in order to do so.

The government wants to maintain the liveability of areas where the population is shrinking or where decline is forecast. The provincial and municipal authorities hold primary responsibility for tackling the consequences of population decline and demographic aging.

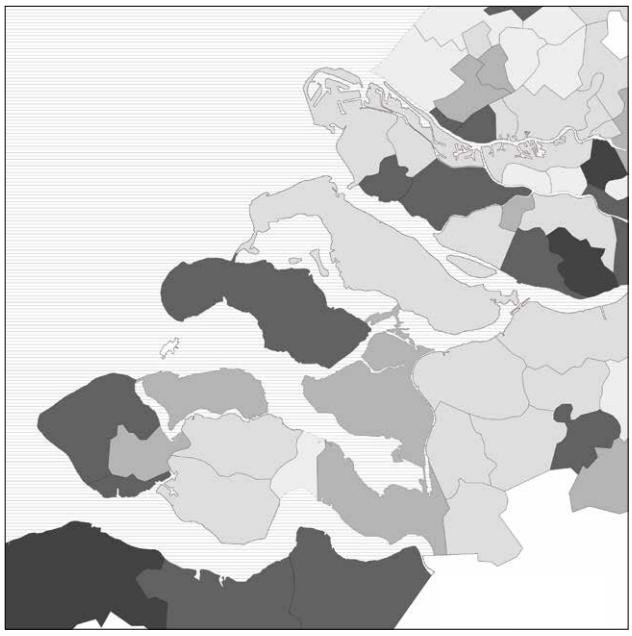


Figure1-04: Change of population in 2011

- *>10%*
- *5%-10%*
- *0%-5%*
- *-3%-0%*
- *<-3%*

Illustration: Many delta is experiencing or going to experience population declining.
Scouce: Map by Author (Data: Areas of current/projected population decline, study conducted by the GIS Competence Centre of the Ministry of Economic Affairs, Agriculture and Innovation on behalf of RVDB. 17 October 2011. https://www.government.nl/)

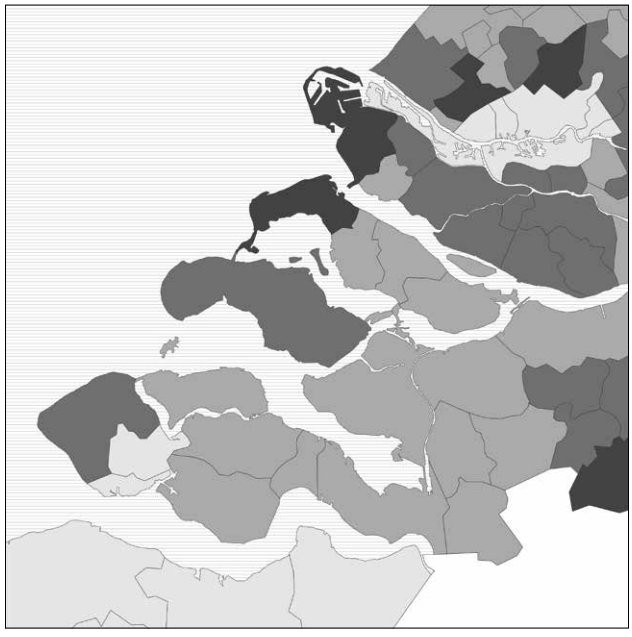


Figure1-05: WOZ Value in 2015

- *150.000 - 200.000 euro*
- *200.000 - 250.000 euro*
- *250.000 - 300.000 euro*
- *300.000 - 400.000 euro*

Illustration: The WOZ value indicate that delta cities at the coast are in general wealthier.
Scouce: Map by Author (Data: http://kaart.edugis.nl)

1
Problem Field

Hydraulic Challenge

The world-known water defenses also triggered a change in the hydraulic structure of the Dutch Southwest Delta. The water quality in the basins has changed by the level of chlorides and nutrients in the water, due to a low water flow from the sea and a high river discharge. In the Grevelingenmeer and the Oosterschelde there is a lack of nutrients and a high level of salt that causes "ora and fauna to decrease. This also affects the shell-fish industry. In the Krammer Volkerak there is an abundance of nutrients and a lack of salt water that causes the growth of blue algae that prevents (water) recreation and the obtaining of irrigation water for agriculture in the surrounding islands [Delta Programme 2018]. With the quantitative reduction of sea water in the delta, causing less sediment deposition, and a continued process of erosion, the sand plates in the Dutch Southwest Delta are diminishing.

Sand and rising sea level

The Delta Programme 2018 provides a future perspective of sea level rise and higher river discharges of the river in the period 2050-2100. Pursuant to the new standards for flood defences, various dyke sections in the Southwest Delta need improvement. At each location, innovative dyke concepts are being explored which could also offer opportunities for Nature, recreation, and habitation. On the other hand, the water discharge is mainly via the Nieuwe Waterweg and Haringvliet. The committee proposes to use the water basins of the delta to store water when river discharges are high and the sea level is too high for outlet.

A rising sea level may necessitate increasing sand replenishment in order to maintain flood protection. At the Brouwersdam beach, a sand replenishment pilot has been launched in order to safeguard the economic use of the beach (beach sports such as kite surfing and sand yachting.

Supply of fresh water

Determining water availability is an important element of the preferential strategy regarding the freshwater supply. If the climate changes, measures will be needed regarding the main water system, regional water systems, and among consumers of freshwater (such as the agricultural sector, industry, and drinking water companies) in order to secure a sufficient supply.

The islands of Zuid-Holland, West-Brabant, Tholen, Sint Philipsland, and the Reigersbergsepolder receive freshwater via the major freshwaters, such as Biesbosch, Hollandsch Diep, Haringvliet, and Volkerak-Zoommeer lake. For these areas, it is important that the freshwater supply and stocks are maintained, and that salinisation is tackled.

The latest National Framework Vision for the development of Grevelingen and Volkerak-Zoommeer has been drafted, featuring plans for restoring limited tidal movement in the Grevelingen lake, and re-salinising the Volkerak-Zoommeer lake with a limited tidal movement.

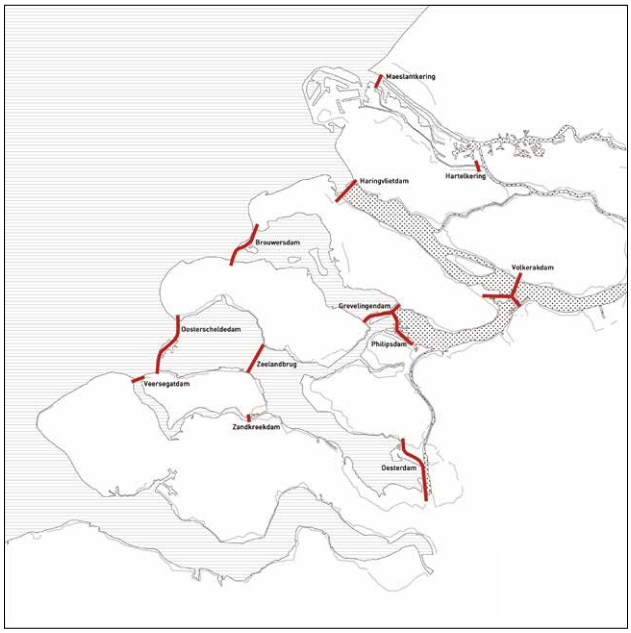


Figure1-06: DeltaWerken & Freshwater

Sea Water
Freshwater
Main River Discharge
Dam
Dike

Scouce: Map by Author (Data: https://www.wikipedia.org)

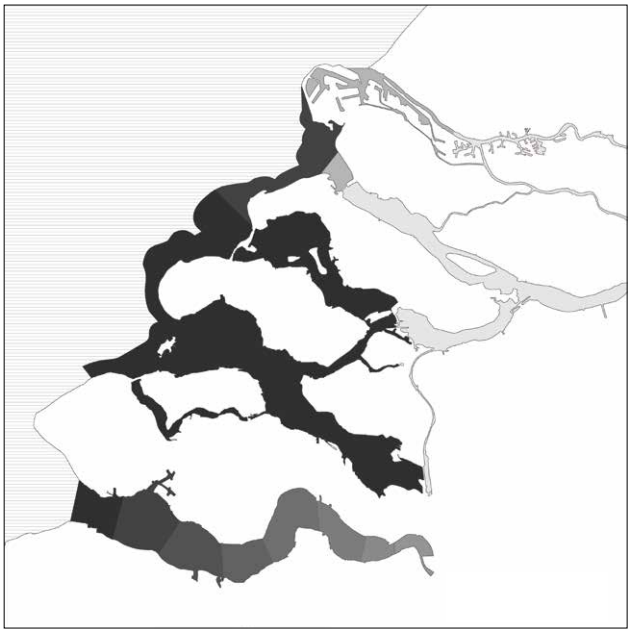
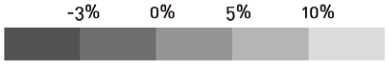


Figure1-07: Salinity gradients in the Southwest Delt



Scouce: Map by Author (Data: Ysebaert T, van der Hoek D J, Wortelboer R, et al. Management options for restoring estuarine dynamics and implications for ecosystems: A quantitative approach for the Southwest Delta in the Netherlands[J]. Ocean & Coastal Management, 2016, 121: 33-48.)

1
Problem Field

Ecological Challenge

After the closure of the Brouwersdam, the water of the Grevelingen stood still. There were no longer any tidal movements. A large part of the ecosystem around the Grevelingen lake depended on the influence of the sea water. A good example of this is oystercatchers. They lived on the higher shores of the Grevelingen, but looked for their food on the mud flats around the shore, during ebb tide. From the moment the dam was closed, no new food was supplied. Little shell fish died after only a few days. The plants which depended on the supply of salt water also died. Right after the closure of the Grevelingen, the shore had become a large cemetery. Rotting plants and animals were lying everywhere. Many types depended on the water of the North Sea for their oxygen and/ or their food. A vicious circle was created. Oxygen was needed for the rotting processes, as a result of which more and more oxygen was taken from the water. The mass death primarily took place under water.

Sea grass change cause ecological imbalance

The 'Hompelvoet', an island in the Grevelingen, is the largest breeding place for large sterns in the Delta area nowadays, with about 3,000 breeding couples. Some birds come to the Grevelingen especially for the sea grass. Some fish also like this delicacy. In the Netherlands, one can find two sorts of sea grass along the coasts of the Wadden Sea and in the inlets of Zeeland and the province of South-Holland. The first sort, large sea grass, spread over 4,500 hectare (45 square kilometres) after the closure of the Grevelingen in 1971. From 1989, the amount of large sea grass has been cut by 95%. The plant grows on places which are not reached during ebb tide. Small sea grass has smaller leaves and grows in places which are uncovered during ebb tide. Sea grass occurs even in the deeper parts of the Grevelingen lake, because the sunlight can reach far through the clear seawater.

The rock goose eats a lot of sea grass, as do coots, widgeons and mute swans. Many jelly fish and black gobies live inside the sea grass. The black goby was a new fish in the Netherlands, discovered for the first time in the Lake of Veere in 1964. 'Fuikhorens' did not occur in the Grevelingen before either. While this slug was earlier only spotted in the canals in Walcheren and South-Beveland, it is now one of the most occurring slugs in the lake.

Flora and fauna is in danger

Two examples will illustrate the fact that the future of the flora and fauna did not look good, right after the closure. Some types have disappeared, while others have appeared. The first example is about the young plaice that lived in the Grevelingen before the closure of the dam. After a while, they encountered the dam during their journey towards the sea. They were disoriented and kept swimming in the local area of the dam. When this news got out, many anglers came to the dam to land the plaice. The plaice would almost have been extinct if measures were not taken in time. New plaices were introduced. Since the completion of the locks in the Brouwers dam, the plaice can swim to the North Sea without being hindered. A second example is the oysters. Everyone was afraid that the typical oysters from Zeeland would disappear from the inlets. During the severe winter of 1962-1963, almost all oysters had died out. It was a great joy when new oysters were discovered. Even after the closure of the Lake of Brouwershaven ('Brouwershavense Gat'), the oysters did not disappear. The oysters continue to enjoy living there, and millions of young oysters are born every year.

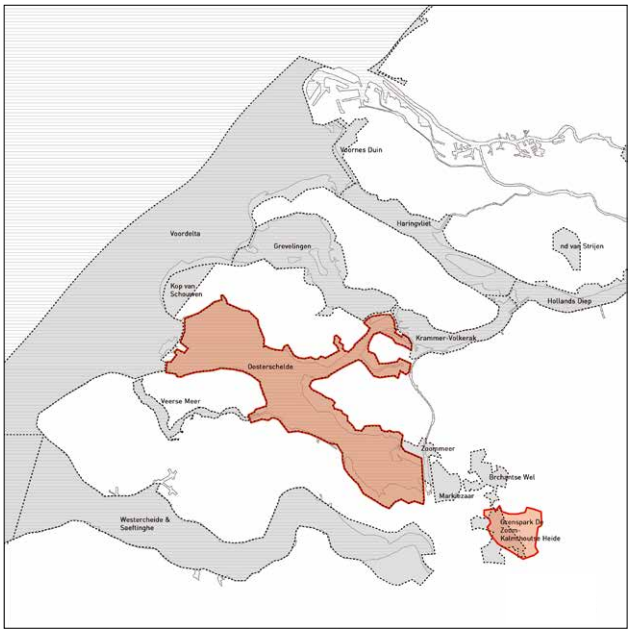


Figure1-08: Natura 2000 Sites
Scouce: Map by Author (Data: http://www.natura2000.nl)

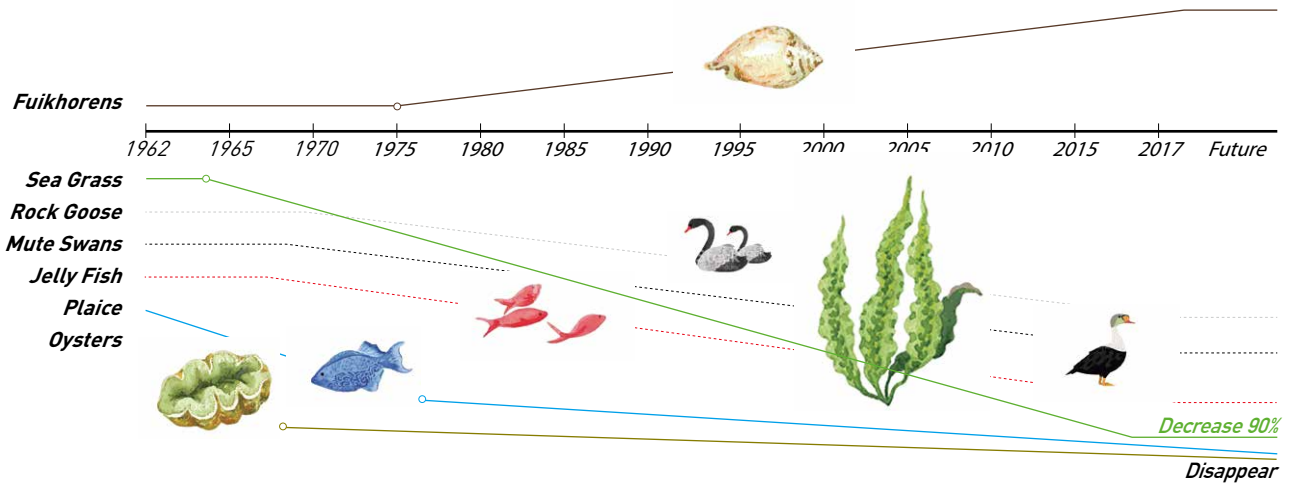
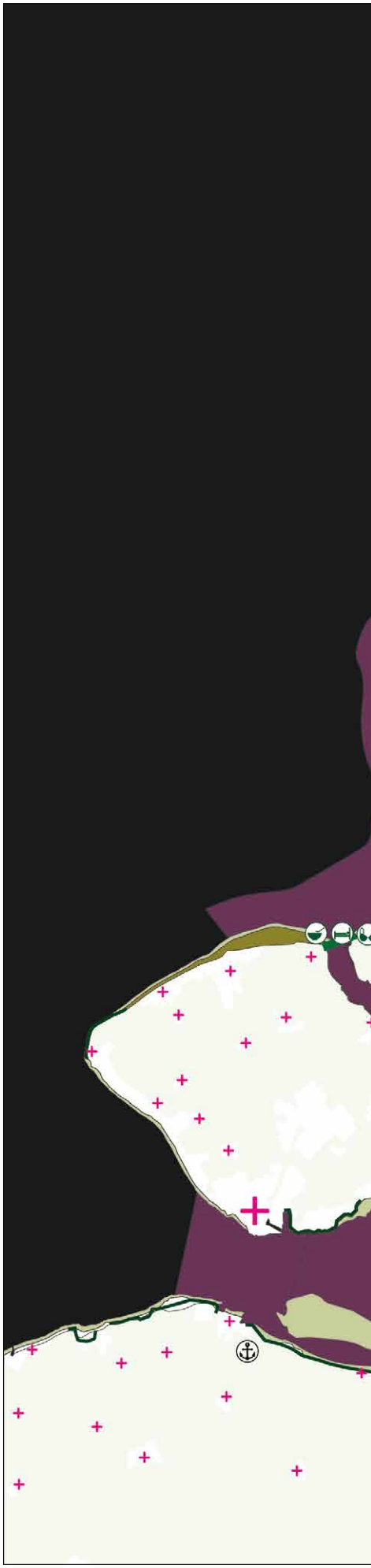


Figure1-09: Species disappear After the construction of Brouwersdam
Scouce: Map by Author (Data: http://www.deltawerken.com/Nature/421.html)

CONCLUTION - Potential & Challenge

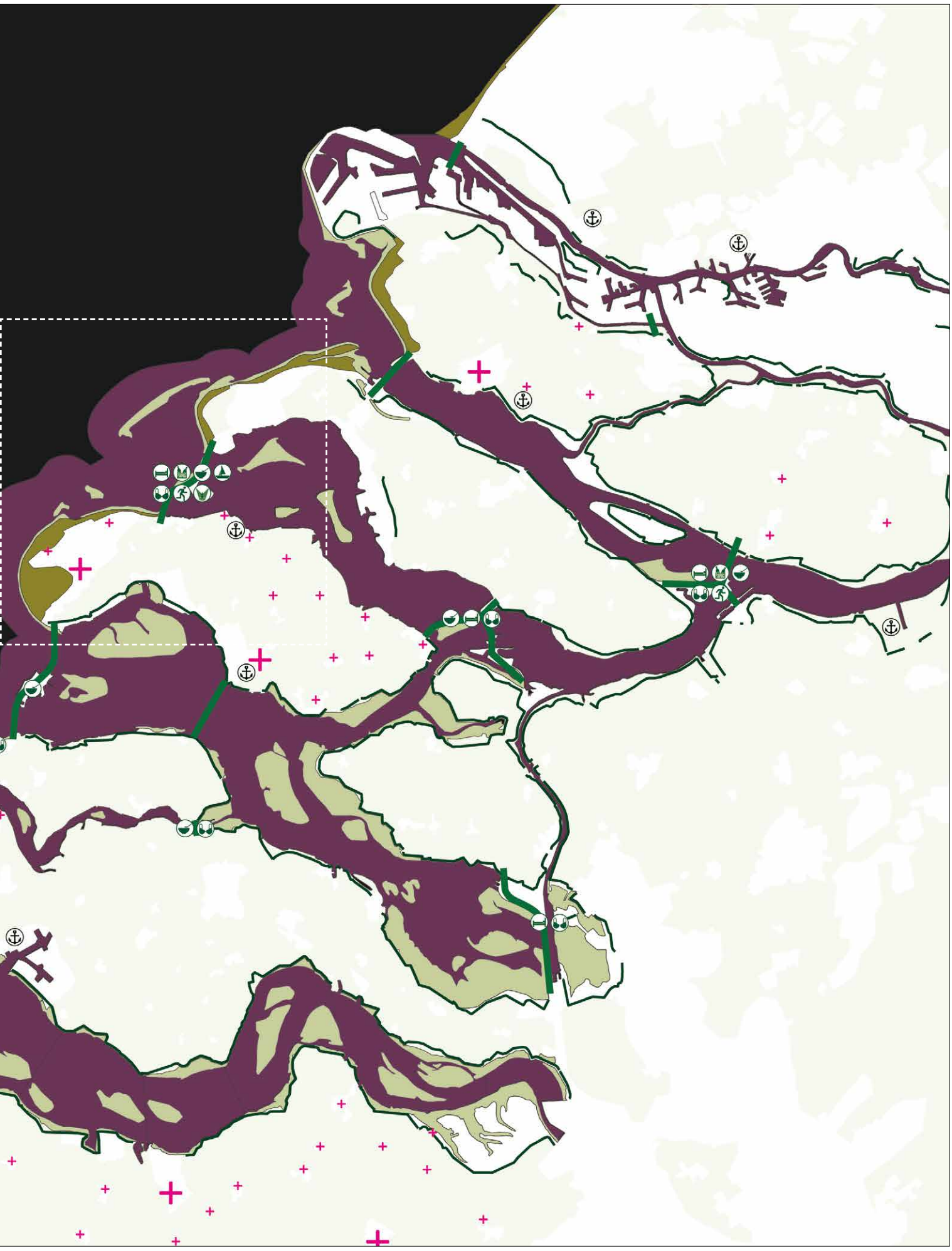


Potential

- *Dune Landscape*
- *Dike*
- *Dam*
- *Agriculture*
- *Sandplate*
- *Ports*
- *Recreational Facilities*

Problems & Challenge

- *Village that is experiencing population decreasing*
- *Poor Water Quality & Ecological Decreasing*



2
Research Approach

Based on the problem field, this chapter advances a series of hypothesis, research quesitons and the underliyng metholds through which the project unfolds its projective dimension. Research Framework of this report will be illutrated too to highlight the objective of different scale.

2
Research Approach

Problem Statement

During the long history in Netherland, when people and landscape interact with each other, the meaning of landscape changed gradually. Many landscapes that are now valued for their ecological or historic qualities were once the scenes of hard work by struggling people. Lakes that are now used for recreation were a threat to the land of our ancestors. Historic city centers that are now favored living spaces for young urban professionals were deteriorated only one or two generations ago and were poor, dirty and noisy a century ago.

Brouwersdam Area is an example to see this changing meaning of landscape during the long history. As the dune provide the defense of water, during the 14th and 15th centuries, this area, especially Goedereede was able to develop as a major trading center. Throughout the Middle Ages, the favorable location provide by the landscape increased the activity and boost the economy on and around the island.

Entering into the 17th century, when people attacked by the flood and storm once and once again, the dynamic landscape become the threat for the residents. During the North Sea flood in 1953, most area was flooded and the whole Netherlands experience 1,835 people's death.This kind of fear then change the relationship between human and nature when people start to thinking developing water defense system to control this dynamic landscape.

Currently, the development of the famous water defense system - Deltawerken - change the meaning of landscape again. Today, this area has a strong recreational function as it is a location for national concerts and its function as surf hotspot for the whole Benelux. Because of the unique dune landscape formed in the long history, Haamstede gradually dominate the value of landscape.

However, this transformation of the landscape also accompany with some hydrological, ecological and social challenge. After the construction of Brouwersdam, the water quality of the lake Grevelingen always has been an issue of concern for governmental agencies. The lack of oxygen led to deterioration of the water quality of the lake which caused negative effects for nature and economy.

Due to a low water flow from the sea and a high river discharge, nature dynamic is hardly to perform and develop on its own. In the lake Grevelingen, the lack of nutrients and high level of salt that causes flora and fauna to decrease and, at the same time, affects the shell-fish industry. Blue algae were given the opportunity to grow in warm weather. This region is experiencing environmental degradation.

Moreover, the declining natural quality lower the the attractiveness of the space and regional economy. As the port shifted, the merchants pulled away, and trade and fishing became increasingly difficult, many cities fall into the agriculture village. When some of the villages is experiencing population decreasing, many vacant house appear. It largely lower the conditions for recreation, tourism, and for the regional economy as a whole.

How to rethink landscape in Brouwersdam area as an opportunity to develop eco-tourism, that in an integral process improve the sustainability of Ecology and Economics in Dutch Southwest Delta?

Figure2-01: Brouwersdam as surf hotspot for the whole Benelux
Scouce: https://www.google.nl

Figure2-02: National Concert held in Brouwersdam
Scouce: https://www.google.nl

2
Research Approach

Research Hypothesis

01.
"Landscape in Brouwersdam area can be used as an opportunity to condition a cultural corridor across the territory to improve the sustainability of Ecology and Economics by developing eco-tourism in Dutch southwest Delta."

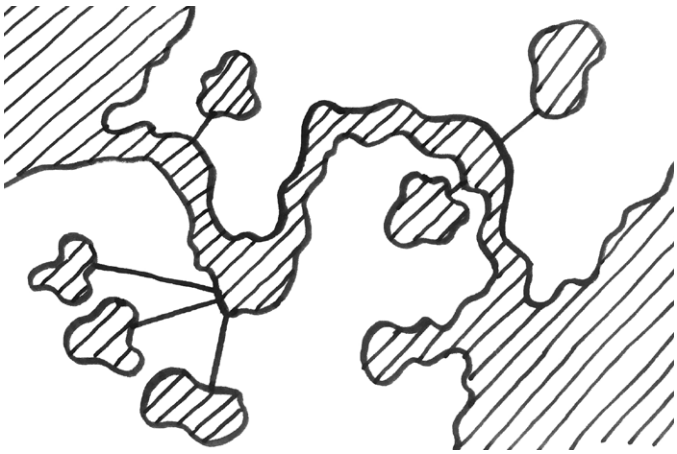


Figure 2-02: Concept drawing of Cultural Corridor
Source: Map by Author

02.
"Such corridor should contain 2 features:
the different programs to a certain extent which improve the attraction of tourism, ability to preserve ecosystems at risk."

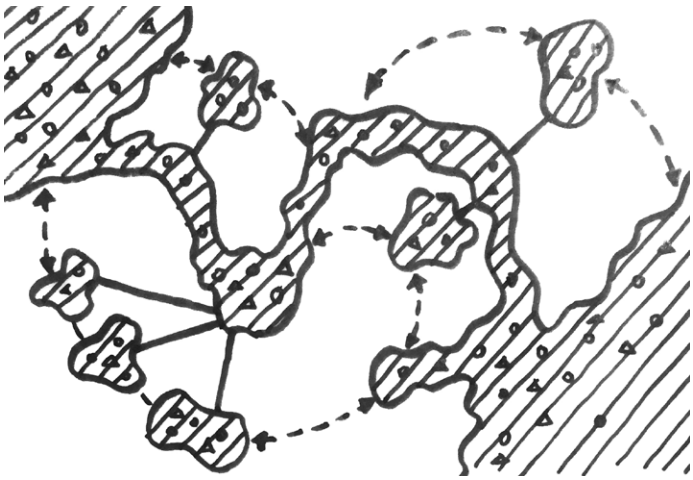


Figure 2-03: Concept drawing of 2 features of Cultural Corridor: Program and Recovery of Ecology
Source: Map by Author

2
Research Approach

Research Question

The aim: "To design a cultural corridor across the territory of Brouwersdam area, that in an integral process provides a sustainable development of ecology and economics in Dutch Southwest Delta." provides the main research question of this research and graduation project:

How to rethink landscape in Brouwersdam area as an opportunity to develop eco-tourism, that in an integral process improve the sustainability of Ecology and Economics in Dutch Southwest Delta?

The main research question is divided in different sub research questions that will deal with the integral process.Each research question will be accompanied by a research methods, the implementation of the methods and preliminary literature list. The main methods is listed as below:

Literature Review
Case Study
Mapping
Sketching
Modeling
Site Visit
Statistics
Transect
Visionary Images

01 How does it work? - Site Diagnose

- How is the development of current tourism? How does people make use of the landscape for the development of tourism?

Method(s): Mapping & Literature Study
Implementation: The map shows the existing touristic program in the Dutch Southwest Delta.

- What is the potential of Dutch Southwest Delta for the development of ecotourism?

Method(s): Mapping & Site Visit & Transect
Implementation: Potential Map shows different kind of landscape, ecological resources(including found and flora) and heritage that can be used for the development of ecotourism.

- How does the development of current tourism influence the ecosystem? What is the challenge for the development of ecotourism?

Method(s): Mapping & Literature Study
Implementation: Problem Map shows the challenge from ecology, hydrology and socio-economy.

02 What can we do? - Design Principle

- What design principle could be introduced to create conditions for the development of ecotourism?

Method(s): Literature Study & Case study
Implementation:
A case study of Lecce
Design principle as a conclusion
Preliminary literature list:
Kiper T. Role of ecotourism in sustainable development[M]//Advances in Landscape Architecture. InTech, 2013.
Grenier D, Kaae B C, Miller M L, et al. Ecotourism, landscape architecture and urban planning[J]. Landscape and Urban Planning, 1993, 25(1-2): 1-16.

- What theory could be introduced to help the analysis or design process of ecotourism?

Method(s): Literature Study
Implementation:
Review Paper based on the theory of Landscape Narratives and Landscape Biography.
Preliminary literature list:
Landscape biographies: geographical, historical and archaeological perspectives on the production and transmission of landcapes[M]. Amsterdam University Press, 2015.
Palang H, Spek T, Stenseke M. Digging in the past: New conceptual models in landscape history and their relevance in peri-urban landscapes[J]. Landscape and urban planning, 2011, 100(4): 344-346.
Potteiger M, Purinton J. Landscape narratives: Design practices for telling stories[M]. John Wiley & Sons, 1998.
Meyer H, DAMMERS E D, BREGT A K, et al. DELTA-URBANISM: NEW CHALLENGES FOR PLANNING AND DESIGN IN URBANIZED DELTAS Guest Editor: HAN MEYER[J]. Built Environment, 2014, 40(2).
Secchi B, Viganò P. La ville poreuse: un projet pour le Grand Paris et la métropole de l'après-Kyoto[M]. Mē tisPresses, 2011.

03 How do we apply them? - Application

- How can the existing landscape, community and infrastructure be transferred to the spatial element for the regional planning of ecotourism?

Method(s): Mapping
Implementation: Vision map in the town scale (including district, spots and network).

- How to design a corridor and generate a well synthesized spatial development framework for the region? What strategy, phase, actors shall we study to achieve it?

Method(s): Sketching & Modeling
Implementation: Phasing map of the Vision (including action, project, stakeholders, policies etc.).

- What spatial intervention can we design in the local scale to achieve the design objective? What design principle in local scale shall we use?

Method(s): Sketching & Modeling & Visionary Images
Implementation: Collage of the spatial intervention in the human scale
Preliminary literature list: Potteiger M, Purinton J. Landscape narratives: Design practices for telling stories[M]. John Wiley & Sons, 1998.

04 What can we learn from it? - Evaluation

- What new spatial identity can we create of the region for contingency of landscape biography? And how can the development of ecotourism influence the ecology and economy in Brouwersdam area?

Method(s): Mapping & Review Paper & Review Policy
Implementation: Evaluation of the project (including the change of spatial structure). Map of meaning.

- How can the development of ecotourism influence the Southwest Delta and North Sea?

Method(s): Mapping & Review Paper & Review Policy
Implementation: Map of meaning.

2
Research Approach

Graduation Planning

October | November | December | January | February

P1

- Draft thesis plan
- Abstract of review paper
- 3X3X3 Analysis

P2

- Thesis plan
- Review Paper
- P2 Report
- P2 Presentation

Orientation

- Motivation
- Problem field
- Relevance
- Position in the academic and professional debate
- Problem statement
- Objective research questions
- Methodology approach
- Theoretical framework
- References

Site Diagnose

- How does it work?

Sub-question 1, 2, 3

The map shows the existing touristic program in the Dutch Southwest Delta.
Potential Map shows different kind of landscape, ecological resources(including found and flora) and heritage that can be used for the development of ecotourism.
Problem Map shows the challenge from ecology, hydrology and socio-economy.

Literature Review

- What can we do?

Sub-question 4, 5

A case study of Lecce
Design principle as a conclusion
Review Paper based on the theory of Landscape Narratives and Landscape Biography.

Research by Design

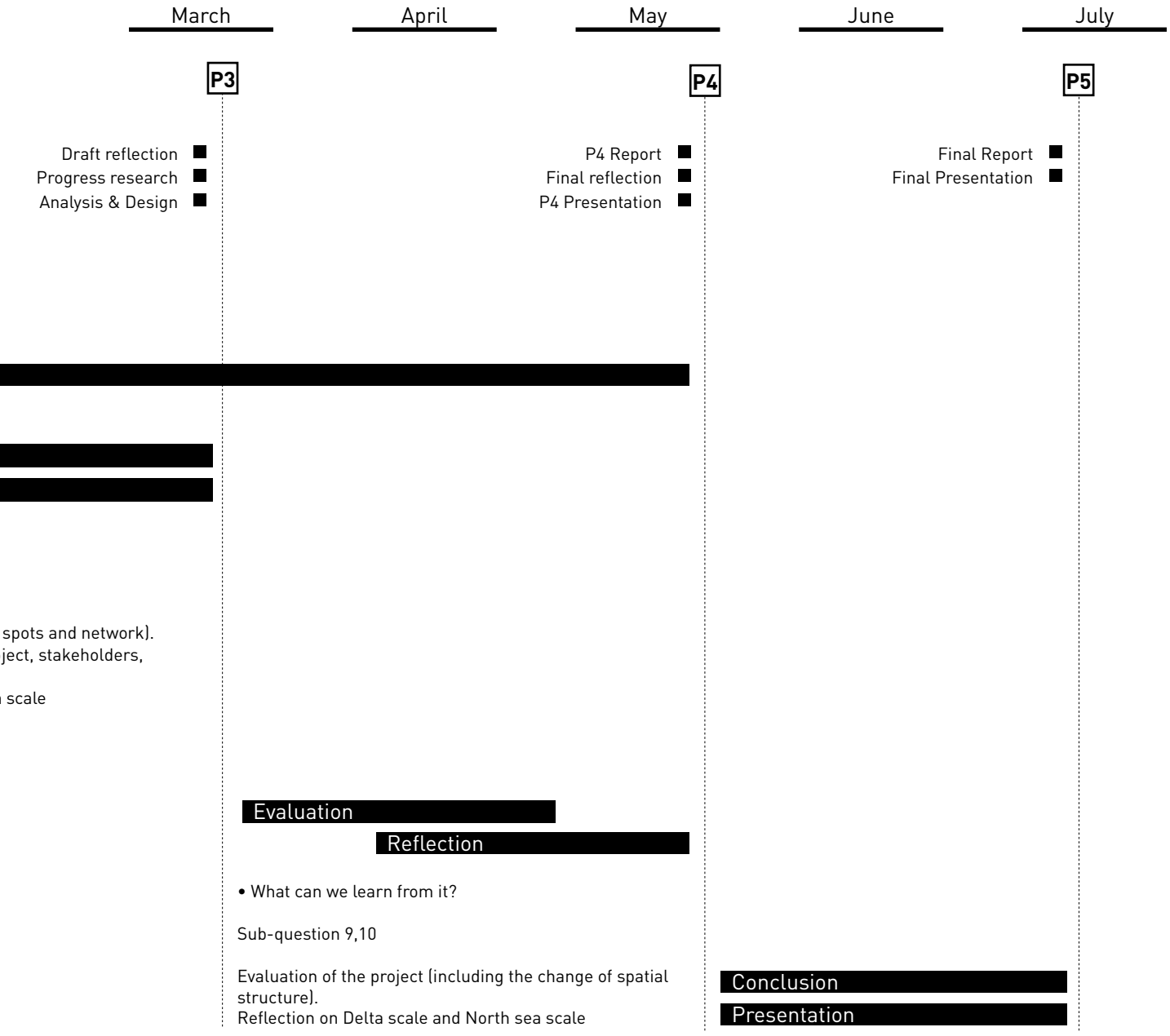
Regional Strategy

Spatial Intervention

- How do we apply them?

Sub-question 6,7,8

Vision map in the town scale (including district,
Phasing map of the Vision (including action, pro
policies etc.).
Collage of the spatial intervention in the human


March
April
May
June
July
P3
P4
P5
Draft reflection
Progress research
Analysis & Design
P4 Report
Final reflection
P4 Presentation
Final Report
Final Presentation
spots and network).
ject, stakeholders,
scale
Evaluation
Reflection
• What can we learn from it?
Sub-question 9,10
Evaluation of the project (including the change of spatial structure).
Reflection on Delta scale and North sea scale
Conclusion
Presentation

2
Research Approach

Relevance

Social Relevance

From a societal perspective, this research aims at a better understanding of the relationship between human and landscape and the integration of historical landscape research with urban planning, landscape design, and public participation in local and regional developments. Half of the world population lives in delta regions that are under increasing threats, all of which is under further pressure from global warming. Indeed we need hard engineering structures to protect the built-up areas, However, long and short-term problems related with the use of structural resistant measures are evident today. There is now an opportunity to re-evaluate and creat a new harmonious relationship between human and landscape.

The Dutch area was selected, since it is a representative in the Netherlands that the dynamic natural landscape is under control of the flood defense infrastructure which also cause long term problems. It is lies at the transition from port harbor to agriculture harbor and then to recreation harbor. Thus, it requires a transformation of the landscape, which involves the recognition that all types of space are valuable, not just the privileged spaces of more traditional infrastructure, parks and squares, and they must therefore be inhabitable in a meaningful way (Mossop, 2006). This thesis provides an theoretical and implement exploration to rethink the meaning of landscape, proposing a transformed model to reduce the reliance or water on hard-engineered reservoirs, and to merge infrastructure and landscape as vessels of collective life, and must function and be acceptable in order to enhance the quality of the landscape (Shannon & Smets, 2010), so as to prepare the territory ready for the development of recreation and tourism, as well as adapt the spatial framework towards more sustainable and resilient future.

Academic Relevance

From an academic point of view, this research is a reaction to the increasing reductionism in landscape research, as well as to the growing divide between objectivist and constructivist approaches to landscape.

Through the historical analysis, we can see that the meaning of landscape change over time. During the Rome time, the development of this delta region is largely influenced by it's geographical location and dynamic natural landscape. Currently, the urban development of the delta cities have been greatly influenced by the water infrastructure. Especially after 1953, when people started to construct the regional flood control system.

This research and design project will contribute to how local communities have organized and translate the landscape over time. The research for the thesis and a comparison analysis are on two main theory which explore meaning in the landscape, Landscape Narratives and Landscape Biographies. They distinguishes the design factors and forms which reveal meaning. The common idea is telling a story. This research led the inquiry of storytelling as an approach to the design process and design.

In my opinion many projects would profit from the awareness of the complexities of the history of the landscape. In restoration of buildings or gardens, it has become almost a standard procedure to keep different time periods visible in the new layout. However, in landscape planning, this is still rare. Admittedly, there exists a 'layer approach' that is popular in Dutch planning, but this distinguishes functional layers (a Braudel-like division into a slowly changing substratum, faster changing networks and even more dynamic occupation patterns) rather than historical layers (Van Schaick & Klaassen, 2011).

2
Research Approach

Ethical Paragraph

In this project, the ethics contains two aspect toward human and landscape respectively. Firstly, Understanding actors' values is crucial to the development of landscape change. Be that as it may, as a designer, I will struggle for tools to facilitate discourse on public values related to landscape change. Accordingly, this paper responds to urgent needs to define planning processes that represent the values of actors, and lead to landscape changes that maintain and enhance the sustainability of place. It does so by exploring narrative as a form of design aimed at engaging citizens in the planning process. Findings from a study incorporating these techniques are used to show the merits of this participatory form of inquiry. The use of story telling, unlike traditional public engagement techniques, allows the landscape-change process to be situated within the social meanings relevant to a community.

Secondly, with the line between human and natural environments becoming increasingly blurred, we should also ethically design with landscape. As we see in this project, the human intervention in the Brouwersdam area protected the Southwest Delta from the flood. But also caused many ecological problems for this area. Therefore, human intervention in this project should aim to enhance ecosystem services instead of attempting to restore to a certain point in history. As designer should explore how restoration might work in the face of an uncertain future, considering the challenges of climate change, extreme weather events, new hydrological conditions, nutrient loading, and invasive species.The historical precedence should remain the primary guiding influence for ecological restoration. Also, restoration targets should be flexible and dynamic, and all restoration projects should be treated as experiments to generate new data.

3
Theoretical Framework

The landscapes in the Netherlands have changed their meanings during the long time. Many landscapes that are now valued for their ecological or historic qualities were once the scenes of hard work by struggling people. Historic city centers that are now favored living spaces for young urban professionals were deteriorated only one or two generations ago and were poor, dirty and noisy a century ago. As the meaning of landscape change over time, how can the landscape of the past be made operational in future strategies for protection, management and development become a question. To answer this question, the author review two theory which explore meaning of the landscape, which is Jan Kolen, Hans Renes and Rita Hermans's Landscape Biographies, Matthew Potteiger and Jamie Purinton's Landscape Narratives. This review contributes to the analytical and theoretical framework of the research process and inquiry narritive as an approach to establish the relationship between landscape and actor in the design process grounded in the particularity of its landscape biographies, which provide wisdom and inspiration for making better future landscapes and offer a base for restoration.

3
Theoretical Framework

What is Ecotourism?

Ecotourism, a unique subset of the tourism industry is focused on the enhancement or maintenance of natural systems through tourism. Ecotourism means different things to different people. To some, it is the general term that encompasses nature-based, adventure, soft adventure, and cultural tourism. The term ecotourism was coined in 1983 by "Hctor Ceballos Lascurain" a Mexican environmentalist, and was initially used to describe nature-based travel to relatively undisturbed areas with an emphasis on education. Ecotourism guarantees the sustainable use of environmental resources, while generating economic opportunities for the local people.

The (International) Ecotourism Society in 1990: Responsible travel to natural areas that conserves the environment and improves the well-being of local people in 1996 by the World Conservation Union (IUCN) which describes ecotourism as: Environmentally responsible travel and visitation to natural areas, in order to enjoy and appreciate nature (and any accompanying cultural features, both past and present) that promote conservation, have a low visitor impact and provide for beneficially active socio-economic involvement of local peoples (Joshi, 2011)

Ecotourism tries to raise environmental consciousness by exploring ecology and ecosystems and by providing environmental type experiences. Taking part in ecology actively and getting first hand impressions of how ecosystems work influence peoples' ways of thinking, which finally raises awareness of conservation and protection (Ecotourism – Sustainable Tourism in National Parks and Protected Areas, 2005). According to Patterson (2002), characteristics of an ecotourism business are that it:

1. Have a low impact upon a protected area's natural area's natural resources and recreation techniques.
2. Involve stakeholders (individuals, communities, ecotourists, tour operators and government institutions) in the planning, development, implementation and monitoring phases
3. Limits visitation to areas, either by limiting group size and/or by the number of groups taken to an area in a season
4. Supports the work of conservation groups preserving the natural area on which the experience is based.
5. Orients customers on the region to be visited.
6. Hires local people and buys supplies locally, where possible.
7. Recognizes that nature is a central element to the tourist experience.
8. Uses guides trained in interpretation of scientific or natural history.
9. Ensures that wildlife is not harassed.
10. Respects the privacy and culture of local people.

According to Chesworth (1995), Ecotourism has six characteristics. These are: a) ecotourism involves travel to relatively undisturbed natural areas and/or archeological sites, b) it focuses on learning and the quality of experience, c) it economically benefits the local communities, d) ecotourists seek to view rare species, spectacular landscapes and/or the unusual and exotic, e) ecotourists do not deplete resources but even sustain the environment or help undo damage to the environment, and f) ecotourists appreciate and respect local culture, traditions, etc.

It focuses primarily on experiencing and learning about nature, its landscape, flora, fauna and their habitats, as well as cultural artifacts from the locality. A symbiotic and complex relationship between the environment and tourist activities is possible when this philosophy can be translated into appropriate policy, careful planning and tactful

practicum (Rahman, 2010).

While the details vary, most definitions of eco-tourism boil down to a special form of tourism that meets three criteria:

1. Conservation of both cultural and natural heritage

2. Conservation of essential ecological system

3. Can be profitable and self-sustained for the long term developmen

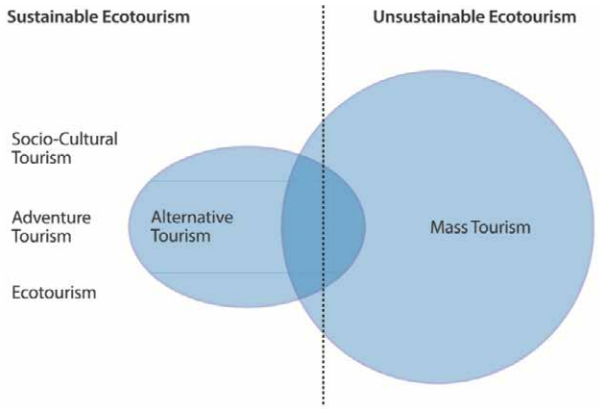


Figure 1. Conceptual model of tourism (Eriksson,2003)

Characteristics of mass tourism	***Characteristics of ecotourism***
Large groups of visitors	*Small groups of visitors*
Urban	*Rural*
Touristic general marketing activities	*Eco-marketing activities*
Average prices for purposes of market	*High price with purpose of filtering the market*
Impact on natural environment	*Little impact on the natural environment*
Advanced control options	*Limited possibilities of control*
Management based on macroeconomic principles	*Management based on local economic principles*
Anonymous relationship between visitors and local community	*Personalized relationships between visitors and local community*
General development goals	*Local development objectives*
Behavior-oriented leisure activities/entertainment, opponents to education and training actions	*Loyalty in the process of training and education for appropriate conduct for the natural environment*
Intensive development of tourism facilities	*Reduced development of tourism facilities*

Table 1. Distinct characteristics between mass tourism and ecotourism (Dorobantu & Nistoreanu, 2012)

3
Theoretical Framework

Case study : **Lecce**

The case study of Lecce has the aim of highlighting the potentials of ecotourism for the development of the region, depending on their applicability and conditions. Lecce is one of the most successful examples of ecotourism in the region. Renown worldwide, for the past years the resort has welcomed celebrities and hosted the most famous events.

Lecce locate in the south of Salento, which is in the south eastern end of Italy. It is now growing like a sprawl city: a dispersed city where recent industrial districts are mixed up with an ancient mediterranean villages and towns pattern, characterized by single-family detached houses expansion. A good percentage of them are barely legal.

Lecce city is considered to be one of the most interesting tourist destinations in southern Italy due to its rich cultural heritage: a sort of perfect delirium of architecture, light, colors, allegories and symbols. The explosion of baroque is joined by the renaissance elements and the magic appeal of the Norman period. Gems in the city are the churches, the amphitheater and the theatre, and the unique tangle of ancient streets, courtyards and mansions illuminated by the characteristic Lecce building stone. The Lecce is also a potential important tourist region due to its uncontaminated seashores and incredible landscape(Figure 1 and Figure 2).

The city offers a broad range of cultural services, which have given rise to new entrepreneurial forms of urban governance in the cultural sector, but continues to be stressed by sustainability issues (pertaining to transport, waste and quality of life), which represent the major challenges of its future. The major issues for Lecce, as for southern Europe, are obviously the modernization of society and economic growth, but also the preservation of its landscape and its heritage sites.

The present dispersion of residential and industrial settlements and the intensive use of the coasts for tourism need to be converted in a new kind of project for an efficient territory and an harmonic landscape. The now undergoing dispersion of the residential and industrial settlements and the intensive use of the coasts by tourism have to be transformed in a project of a new kind of efficient territory and of meaningful landscape.

Over the last ten years the municipal administration has focused on three main areas:

- town planning with a view to urban renewal
- promotion of cultural relations on an interregional and trans-regional level
- promotion of cultural heritage (exhibitions, events, conferences, etc.).

Taking into consideration the interaction between different regions and developing new methodologies for monitoring, planning and implementation of novel strategies, can offer solutions mitigating environmental pollution and non-sustainable use of available resources.

Energy saving and eco-friendly building approaches have become an important part of modern development, which places special emphasis on resource optimization.Planning has a key role to play in ensuring that these solutions, as well as new materials and processes, are incorporated in the most efficient manner.

Image 3-08: Costal area of Salento

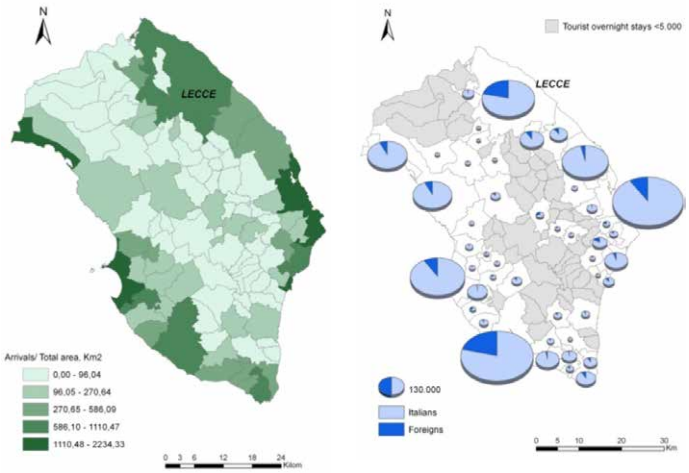


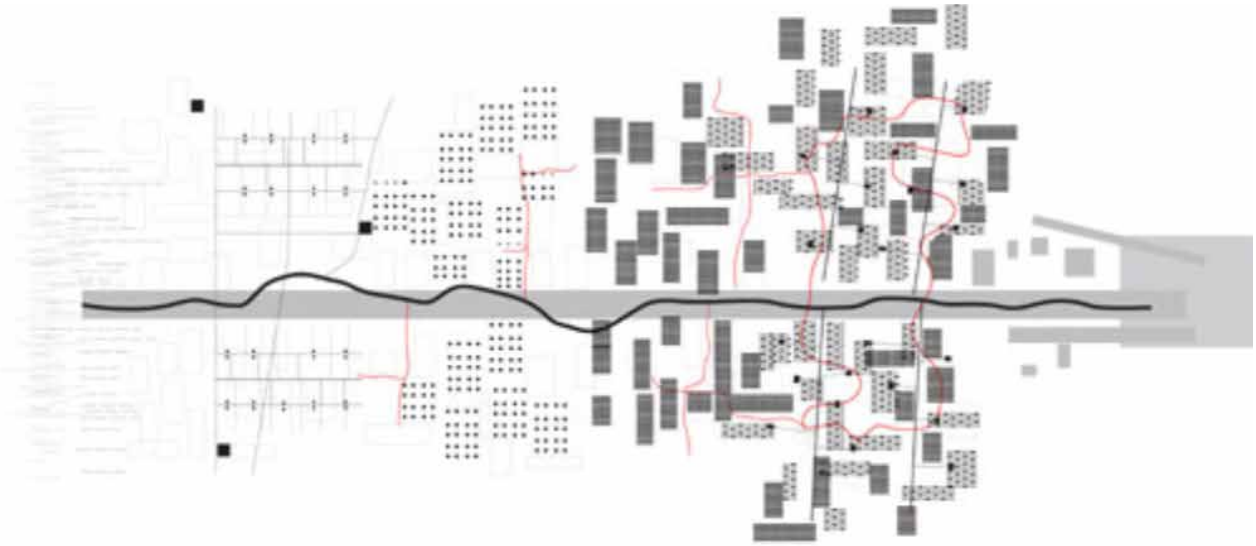
Figure 1(Left): Tourist density in Lecce city and province in 2011. Source: Puglia Region, 2011; Istat, 2011.
Figure 2(Right): Lecce and province overnight stays in 2011. Source: Puglia Region, 2011; Istat, 2011.

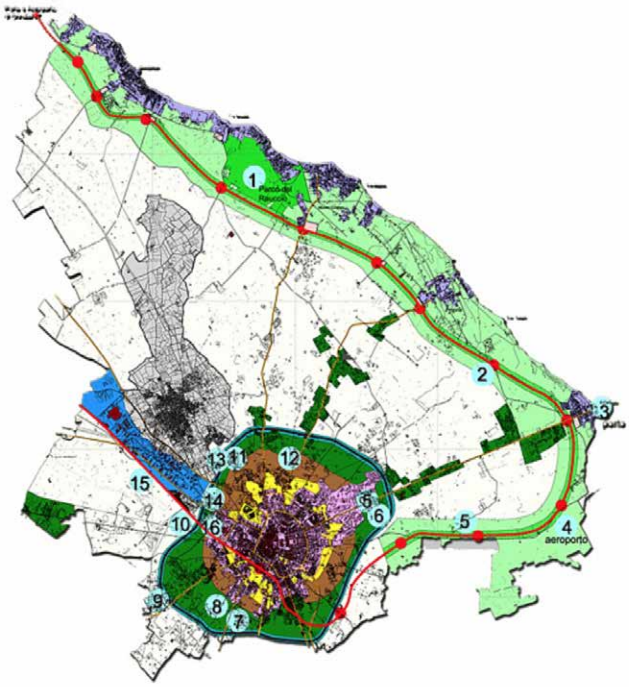
The success of this new economical model of Lecce has its roots in two points. The first is that it is important to have good relations with the local community and local territory. Inspired by the historical layout of the parceling of the fields, the plan creates a hierarchy among the old city, rural area, new possible building sites and the costal area. A secret garden in a walled secluded citrus grove gives space for a contemporary layer in this place of great historical value – in progress.

Secondly is the combination of a complete program and a clear mobility structuring it. The resort is, in fact, serviced by various facilities, from sport to gastronomy, covering all the tourism-related activities under a convenient infrastructure. The model of the resort would on one side solve the pragmatical issue of the accommodation. On the other side the economical model of the resort would contribute to the definition of Lecce as a touristic destination, giving strength to the still weak, but with great potential, economic sector of tourism.

The project proposes and alternative model of the resort typology integrated in the territory and interlaced with its local community and economy. On the other side the resort would gain in authenticity and involvement in the life of local communities and traditions.

In order achieve this scenario, the spatial model of the resort has to be dismantled and re-distributed. The resort has to be physically integrated in the territory and spread across it. The resort has to be scattered in its program across the territory, upgrading the potential of further connections with the territory itself. Its mobility has to be structured following and upgrading the existing territorial infrastructures according to the qualities of the landscape.

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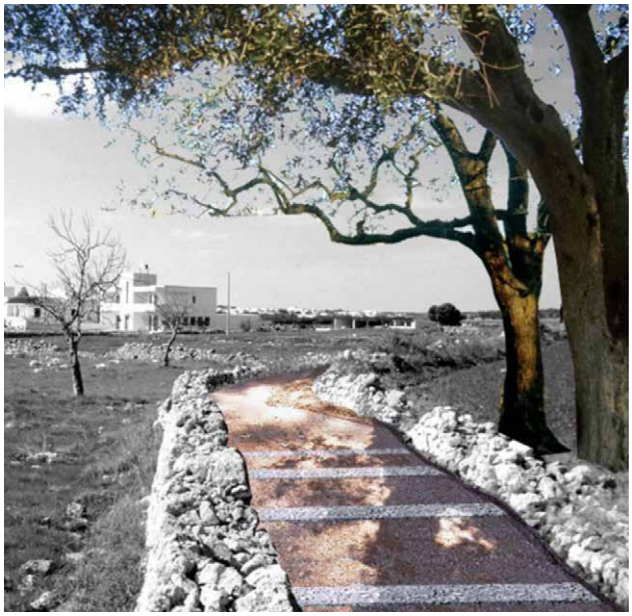


3
Theoretical Framework

Ecotourism Principle

Many groups have proposed sets of guidelines or principles for sustainable tourism and ecotourism. Ecotourism is a sustainable version of tourism in natural areas, including at the same time elements of rural and cultural tourism. Besides subscribing to the principles of sustainable tourism, ecotourism has specific principles: it contributes actively to the conservation of natural and cultural heritage, it includes local communities in planning, development and operation activities, and it contributes to their welfare, it involves complete and interesting explanations for visitors, regarding the natural and cultural resources, it is intended mainly to individual visitors and also to small organized groups (Sâmbotın et al, 2011). According to Buchsbaum 2004; in many ways, sustainable tourism exemplifies the relationship between ecotourism and sustainable development. Many groups have proposed sets of guidelines or principles for sustainable tourism and ecotourism Tourism Concern and the World Wildlife Fund for Nature developed a wellknown list of principles and guidelines in 1991, which are presented in Table 4.

These criteria include quantification of environmental performance for most of the key environmental indicators. This allows recognition and encouragement of ecotourism product that makes measured environmental improvements which result in a more sustainable world.

According to Rome (1999); Ecotourism is one strategy for supporting conservation and providing income for communities in and around protected areas. It can contribute to economic development and conservation of protected areas by: *a) generating revenues that can be used to sustainably manage protected areas, b) providing local employment and c) inculcating a sense of community ownership.* However, without careful planning and management that balance ecological, social, and economic objectives, it may lead to environmental damage. Furthermore, envisioned as a positive approach towards sustainable development, unplanned or poorly planned and implemented tourism can have serious negative effects, offsetting the benefits it was designed to provide. Even the potential local benefits of ecotourism can lead to environmental damage to a protected area.

The core set of eight principles are that ecotourism product should: (The Green Globe 21 International Ecotourism Standard , 2004)

1. Focus on giving visitors the opportunity to personally and directly experience nature (Natural Area Focus);
2. Provide opportunities to experience nature in ways that lead to greater understanding, appreciation and enjoyment (Interpretation);
3. Represent best practice for environmentally sustainable tourism (Environmental Sustainability Practice);
4. Contribute directly to the conservation of natural areas (Contribution to Conservation);
5. Provide ongoing contributions to the local community (Benefiting Local Communities);
6. Be sensitive to, interpret and involve the culture/s existing in the area (Cultural Respect);
7. Consistently meets consumer expectations (Customer Satisfaction) ; and
8. Be marketed and promoted honestly and accurately so that realistic expectations are formed (Responsible Marketing).

1. Using resources sustainably	*The conservation and sustainable use of resources (natural, social, cultural) is crucial and makes long-term business sense by using resources sustainably*
2. Reducing over consumption and waste	*Reduction of over-consumption and waste avoids the costs of restoring long-term environmental damage and contributes to the quality of tourism*
3. Maintaining Biodiversity	*Maintaining and promoting natural, social, and cultural diversity is essential for long-term sustainable tourism, and creates a resilient base for the industry*
4. Integrating tourism into planning	*Tourism development which is integrated into a national and local strategic planning framework and which undertakes environmental impact assessments, increase the long-term viability of tourism*
5. Supporting local economies	*Tourism that supports a wide range of local economic activities and which takes environmental costs and values into account, both protects these economies and avoids environmental damage*
6. Involving local communities	*The full involvement of local communities in the tourism sector not only benefits them and the environment but also improves the quality of the tourism project*
7. Consulting stakeholders and the public	*Consultation between the tourism industry and local communities organizations and institutions is essential if hey are to work alongside each other and resolve potential conflicts of interest*
8. Training Staff	*Staff training which integrates sustainable tourism into work practices, along with recruitment of personnel at all levels, improves the quality of the tourism product*
9. Marketing tourism responsibly	*Marketing that provides tourists with full and responsible information increases respect for the natural, social and cultural environments of destination areas and enhances customer satisfaction*
10. Undertaking research	*Ongoing research and monitoring by the industry using effective data collection and analysis is essential to help solve problems and bring benefits to destinations, the industry and consumers*

Table 4. Principles for Sustainable Tourism (Blamey, 2001).

DESIGN PRINCIPLE OF ECOTOURISM

Principle 01 : Cultural and Natural Respect
Make use of the culture and nature resource existing in the area to develop Ecotourism. The sustainable use of resources -natural, social, cultural, -is crucial and makes long-term business sense by using resources sustainably.

Principle 02 : Maintenance of the ecosystem
Maintaining Biodiversity and promoting natural, social, and cultural diversity is essential for long-term sustainable tourism.

Principle 03 : Develop resort projects for environmental education
Provide opportunities to experience nature in ways that lead to greater understanding, appreciation and enjoyment by interpreting the different typology of natural and cultural heritage.

Principle 04 : Involving Local Communities in the ecotourism plan
Includes local and indigenous communities as well as their culture, lifestyle in its planning, development and future growth, and contributes to lasting local economic development and creates permanent jobs for local people.

Principle 05 : Supporting local economies
Ecotourism should supports a wide range of local economic activities and which takes environmental costs and values into account, both protects these economies and avoids environmental damage, like villa, restaurant, hotels, etc.

Principle 06 : Marketing ecotourism responsibly
Sharing of all socio-economic benefits with local communities and indigenous peoples by having their informed consent and participation in the management of ecotourism enterprises. Contribute directly to the conservation of natural areas and prosperity of the community in the long term.

Principle 07 : Upgrade the mobility system
Increase the accessibility of the touristic destination. Encourage the use of public transport.

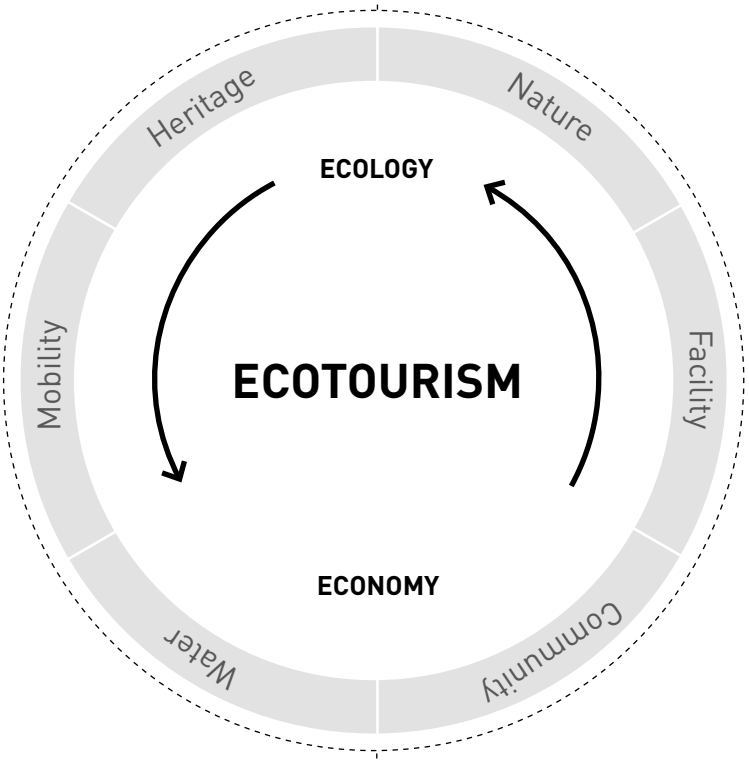
Principle 08 : Encourage environmentally friendly transport mode for ecotourism
Encourage the use of public transport, bike, pedestrian as the main way to develop the touristic route to enhance local economies and identities, shape spaces and structuring territories.

Principle 09 : Maintenance of the quality of fresh water
Recover the water quality and avoids the costs of restoring long-term biodiversity. Contributes to the spatial quality of ecotourism.

RELATIONSHIP BETWEEN ECOTOURISM AND PROJECT OBJECTIVE

Finances the establishment and maintenance of prodected areas
Contributes to lasting local economic development
Profits esrned retained within local communities
Creates permanent jobs for local people

Economy



Ecology

promotes environmental protection
provides environmenta education
increases public environmental consciousness
encourages donations to contribute to the protection of local natural resources

3
Theoretical Framework

Landscape Biography

One of the most promising ways to bridge the past landscape with the future is the concept of the cultural biography of landscapes. Landscape biographies show focuses on the material landscape and is more of an implementation method (Clark, 2004). Based on the geographical ideas of geographer Samuels and anthropologists Kopytoff and Appadurai, a group of Dutch researchers has further developed and tested the idea that cultural landscapes bear the multilayered imprint of numerous generations of human "authors". For a thorough understanding of these landscapes, we should not only investigate the physical remains, but also the social backgrounds and cultural history of their authors (Palang, 2011).

From this point of view, the landscape biographies mainly talk about three main issues (Renes, Rita and Jan, 2015). Firstly, there is an author on landscape. Individual perception of the landscape is key. The influential authors of the city do not necessarily include urban planners and developers, whose abstract view of urban space and 'celestial eye' have turned them into voyeurs with little or no impact on the actual experience of the lived-through urban environment (Renes, Rita and Jan, 2015). This dimension is reflected in personal feelings and behavior, as well as in more sublimated forms in literature, music, art and other forms of creative expression of the human mind. It centers mainly on authenticity and genuineness. To meet the real authors of the urban world we should descend to street level and to the everyday life that takes place there (Renes, Rita and Jan, 2015).

Second, cultural landscape and natural landscape are inseparable. That means we must be wary of falling into the trap of a radical constructivism, one which ultimately reduces all nature to human proportions, to the sum of our cultural notions to a set of ideas. A constructivist view of landscape, which allows no room for human-nature interactions and for landscape as a 'real world' phenomenon is just as undesirable as an essentialist nature that supposedly exists entirely outside culture. We should therefore ask ourselves whether it is possible to envision landscapes, including their authorship, in order to circumvent the dualism between nature and culture (Renes, Rita and Jan, 2015).

Thirdly, there is the physical landscape take 'shape' in rhythms, transformations, layers and memories in different period. Landscapes have their own temporalities and rhythms, in relation to but distinct from individual human life cycles. It seems evident, therefore, that 'time', and more particularly 'lifetime', should be considered the core business of landscape biography (Renes, Rita and Jan, 2015). The physical change of landscape influence all the invisible norms, values, meanings and attitudes which surround it.

During the last decade, several research teams have tried to develop regional landscape biographies in several parts of Netherlands, combining geological, archaeological, historical, geographical, linguistic and anthropological approaches. Based on the context of Dutch landscape, the study of landscape biography shows three main characteristics.

Firstly, the main goal of Dutch studies is to explore the long-term dimension of transformations in physical landscapes from prehistory up to the present. The landscape at different time is the outcome of the complex interplay between the history of mentalities and values, institutional and governmental changes, social and economic developments and ecological dynamics.

Secondly, there is a strong sense of the multilayered

nature of landscapes. All landscape transformations necessarily involve a reordering, reuse and representation of the past which gives landscape development an almost non-linear character (Kolen, 1995, 2005; Roymans, 1995). In this way, places and landscapes play an active role in the biographies and genealogies of people, binding persons and generations together, while at the same time creating their own life histories at different time scales through successive social contexts.

Thirdly, since dutch approach to landscape biography does not make a sharp break between past and present, present-day heritage practices and related landscape discourses are also studied from this perspective. This implies that heritage is always the dynamic work of people, with processes of cultural transmission and the construction of values and identities being inextricably bound up with one another.

Besides the critical interactions between the three issues mentioned above, one the most promising aspects of these biographies has been the interaction between expert knowledge and local knowledge (Elerie and Spek, 2010). Compared with scientific knowledge, local knowledge is more individually based, more mixed with emotion, more locally than regionally determined, and more focused on a short-term genealogical perspective of one or two generations than on the diachronic development of centuries. Local knowledge also consists of a mix of historical facts, historical narratives (anecdotes, legends, folk tales), images, and meanings associated with certain individuals or groups. This is also reflected in the landscape biography which reveals both the continuous biographical timeline of the scientists, and the more place-oriented, unique individual narratives and meanings of residents and other local experts (Elerie and Spek, 2010).

Figure 3-01 (upper image): Ground plan of the Iron Age urnfield of Someren, showing dense clusters of small barrows enclosed by ditches.
Figure 3-02 (down image): Multiple generations of shifting farmhouses (dark grey rectangles) from the Early/ Middle Iron Age at Someren, south Netherlands.
Scouce: Roymans N, Gerritsen F, Van der Heijden C, et al. Landscape biography as research strategy: The case of the South Netherlands project[J]. Landscape research, 2009, 34(3): 337-359.

3
Theoretical Framework

Landscape Narrative

According to the Oxford Concise Dictionary, "Narrative is a spoken or written account of connected events in order of happening", or "the practice or art of narration". Ricoeur (1981) states that narrative combines two dimensions, one a temporal sequence of events and the other a non-chronological configuration, that organize narrative into spatial patterns. Narrative or story telling is a linguistic form which people use to understand the world about them (Polkinghorne, 1988, 1995). For these reasons, narrative is widely used in design. New application of narratives in rural study are also proposed by Soliva (2007), by whom the four ideal types of narrative, wilderness narrative, modernization narrative, subsistence narrative and endogenous development narrative, were constructed and used for rural study. Those types of narrative also are viewed to reveal the diverse views, values and assumption of stakeholders regarding changes in landscape, land use and biodiversity (Soliva, 2007).

In 1998, Matthew Potteiger and Jamie Purinton argued that narratives exist in the landscape as well, and they attempt to apply narrative theory to their designs. Based on their book ← Landscape Narratives: Design Practices for Telling Stories→, landscape is much more than a setting for a story; it can develop stories and be part of stories as a character or event (e.g. in case of a changing landscape). Narratives have an important role in place-making; people attach certain meanings to the space, creating a valuable environment. With narratives people are also shaping their environment. As Potteiger and Purinton (1998) state, the term 'landscape narrative' designates the interplay and mutual relationship that develops between landscape elements and narrative. Places and events contribute to stories altogether. In landscape narrative, metaphor, metonymy, synecdoche, and irony are regarded as the four major tropes (Potteiger and Purinton, 1998).

Landscape narratives are classified into several types such as 'narrative experiences', 'association and references' and 'memory landscapes' (e.g. interpretive landscapes and storytelling landscapes) (Potteiger and Purinton, 1998). They reflect different ways of thinking of the landscape. Association and reference need not necessarily be memory landscapes, but some elements in a landscape should become connected with experiences, events, history or other form of narrative. However, interpretive landscape is a landscape that has elements and programs that tell what happened in a certain place. Storytelling landscapes are usually places designed to tell specific stories with explicit references to plot, scenes, events characters, etc. (Potteiger and Purinton, 1998).

There are two ways to turn landscape narrative into real design practices. The narrative can use explicit storytelling landscapes to convey messages and to create or constitute the landscape embodiment of collective human memory, or it can be already implicit in landscapes as inscribed by natural processes and cultural practices (Potteiger and Purinton, 1998; Rakatansky, 1992). Landscape narratives are produced across three related realms: 1. the story 2. the context and 3. the discourse. The story realm is an analyzable system of meaning created by the structuring elements within the world of the story. The contextual or intertextual realm describes the role of individual readers and communities in the production of narratives. The third realm of discourse attends to whose story is told, what purposes it serves and what ideologies inhere in the telling.

Potteiger and Purinton apply this framework to

interpreting the narrative construction of one place, the Crosby Arboretum in Mississippi. To link the practices of making landscapes to narrative practices requires an expanded notion of text, of the role of readers in producing meaning, as well as recognition of landscape as a spatial narrative shaped by ongoing processes and multiple authors. This story began with the designers reading of the existing ecological narrative, and "letting the site reveal itself". The designer lived on the site for four years and learned how to read plant signatures and how certain species extend their range. He also cut a grid through the vegetation to reveal how these subtle changes occur along a "moisture gradient". The design then retells the region's ecology by reestablishing the structural combinations of plants in relation to process. The series of "journeys" that structure the narrative sequence weave through the region. Rather than explaining in words, these design devices structure ways of reading signatures and signs in landscape. Meanwhile, the site is in the process of becoming a complex narrative of ecological time. This case argue for design strategies that create landscapes which offer open ecological and cultural narratives, rather than the closed 'scripted' spaces of theme parks.

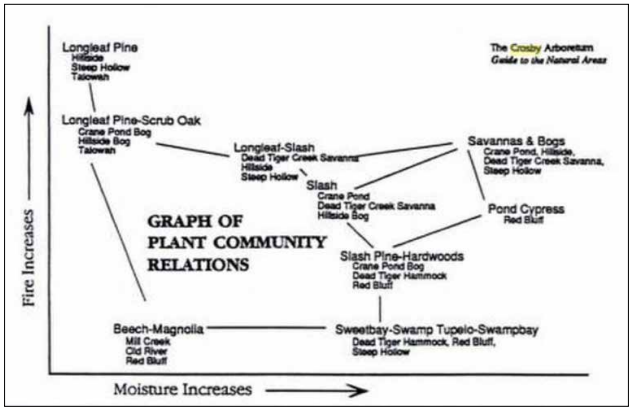


Figure 3-03 (upper image): "Plotting" of the complex relationships between water, fire, and plant communities. These relationships can be found on different sites dispersed throughout the Pearl River Basin and miniatuurized in the design of the Pinecote Interpretive Center.

Figure 3-04 (down image): The Pinecote Pavilion overlooking the pond. The stepped edge of the roof imitates the density and gradations of the forest edge.

Scouce: Potteiger M, Purinton J. Landscape narratives: Design practices for telling stories[M]. John Wiley & Sons, 1998.

3
Theoretical Framework

Conclusion

Lessons from the past help to build the future landscapes

Landscape Biographies is an approach to generate story lines about the ways in which local communities have translate and organized the landscape over time in history. During that process, landscape receive new functions, physically transformed and change their meaning. By looking at landscapes in this way, the emphasis is no longer on the origins of landscapes and landscape features, but on their life histories. Unlike Landscape Biographies mainly focus on the historical layers, Landscape narratives provide an approach for establishing meaning in the landscape by designing the interplay and mutual relationship between landscape and people. When they are introduced into design strategies they must relate to the biophysical and cultural context of the landscape. It is through narrative that we interpret the processes and events of place.

Even though these two theories show some difference in research objective, both share some similarity in the research approach. Both authors criticize the importance of actor and materiality of landscape to understand or design the meaning of landscape. On the one hand, landscape is perceived with all our senses, which makes them tangible. It is not only designer, but also user influence the meaning or value of landscape. With the threat landscape evolving and attacks becoming more sophisticated, having time to stop and think about the actor behind them can largely benefit the future development. On the other hand, landscape is a living, material phenomenon as well as a cultural ideal. Landscape should be used as container for a large variety of artifacts and gives them a broader context and hence enhances their singular values to face the ultimate challenge of ensuring the material sustainability of life.

Moreover, these two theories both share the same value in helping us understand landscape. Landscape biographies help us understand the meaning of landscape through the study of the physical layer, actors and events. Although landscape narrative is a form of imaginative projection, its role is to help understand the new and unfamiliar by reference to the simple and familiar like what is mentioned in the project in Crosby Arboretum in Mississippi. It is not necessarily the case that past land uses should guide future ones; it might not even be desirable. But what is desirable is knowledge about the history of the landscape to inform planning and management and to facilitate public involvement.

Conclusion

Globalization has resulted in a great diversity of sustainable landscapes. Those have a better legibility and give a clear character and identity to place and region. Landmarks and symbols are necessary ancestral roots. Also, they contain many forgotten lessons and landscape structure is crucial for the maintenance of diversity, both biodiversity and cultural diversity. These landscapes are a source of essential (barely studied) knowledge about sustainable management techniques. They possess unexplored wisdom and inspiration for making better future landscapes and offer a base for restoration. The underlying message of the articles in this issue is that the power of narratives can be used to enrich our understanding and design of the phenomena of landscape, but that such use must be firmly grounded in the particularity of biographies. Landscapes of the past cannot be brought back, but ways how valuable elements and areas can be preserved and become embedded functionally in the modern urbanized and globalized society must be studied.

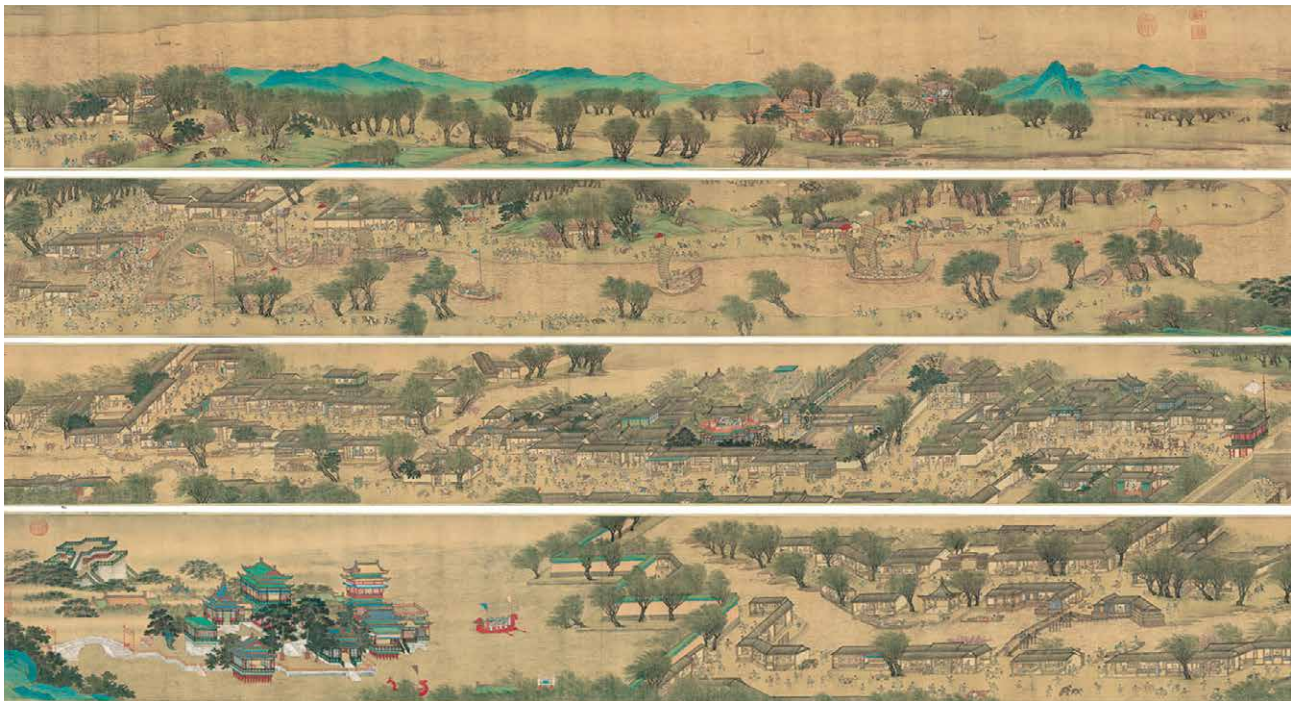


Figure 3-06: Along the River During the Qingming Festival, 12th-century original by Zhang Zeduan

In the past century, urbanisation in europe is mainly influenced and guided by the development of technology. In recent years, there is some voice to transfer the objective of urban design from technical advance to the cultural and social issues. This painting shows a variety of landscapes, occupations, building, cultural activities, and people. All of them make up endless combinations, permutations and variationswhich not contribute to a perfect honeycomb but a vibrant city. It can be a lessen for designer to learn in order to design from the culture point of view.

Scouce: https://en.wikipedia.org

DESIGN PROCESS OF ECOTOURISM

RESEARCH

SITE DIAGNOSE

Statement of Development Philosophy
- 3X3X3Analysis
- Trends
- Program
  - Agriculture
  - Harbour
  - Recreation

Pre-assessment
- Potential
- Challenge
  - Ecology
  - Hydrology
  - Socio-Economy

Research Question and Objectives
- Research Question
- Project Objective
  - Economy
  - Ecology
- Methodology

DESIGN PRINCIPLE

Ecotourism
- Definition
- Pricinple
- Case Study
  - Lecce

Theory
- Landscape Biography
- Landscape Narritive
- Landscape Gradients

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Sub-Question 01
How is the development of current tourism? How does people make use of the landscape for the development of tourism?

Sub-Question 02
What is the potential of Dutch Southwest Delta for the development of ecotourism?

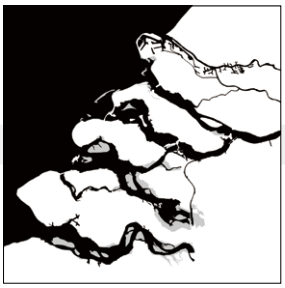
Sub-Question 03
How does the development of current tourism influence the ecosystem? What is the challenge for the development of ecotourism?

RESEARCH QUESTION
"How to rethink Brouwersdam area as an opportunity to develop eco-tourism, that in an integral process improve the sustainability of Ecology and Economics in Dutch Southwest Delta?"

Sub-Question 04
What design principle could be introduced to create conditions for the development of ecotourism?

Sub-Question 05
What theory could be introduced to help the analysis or design process of ecotourism?

DELTA SCALE



TEST

Methodology

- (M) Mapping
- (S) Sketching
- (MO) Modeling
- (L) Literature Study
- (C) Case Study
- (P) Policy Study
- (V) Site Visit
- (ST) Statistics
- (T) Transect
- (I) Visionary Images

PROJECTS PLANNING / DESIGN

APPLICATION

EVALUATION

Site Analysis

- Landscape
- Community
- Infrastructure

(M) (MO) (T) (I)

Sub-Question 06
How can the existing landscape, community and infrastructure be transferred to the spatial element for the regional planning of ecotourism?

Synthesis

- Design Concept
- Implementation Phases
  - Strategy
  - Actor
  - Selection of preferred Project Location

(M) (MO) (I)

Sub-Question 07
How to design a corridor and generate a well synthesized spatial development framework for the region? What strategy, phase, actors shall we study to achieve it?

Site Design

- Refinement of project Objectives
- Spatial intervention

(M) (MO) (I)

Sub-Question 08
What spatial intervention can we design in the local scale to achieve the design objective? What design principle in local scale shall we use?

Evaluation of development plan concepts

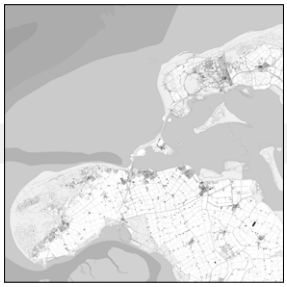
- Impact assessment
- Feasibility Study

(M) (P)

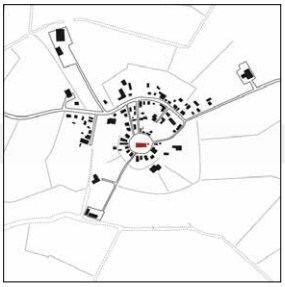
Sub-Question 09
What new spatial identity can we create of the region for contingency of landscape biography? And how can the development of ecotourism influence the ecology and economy in Brouwersdam area?

Sub-Question 10
How can the development of ecotourism influence the Southwest Delta and North Sea?

REGIONAL SCALE



LOCAL SCALE



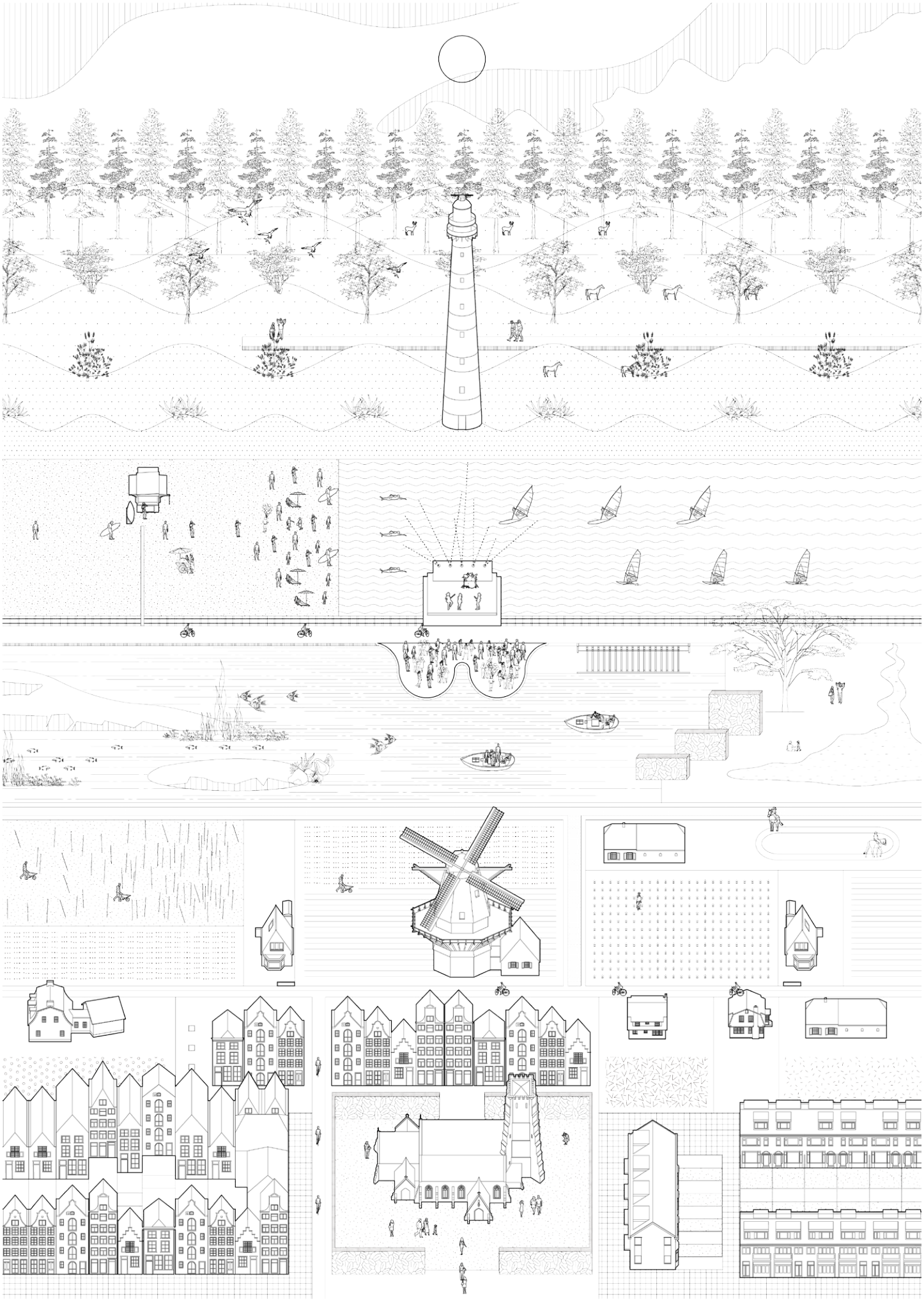
DELTA SCALE

Ecotourism: Bridging nature and urban

Over the past century, tourism has evolved to play a significant role in the regional economy and cultural identity of the Dutch southwest Delta. Yet, tourism practices are facing challenges from the declining ecology and shrinking economy. In response to the increasing appreciation of nature experiences, a new travel mode has arisen called ecotourism, which is distinguished by its emphasis on conservation, education, traveler responsibility and active community participation. Features of the local context in the Brouversdam region include several landscape typologies across the coastal area like dunes, beaches, salt lakes, polders, etc., make it an ideal place to study the opportunity for ecotourism.

In this project, ecotourism will work as a bridge to connect nature and urban. This bridge will extend through the most diverse area of different landscape to form a regional corridor of ecotourism across the Brouversdam region. This corridor, on the one hand, can explore the recreational and economic value of nature resources and provide a viable economic development alternative for local communities. On the other hand, it will still leave the nature and urban area independent of each other and increase the level of education and activism among travelers, making them more enthusiastic and effective agents of conservation.

To achieve that, a range of interventions and programs will be developed to support this corridor and addresses territory resilience. The existing landscape, buildings and infrastructure along the corridor - from parish church, water mills to lighthouse; from the forest, dune, polder to the spreading out of 'urban bush' - will be reused in flexible and polyvalent ways to minimize the built footprint on the ground. This space will be activated by developing sport events, alternative commercial enterprises, environmental education programs, entertainment, art and more empathetic activities which associated to the field of ecotourism.



4
Gathering Story

I'd like to think urban observation as the first step to the authenticity of urban change today as the narratives among indigenous people pass from one generation to the next. Therefore, in this chapter, we start with the observation to collect the story of the Brouversdam region.

Firstly, we need to have an overview of the Brouversdam region in terms of its social, economical, ecological , environmental change throughout the history. It will give us a basic understanding of the region and highlight the cultural identity of this region.

Secondly, we need a basic understanding of what we can make use of for the development of ecotourism. The observation of the gradients of landscape – marshes, dune, urban, polder, etc – becomes the foundation for the development of ecotourism in Brouversdam Region. Then by the transect analysis of landscape gradients, 16 patterns are concluded to show the relationship between different landscape. Combined with the landscape biography analysis, the potential cultural and ecological value of each patterns are assessed.

Thirdly, we need an understanding of the current development of tourism in Brouversdam Region. Popular notions are insufficient. Essential are understandings of how tourism functions; elements of supply including natural and cultural resources, transportation networks, program and their relationships.

Finally, we can make a conclusion by comparing the different patterns of landscape in terms of their potential value with the current economic value. Through these comparison, it is possible to discuss further the strategic plan of this region.

4
Gathering Story

Landscape Biographies

"The core of this set of ideas is the vision of landscape as an object that is handed over again and again from one generation of users to the next, in the process undergoing not only physical changes, but also changes in value and meaning."

—— < Landscape Biographies >
by Jan Kolen, Hans Renes and Rita Hermans

The landscape biographies mainly talk about three main issues (Renes, Rita and Jan, 2015). Firstly, who are the authors of the landscape? Individual perception of the landscape is key. The influential authors of the city do not necessarily include urban planners and developers, whose abstract view of urban space have little or no impact on the actual experience of the lived-through urban environment (Renes, Rita and Jan, 2015). This dimension is reflected in personal feelings and behavior, as well as in more sublimated forms in literature, music, art and other forms of creative expression of the human mind. To meet the real authors of the urban world we should descend to street level and to the everyday life that takes place there (Renes, Rita and Jan, 2015).

Secondly, are landscapes 'socialized nature'? In the landscape biographies, culture and nature are inseparable. That means we must be wary of falling into the trap of a radical constructivism, one which ultimately reduces all nature to human proportions, to the sum of our cultural notions to a set of ideas. A constructivist view of landscape, which allows no room for human-nature interactions and for landscape as a 'real world' phenomenon is just as 2015). Based on the view that nature is a boat for it culture, we should therefore ask ourselves whether it is possible to envision landscapes, including their authorship, to circumvent the dualism between nature and culture.

Thirdly, how does the temporal landscape take 'shape' in rhythms, transformations, layers and memories in different period? Landscapes have their own temporalities and rhythms, in relation to but distinct from individual human life cycles. It seems evident, therefore, that 'time', and more particularly 'lifetime', should be considered the core business of landscape biography (Renes, Rita and Jan, 2015). The physical change of landscape influence all the invisible norms, values, meanings and attitudes which surround it. Therefore, the physical layer of landscape must be studied in the landscape biography.

Based on the theory, then, I will anaysis the landscape biography of the Brouwersdan region from these three aspects:

1. Layout of the landscape
2. Representative spatial element of the landscape
3. Activity influenced by the landscape

PHASE 1 : **900AD**

It seems clear that those settlement territories that were abandoned in around 500–400 BC had initially been able to thrive on the loam-poor soils, but gradually had to contend with increasingly unproductive fields and a decline in the fertility regeneration levels of the soil, even with lengthy fallow periods. Although we cannot say with any certainty what vegetation then grew on the abandoned cultivated land, and how much of this was heathland, we know for a fact that these zones continued as uninhabited outlying areas from the Middle Iron Age until the period of large-scale heathland reclamation in the nineteenth century. As a consequence of the overuse of loam-poor soils by local communities during the Urnfield period, from the Middle Iron Age onward there was always a bipartite division in the structure of the landscape, with inhabited, cultivated zones on the one hand, and wastelands on the other. In large tracts of the southern Netherlands, these wastelands covered much bigger areas than intervening cultivated zones.

In the Roman period our study area was part of the Roman empire for several centuries. However, it remained a relatively peripheral rural area that was marginally affected by Roman urban culture and associated lifestyles. We observe a conservative adherence to indigenous traditions in the spheres of house building, mortuary rituals and agricultural practices. The system of shifting farmsteads had given way to a pattern of small hamlets of three to five clustered farmsteads with a stable location, but this trend had already started in the Late Iron Age. Travelers from southern regions would have qualified this cultural landscape as 'un-Roman'. This is not to say, however, that the inhabitants of the southern Netherlands were not integrated into the Roman empire or assumed an anti-Roman identity. Local communities seem to have developed their own, discrepant way of 'being Roman'. There was a strong tradition of providing recruits for the Roman army, which resulted in a considerable impact of the military variant of Roman culture via the mediating role of returning veterans.

Figure 4-01: Anti-Roman landscape before 900AD
Scouce: https://nl.wikipedia.org/wiki/Uddel

PHASE 2: 1300

In the Early Middle Ages, Christianity was introduced into the Low Countries in a slow process taking place over many centuries. We also know that in the initial phase changes in religious beliefs and in the associated lifestyle were largely confined to the elite, and that it took a long time for the rural population to make the new religion an integral part of their everyday lives. Through these activities Christianization also influenced the organization and interpretation of the landscape.

During the phase in which Christianity was probably still of limited importance to local communities on the sandy soils of the southern Netherlands, these communities were nevertheless already part of a system of large-scale land ownership and land exploitation in which ecclesiastical bodies played a key role. Much of the land was owned by monasteries and the Christianized nobility, whose power base was situated outside the area. An important strategy by which the nobility secured their own salvation and that of their descendants was to donate landed property to the church, although it is difficult to establish the extent to which this had an impact on the daily practices of local communities.

The High Middle Ages (11th–13th centuries) saw the emergence of a dense network of parish churches, with a cemetery attached to each church. One outcome was that the annual and weekly church calendar began to structure the lives of the rural population as well, and the church became the central location for key lifecycle rituals of individuals, in particular baptism, marriage and death. The church—particularly if it was built of tuff stone, or from the fourteenth century onwards of brick, and sported a church tower—became a focal point in the landscape, the symbol of the local community which thus defined itself as a Christian community. This visual message became more powerful in the Late Middle Ages when the wastelands were exploited with increasing intensity and the expanding heath vegetation created a more open landscape.

PHASE 3: 1850

However, the formation of a Christianized landscape was not just a question of adding Christian elements. It also entailed the removal of pagan elements from the landscape . In archaeological terms, a reasonable case can be made for the leveling of prehistoric barrows and urnfields, particularly in the High Middle Ages. This mainly occurred in the immediate vicinity of villages in landscape zones that were inhabited and cultivated. Although pagan relics situated further away from the church, in the wasteland zones, were left physically untouched, they became demonized, probably also from that time. This is the origin, according to this model, of associations known from later times of prehistoric funerary monuments with heathen powers (devils, witches, cats, dwarfs), which continued into the twentieth century. It is interesting to point out here that locations where criminals were executed, and sometimes also buried, were always situated in the wasteland zone during the Middle Ages, often on old prehistoric barrows ('gallow mounds'). Although of great economic importance for farming and later also for sheep farming and wool production, the wastelands became the un-Christianised periphery.

The thirteenth and fourteenth centuries (i.e.

Figure 4-02 : Christianized landscape between 1300-1500
Scouce: http://image.google.com/

somewhat later than in many other areas of Western Europe) were also the formative period of the villages as communally organized units with a certain administrative autonomy and a strongly developed consciousness of their own identity. The emergence of these villages as communities or geminate followed the disintegration of the Early Medieval manorial system and the related social organization.

We should realize ourselves that most of the ordering of the present rural landscape (in the cultivated inner zone as well as in the former wastelands) is the result of decision-taking and action within the framework of the communal organization of the villages since the Late Middle Ages. This includes activities in the sphere of local water management, road infrastructure, the regulation of the use of the common wastelands, and the exploitation of arable land in the form of large open-field complexes.

Figure 4-03: Industrilasation and Urbanisation in 1500-1800
Scouce: http://image.google.com/

PHASE 4 : 1950

In the nineteenth century the heath was frequently described as a desert to be traversed as quickly as possible in order to reach the oasis of cultivated land. Travelers found the endless brown expanses in the southern Netherlands silent and threatening, 'places of deathly desolation'. While this may have been the perception of urban dwellers, the heath had an important economic significance for farmers on the sandy soils. It was the area where they grazed cattle and sheep, cut heath sods for use in fertilizer, excavated sand, located their beehives and gathered fuel in the form of turfs.

The first two were the most universal and important activities, but they gradually declined in significance when farmers switched to buying cattle fodder and artificial fertilizer, especially after 1880. Artificial fertilizer was not yet widely used, however. Thanks to the growing quantity of fertilizer produced on the farmers' own land and the option of buying fertilizer, there were greater opportunities for heathland reclamation. At this early stage, however, reclamation was seldom carried out on a grand scale and generally involved the fringes of the heath, leaving the centers untouched. This was because the heathland continued to play a role in the agricultural system, albeit one of much reduced importance.

The technologies introduced or improved by the Heathland Reclamation Society included soil research, deep ploughing using bullocks and steam-powered vehicles, and the general application of artificial fertilizer. Initially, it was mainly on country estates that work was done in this way, but after the turn of the twentieth century farmers who no longer needed their heathlands began for the first time to establish completely new farms on the heath.

Greater accessibility through roads, drainage, the conversion of heathland to agricultural land and forest, and the establishment of new villages were all seen in relationship to one another.

PHASE 5 : 2017

It is interesting to note that the reclamation of the heathland before the Second World War went hand in hand with the promotion of the ideal of an Arcadian, Catholic society, while at the same time the disappearance of the heath and moors marked the end of a long tradition of giving meaning to these landscape elements from a pre-modern Christian cosmology.

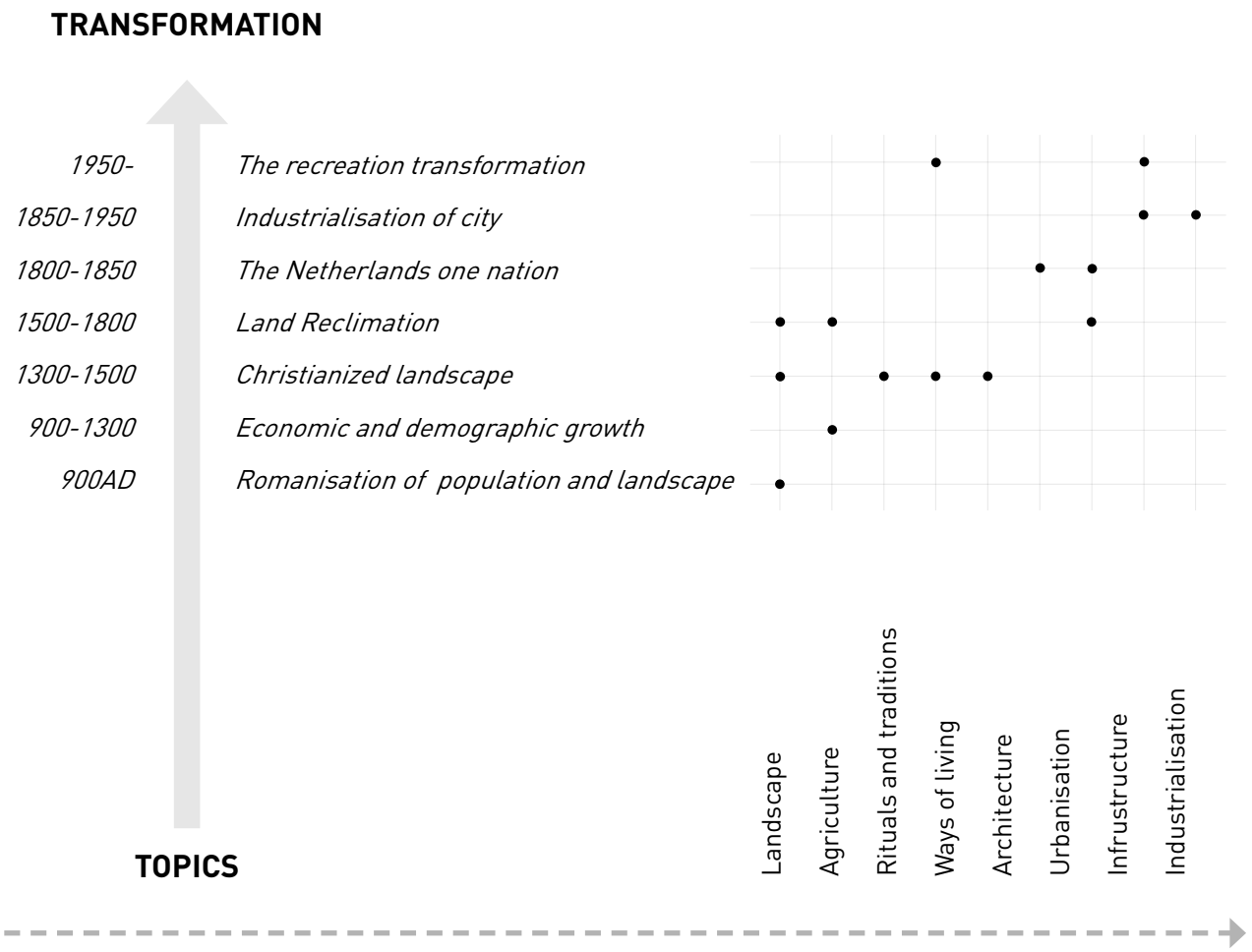
After the Second World War, when it became clear that rapidly increasing population—which had jumped from 559 000 in 1900 to 1 267 000 in 1950—could no longer be accommodated in the villages, the 'village mentality' continued to be a dominant force. It was decided to expand the existing towns in parish fashion, which meant that plans for new residential areas had to be based on a parish size of about 6000 inhabitants. Each area had to have a clearly defined territory, and the amenities there—with the church as the central element—had to be grouped in such a way that the inhabitants needed to go outside their own, familiar environment as little as possible. Single-family dwellings were given priority in the plans because this was where family life could best flourish.

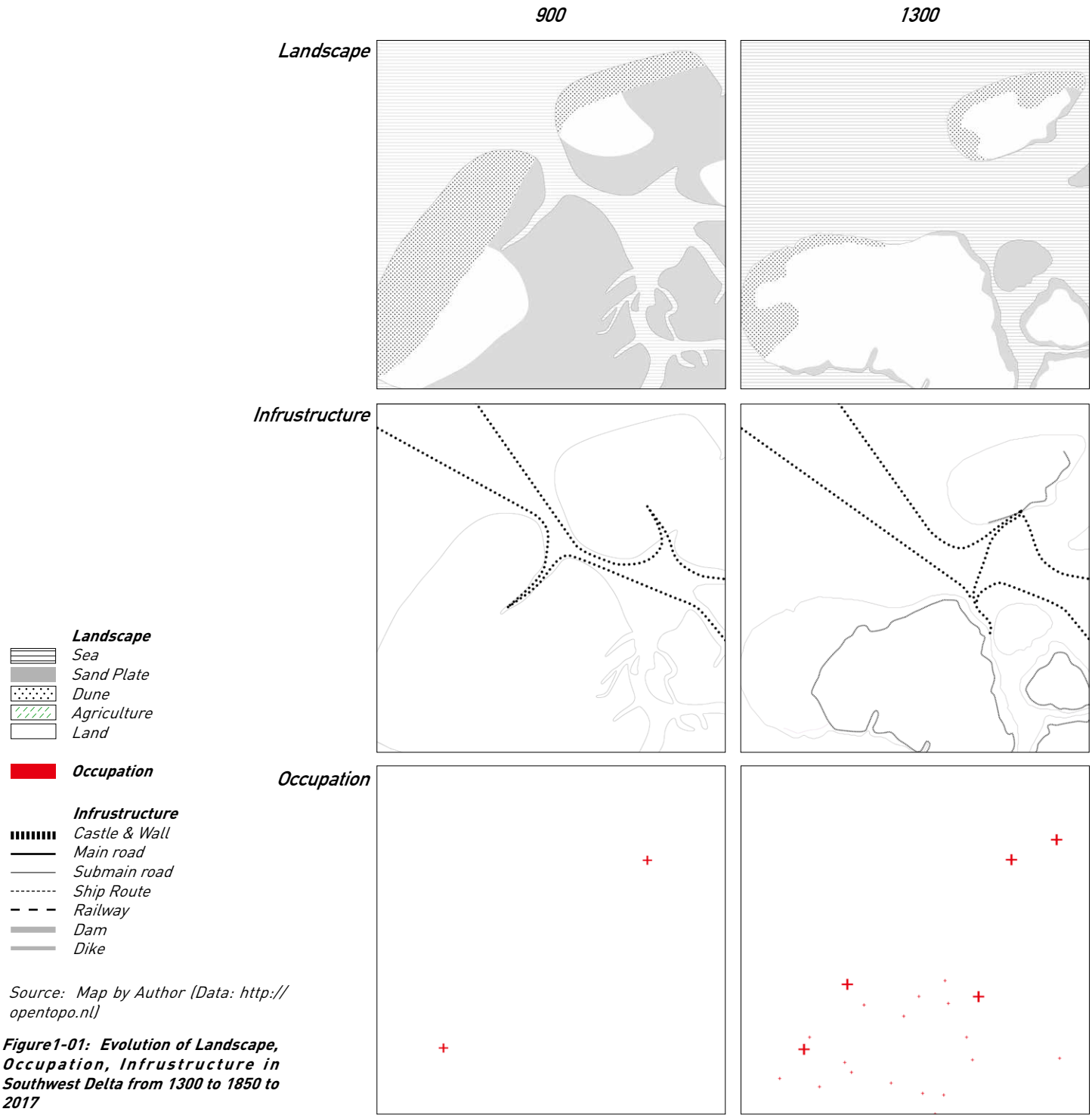
The early twenty-first century has seen the return—in a modified form—of these ideological concepts in the recently launched large-scale restructuring of rural areas. The notion of regional identity constantly recurs in memoranda and plans— expressions of a heightened urban longing for an Arcadian idyll that are inextricably linked to the transition of the countryside towards a consumer landscape. Specific projects within the Reconstruction of the Countryside have sought to literally reconstruct 'the original identity', and in so doing, to keep alive the memory of old Dutch Delta.

Figure 4-04: Land Reclimation after 1800
Scouce: http://image.google.com/

Figure 4-05: Development of infrustructure after 1950
Scouce: http://image.google.com/

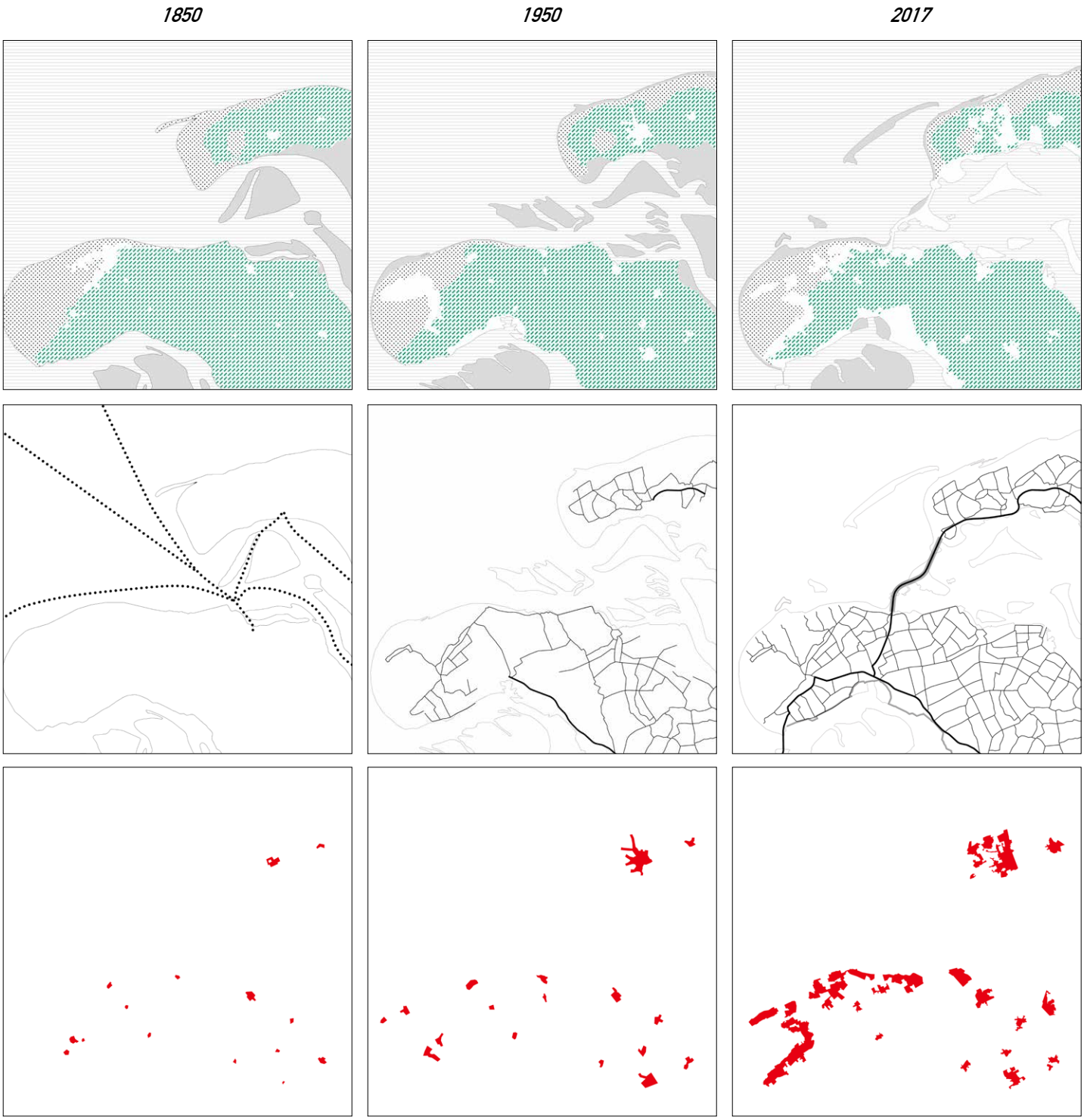
Matrix of topics and transformations of the Biography of Brouwersdam Region





Source: Map by Author (Data: http://opentopo.nl)

Figure1-01: Evolution of Landscape, Occupation, Infrustructure in Southwest Delta from 1300 to 1850 to 2017


1850
1950
2017

RingwalBurg
Parish Church
Ship fro
SERVICE
PORT INDUSTRY
100%
80%
60%
40%
20%
0%
900
1000
1100
1200
1300
1400
1500
1600
1650
1670
1690
1710
1730
1750
(1170) First All Saints' Flood inundated Netherlands and Zuider Zee region
(1212) Large flood at Noordholland killed 60,000
(1299) Count of Holland gained control of Zeeland
(1345) Frisian defeated Dutch at Warns
(1404) First St. Elizabeth's Flood occurred, towns washed away
(1432) Zeeland became part of Low Countries under Phillip the Good of Burgundy
(1450) Episcopal palace at Utrecht held witch burnings
(1492) German mercenaries killed 222 at Bread and Cheese rebellion
(1516) King Charles I of Spain rules Netherlands
(1558) William I, Prince of Orange, led revolt against Spanish government; Duke of Alba declared William of Orange an outlaw; Holy office condemned all inhabitants of Netherlands to death as heretics; Eighty Years' War(Dutch Revolt) began
(1624) Dutchman Cornelius Drebbel created world's first submarine
(1652) War broke out between Netherlands and England
(1672) King Louis XIV of France invaded Netherlands; floodgates opened in Holland to save Amsterdam from French
(1688) King Louis XIV of France declared war on Netherlands
(1697) Treaty of Ryswick signed; ended war between france and Grand Alliance
(1741) Dutch protested against bad quality of bread
(1747) French forces defeated Anglo-Dutch at Battle of Lauffeld; French occupied Zeeland; Convention of England and Netherlands signed military treaty
In Goedereede, trade began to start and around the year 1477 there was a flourishing economy.
In 14th, agriculture gradually become the dominent industry in this Area
Labourers reclaiming heathland in the southern Netherlands.
Many church was built in 14th and 15th Century. Later, the ship and the tower were built. As usual in Roman tradition, the church building was the center of the village.
Ringwalburgen was built since the 9th century for defense against the Vikings . In peacetime the burges would have been usually uninhabited, but in case of danger they would be a safe haven for the locals.
838 Large portion of northwest Netherlands flooded, over 2,400 died
1287 Zuider Zee seawall collapsed; 50,000 died
1362 Storm surge kills 25,000; sixty parishes destroyed in Sleswig
1421 Second St. Elizabeth's Flood; dike broke, villages swept away, many thousands died
1477 Mary of Burgundy, heiress of all Netherlands, married Maximilian I of Habsburg family of Austria
(1511) Portuguese traders reached Banda Islands
(1568) King Phillip II of Spain banned foreign Dutch students; tidal wave in North Sea destroyed sea walls, over 1,000 killed
(1581) Dutch declared independence from Spain
(1602) Dutch East India Company formed in Jakarta, Indonesia
(1620) Pilgrims left Netherlands, landed in Massachusetts
(1648) Spain recognized Dutch independence
(1667) Dutch fleet sailed Thames, threatened London, burned three ships. William of Orange replaced James Stuart. Peace of Breda ended war; Surinam ceded to England by Dutch in exchange for New York
(1701) England, Austria, Netherlands formed Alliance against France
(1746) Riot broke out in Amsterdam after public execution; over 300 killed
(1745) England, Austria, Saxony, Netherlands formed alliance against Russia, French forces defeated Anglo-Dutch army at Fontenoy
900
1300
1850
Viking
Rome
Farmer
Monastery
Christianised noble
Farmer
Authority

(1760 - 1783) Netherlands at war with England
(1753) France declared war on Britain and Netherlands, French conquered Geertruidenberg, Netherlands
(1814) William VI, prince of Orange, became King William I of the Netherlands
(1825) Dike breaks caused severe flooding, more than 800 died
(1840) King William I of Holland abdicated
(1870) Amstel Brewery opened
(1873) Holland American cruise line began operations from Netherlands; colonization efforts began in Aceh province (Indonesia), caused decades-long
(1894) Disastrous flooding occurred
(1916) Zuyderzee Flood caused by dike breaks
(1932) Dutch textile strike broken by trade unions; Afsluitdijk Dam completed, sealed Zuider Zee from ocean, formed freshwater lake, Usselmeer.
(1953) More than 1,800 killed in flooding
Brouwersdam
Maeslantkering was built in 1997
Rotterdam port become the largest port in the world.
Delta Works have been declared one of the Seven Wonders of the Modern World by the American Society of Civil Engineers.
After a heavy north-western storm, on Saturday, January 1, 1953, several Dutch dikes broke down.
AGRICULTURE
TOURISM
1770
1790
1810
1830
1850
1870
1890
1910
1930
1950
1970
1990
2010
Road & Highway
Water Mill & Barrows
Camping Site
A typical Ouddorps landscape with riders in the foreground and the Ouddorpse lighthouse in the background.
Brouwersdam area become the hotspot for recreation. The national concert was held every year there.
(1784) Peace of Versailles ended war between France, England, Holland; Holland banned orange clothes
(1901) Napoleon Bonaparte imposed new constitution
(1830) Belgium rebelled against Netherlands
(1864) British, French, Dutch fleets attacked Japan in Shimonoseki Straits; Gerard Heineken founded beer Heineken brewery
(1890) Grand Duchy of Luxembourg separated from Netherlands; Royal Dutch Petroleum Co. founded
(1999) First Hague Peace Conference held in Netherlands, 26 nations participated
(1922) Dutch women received right to vote
(1940) Germany invaded Netherlands; Royal family fled to England ; Germans bombed Rotterdam from air, destroyed
(1961) European community leaders met in Maastricht, agreed to begin using single currency by 1999
(1998) Netherlands, 10 other EU nations began using Euro monetary system
(2006) Dutch voters rejected E U constitution
2006 Concert at Sea has been held annually at the Brouwersdam since 2006.
1950
2017
Farmer
Fishermen
Businessmen
Community
Government
Farmer
Urban Planner
Government
Farmer
Urban Planner
Funa & Flora

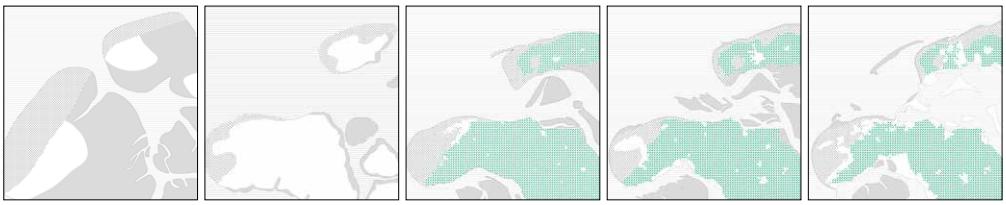
Principle 01 : Cultural and Natural Respect

Make use of the culture and nature resource existing in the area to develop Ecotourism. The sustainable use of resources -natural, social, cultural, -is crucial and makes long-term business sense by using resources sustainably.

Product: Heritage which is the potential touristic destination

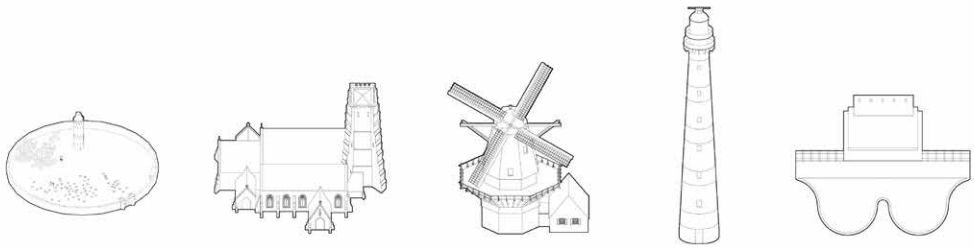
This would primarily be a zoning plan of the potential area for the development of ecotourism.These sites are based on the analysis of landscape biography, including the representative spatial element and the layout of landscape of each phase.

1. Layout of the landscape



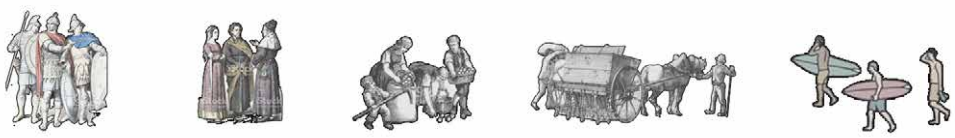
900 AD | 1300 | 1850 | 1950 | 2017

2. Representative spatial element of the landscape



Ringwallburgh | Parish Church | Water Mills | Lighthouse | Dam

3. Activity influenced by the landscape



War | Religion | Farm | Port | Recreation

CONCLUSION - Heritage

Ringwallburgh
Castle & Old city wall
Parish Church & Old City

Dune
Water mills
Polders

Lighthouse
Dam
Railway

4
Observation

Design Elements:
Landscape Gradients Analysis

"To relate the spatial pattern of urbanization to ecological processes, quantitative spatial analysis methods are needed. Among others, gradient analysis and landscape pattern analysis seem appropriate for such studies. Over the past decade, this approach has been effectively used to study the ecology of cities and towns around the world. These studies have focused on understanding the distribution of plants and animals as well as ecosystem processes along gradients of urbanization that run from densely urbanized inner city to more rural exurban environments. "

— Mark J. McDonnell <Landscape Ecology>

Identifying these gradients or patterns is an important first step to related urban morphology to ecological and socioeconomic processes. Based on the Original land use type, the landscape patch was reclassified into 9 main types, including urban central, general urban, rural urban, agriculture, marshes, dune, beaches, dike and dam. These pathes form the current landscape structure.

Original land use type (Based Google Map)	Reclassified patch type
Cultural Center	Urban Central
Regional Commercial Center	General Urban
Neighborhood Retail Center	
High Density Residential	
Industrial	
Educational	
Low Density Residential	Rural Urban
Non-developable Open Space Rural	
Agriculture	Agriculture
Lake	Marshes
Wetland	
Island	
Dune	Dune
Forest	
Beach	Beach
Dike	Dike
Dam	Dam

CURRENT STRUCTURE - Gradients of landscape

Urban Central
General Urban
Rural Urban

Agriculture
Marshes
Dune

Beach
Dike
Dam

9 LAND USE TYPES

Urban Central

General Urban

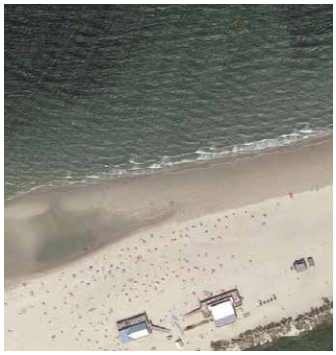
Rural Urban

Agricultural

Marshes

Dune

Beach

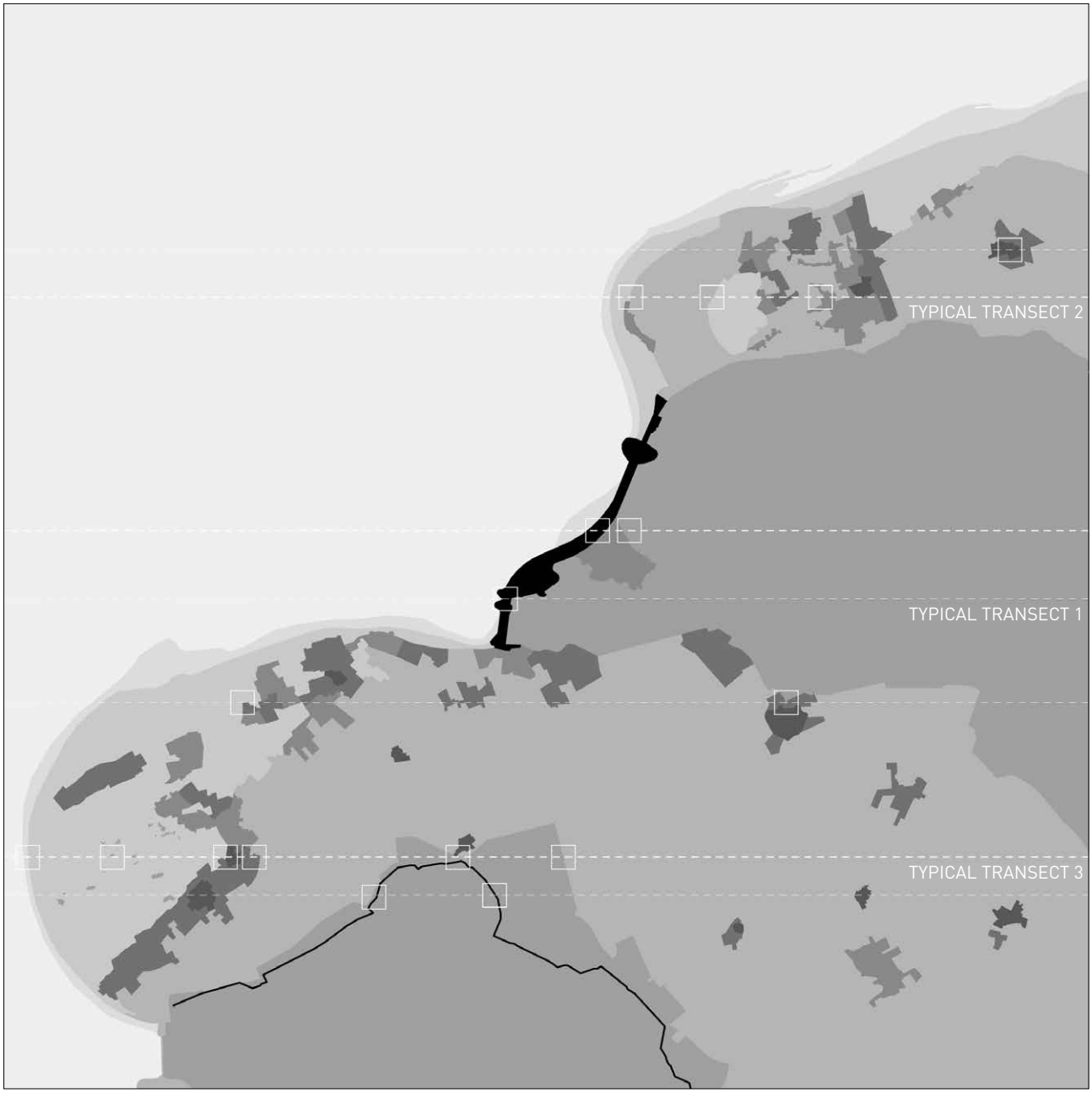


Dam

Dike

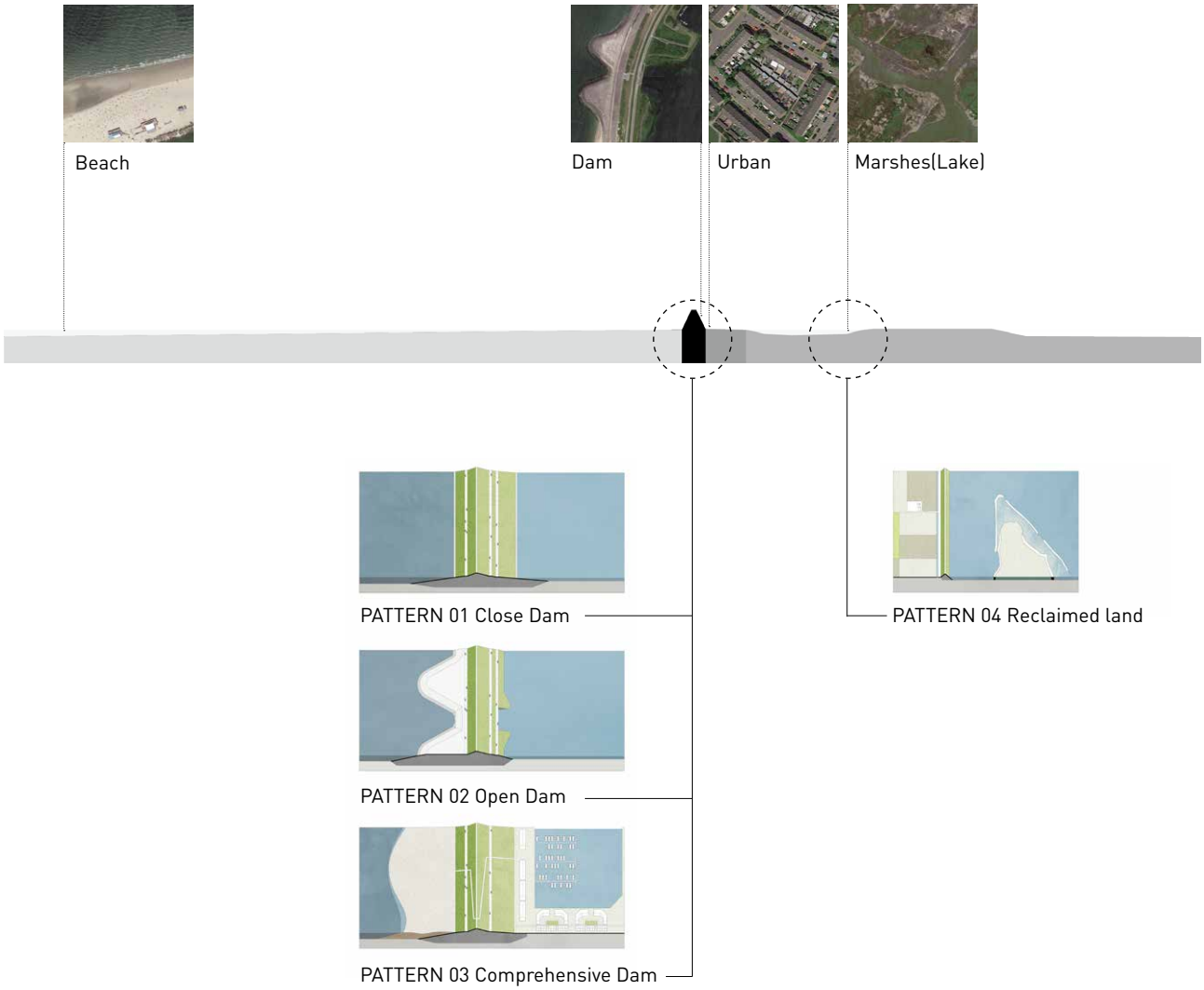
TRANSECT - Gradients of landscape

Urban Central
General Urban
Rural Urban
Marshes
Agriculture
Dune
Beach
Dike
Dam



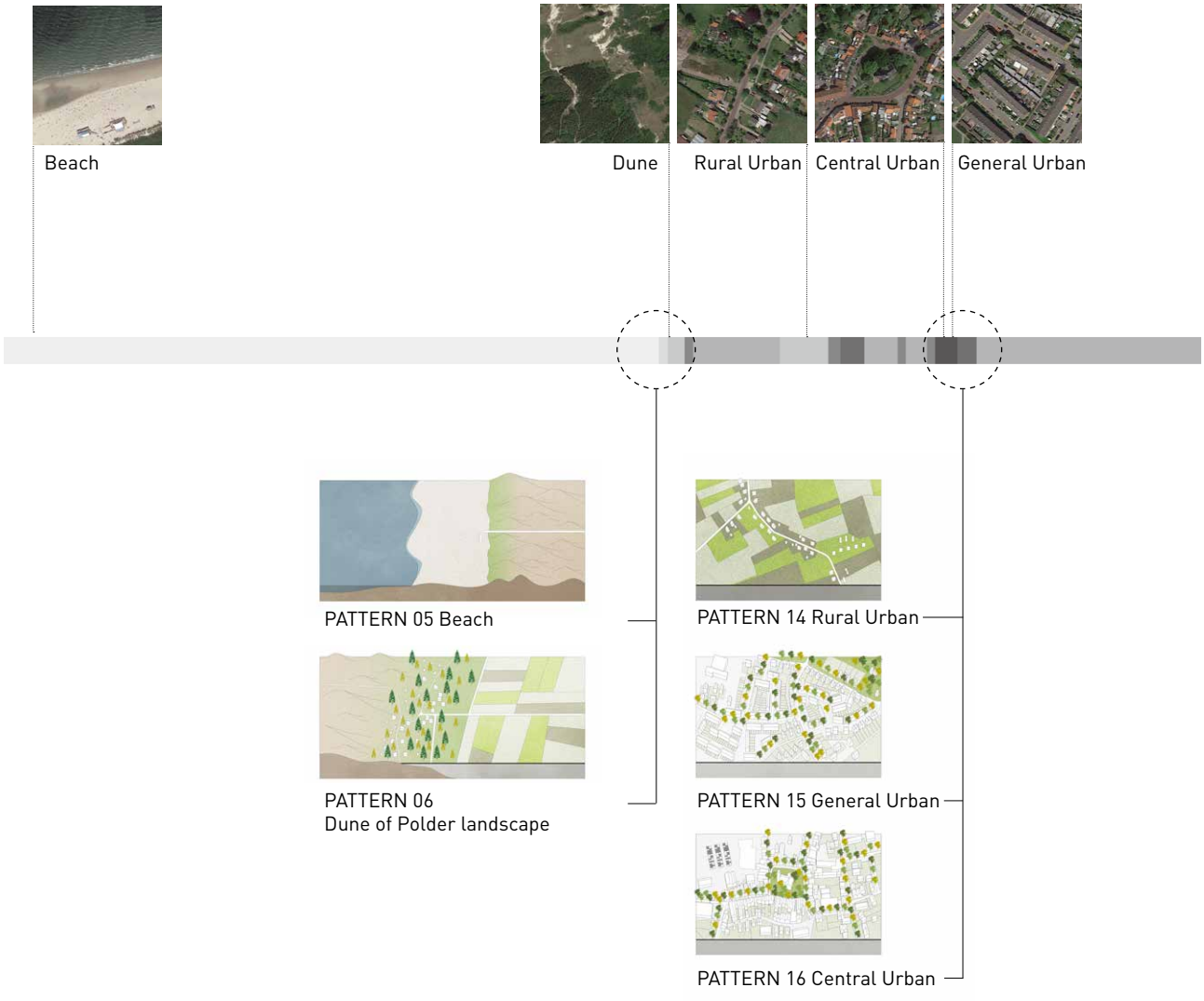
TYPICAL TRANSECT 1

shift from beach to dam, rural urban, and then back to marsh.



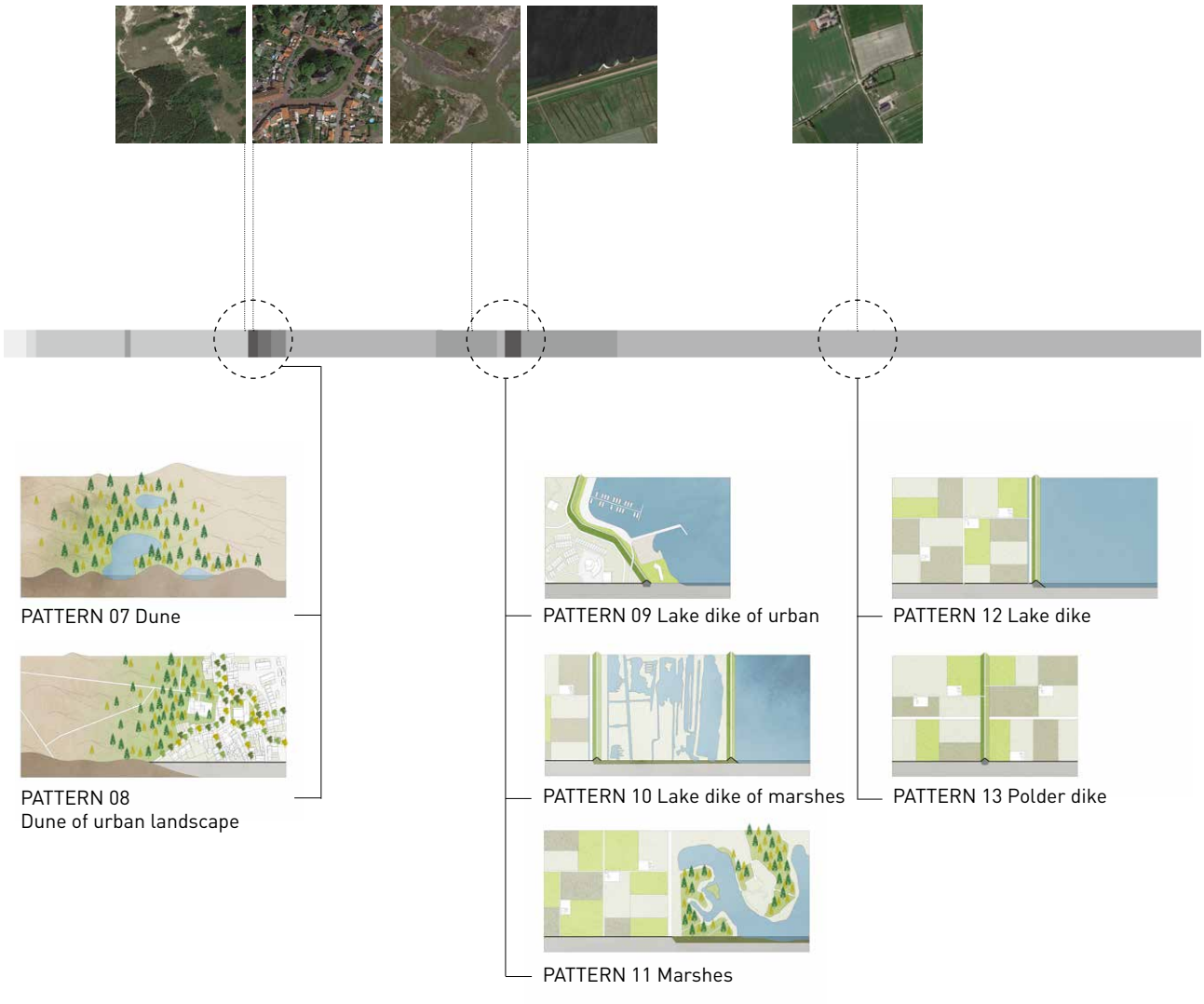
TYPICAL TRANSECT 2

shifting from beach to dune, rural urban, agruculture, dune, rural urban,general urban, agriculture, rural urban, central urban, general urban and then to agriculture.



TYPICAL TRANSECT 3

shift from beach to dune(marshes), central urban, general urban, rural urban, agriculture, marshes, dike, and then back to marsh.



RANKING CRITERIA

Based on the ecotourism principle 02, 03, 04, 05, the following aspects will be assessed for each typology of landscape gradients. Each aspects are divided into three levels from low, medium to high. In order to assass these aspects, for each pattern, I will firstly analysis the ecological process and the main founa and flora contained in it.

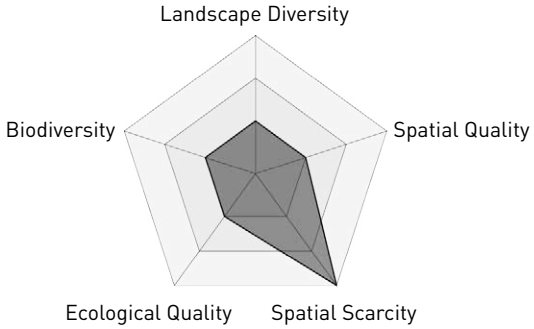
Landscape Diversity: the different kinds of landscape contained in this typology

Biodiversity: the different kinds of founa and flora that contained in this kind of territory

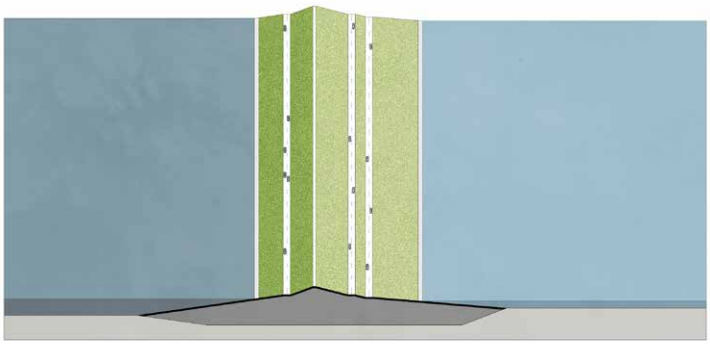
Ecological Quality: the ecological stated that can suatain the amount of biodiversity

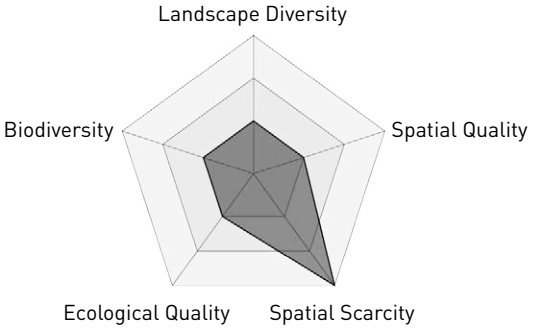
Spatial Quality: weather the space is welcomed by the tourists

Spatial Scarcity: the quantity that this kind of spatial structure exist in this region

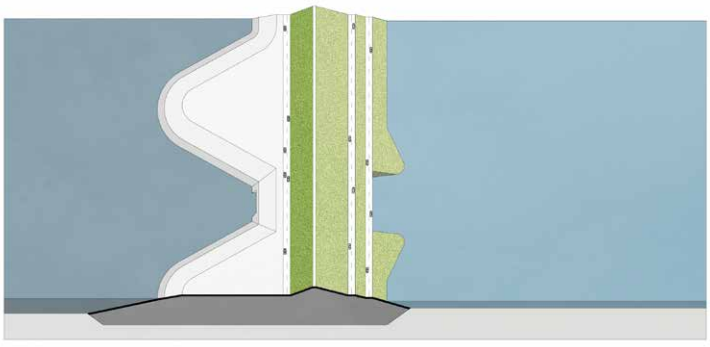


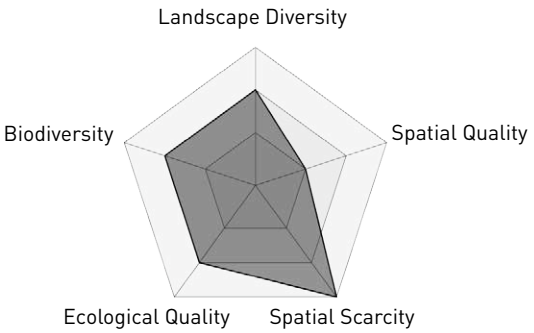
PATTERN 01 Closed Dam



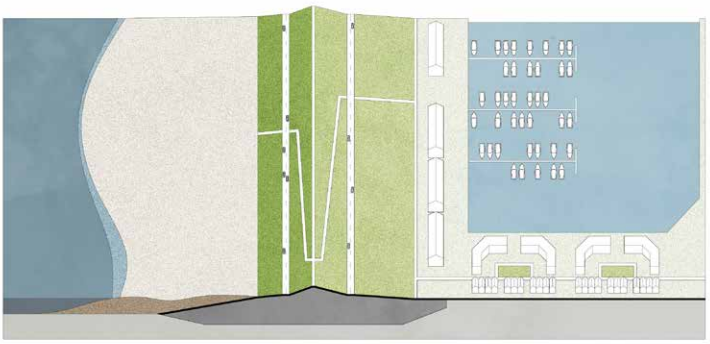


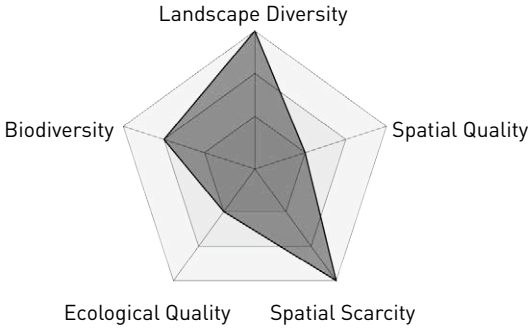
PATTERN 02 Open Dam

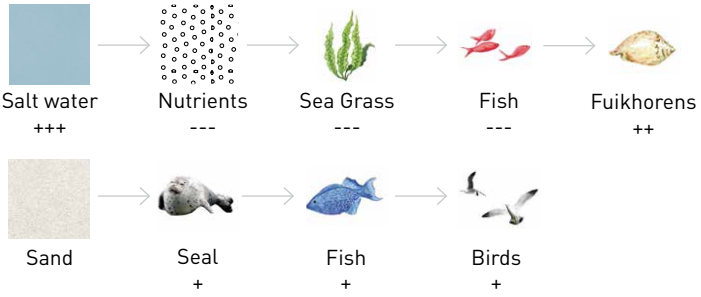




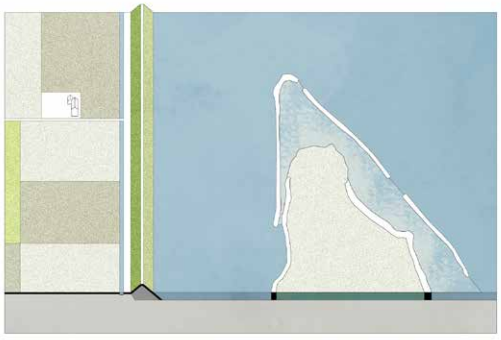
PATTERN 03 Comprehensive Dam

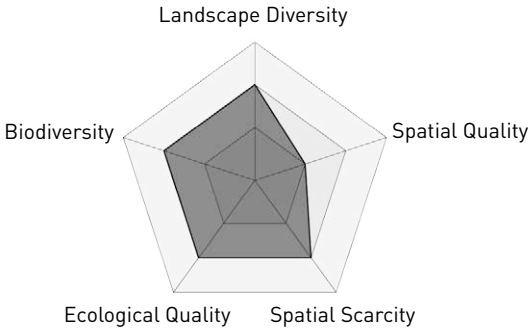




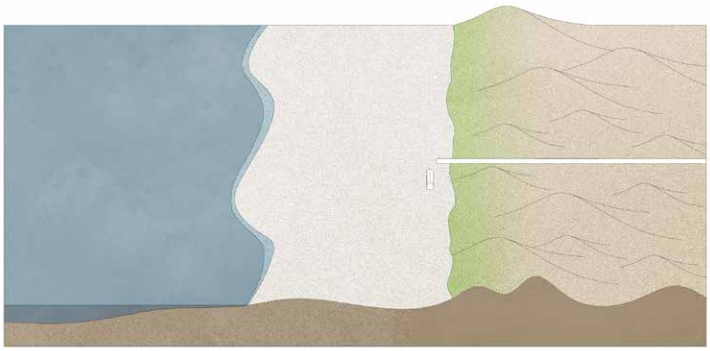


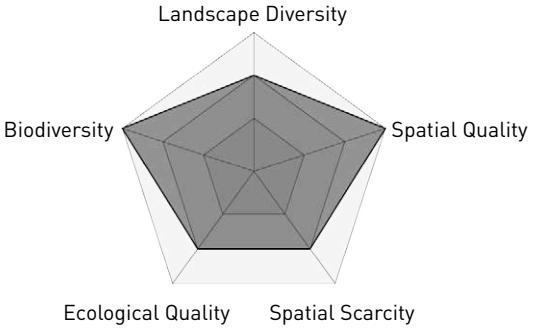
PATTERN 04 Reclaimed land



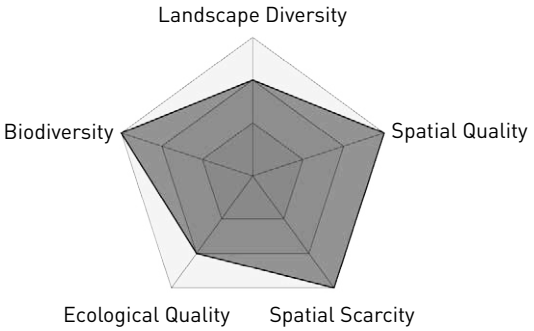


PATTERN 05 Beach

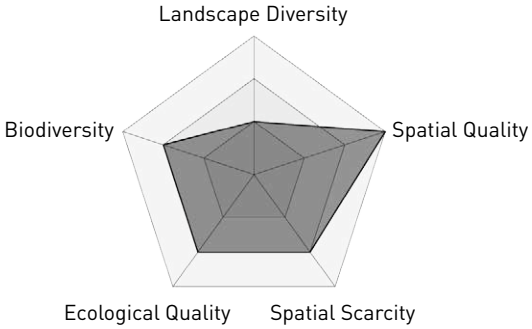




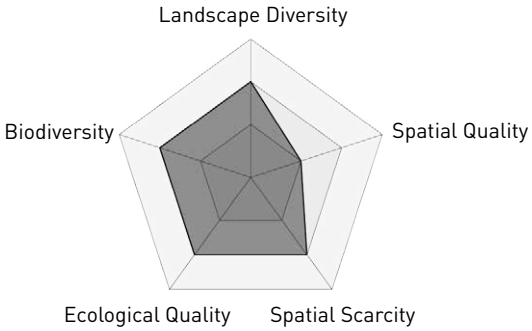
PATTERN 06 Dune of Polder landscape

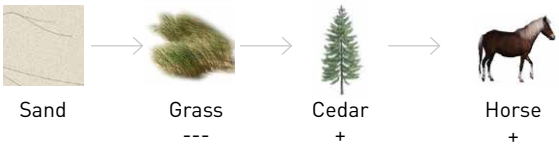


PATTERN 07 Dune

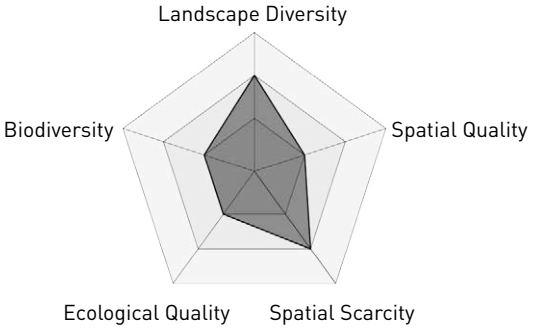


PATTERN 08 Dune of urban landscape

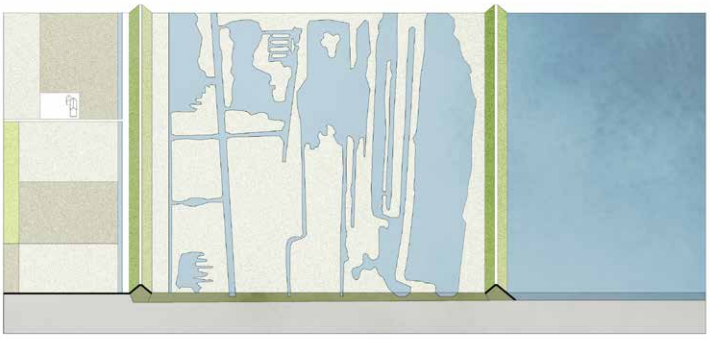


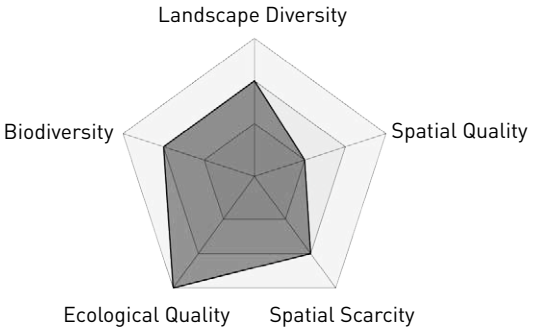


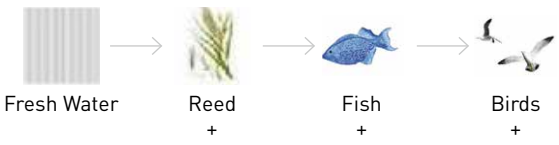
PATTERN 09 Lake dike of urban



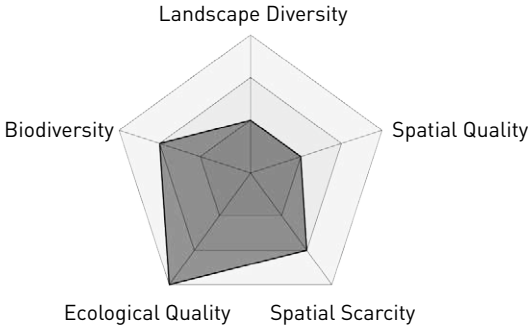
PATTERN 10 Lake dike of marshes

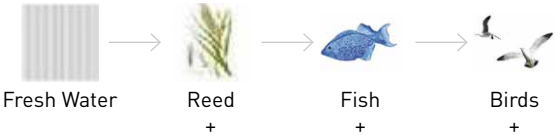




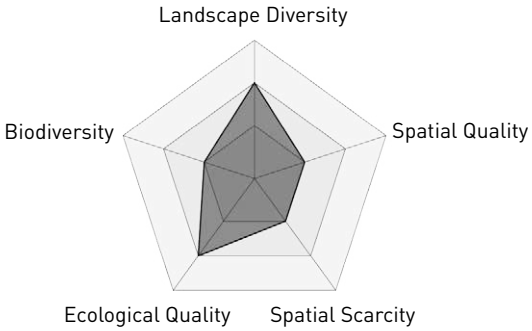


PATTERN 11 Marshes

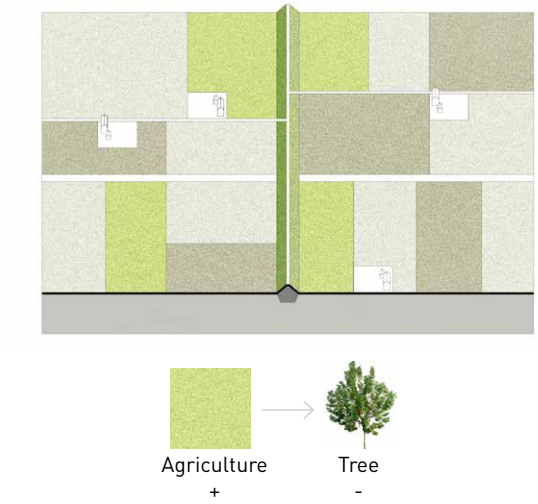


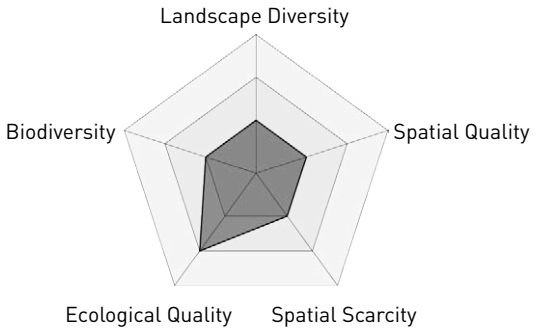


PATTERN 12 Lake dike

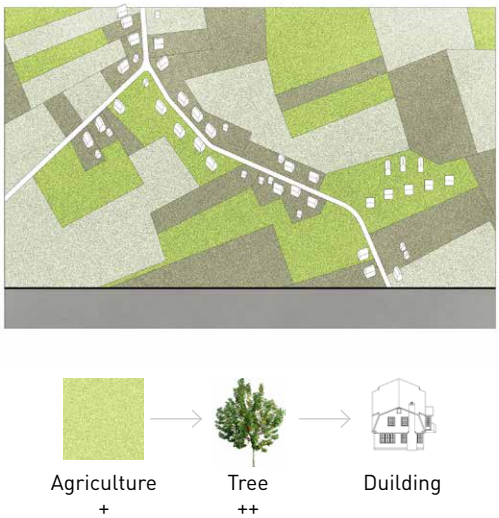


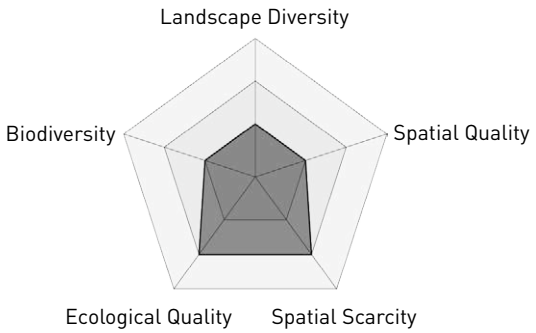
PATTERN 13 Polder dike



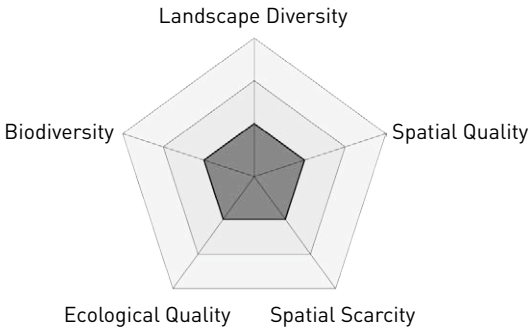


PATTERN 14 Rural Urban

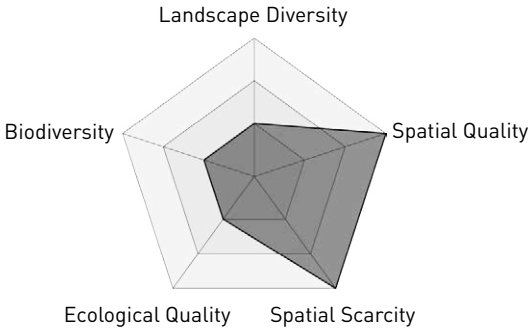




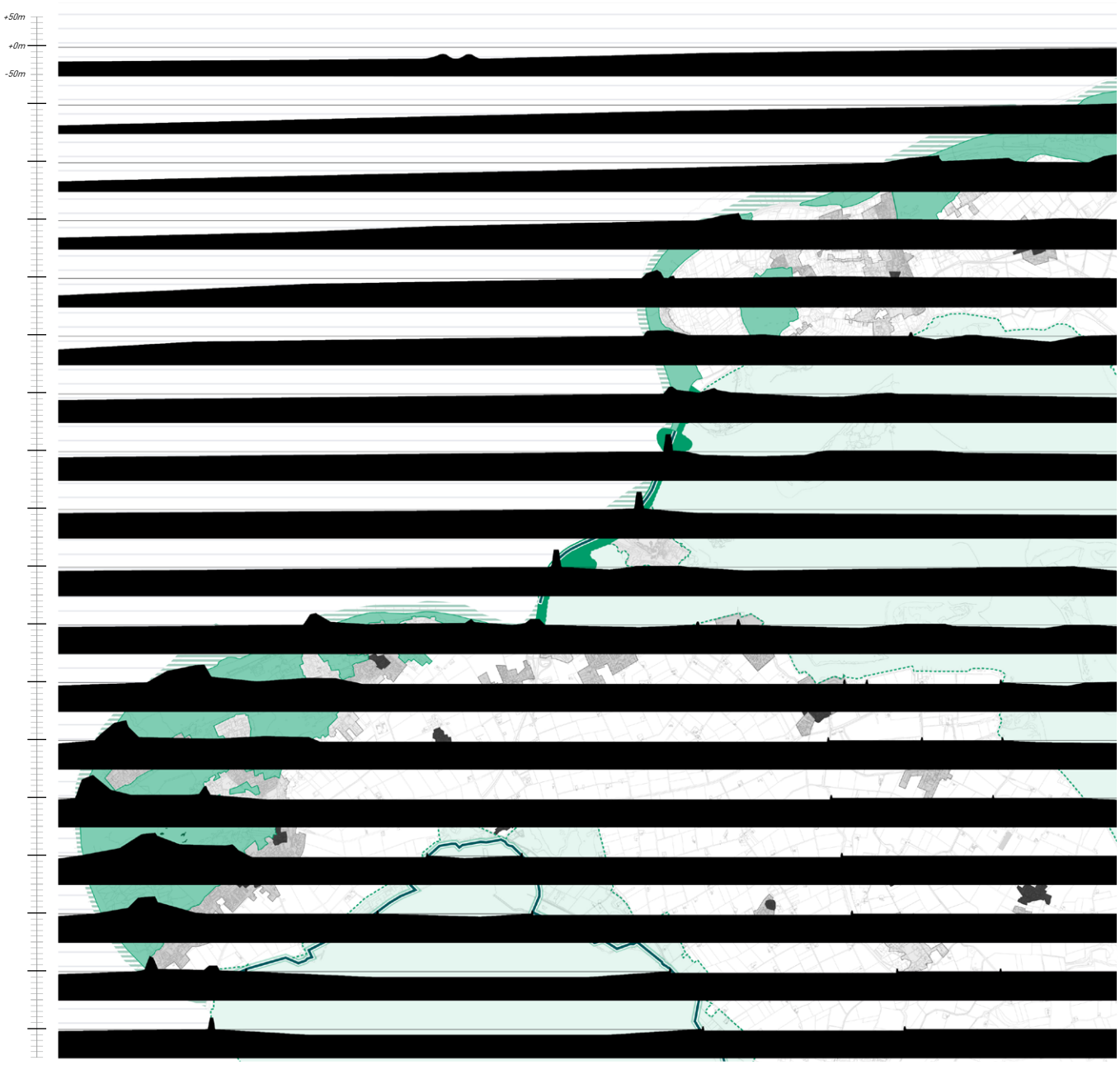
PATTERN 15 General Urban



PATTERN 16 Central Urban

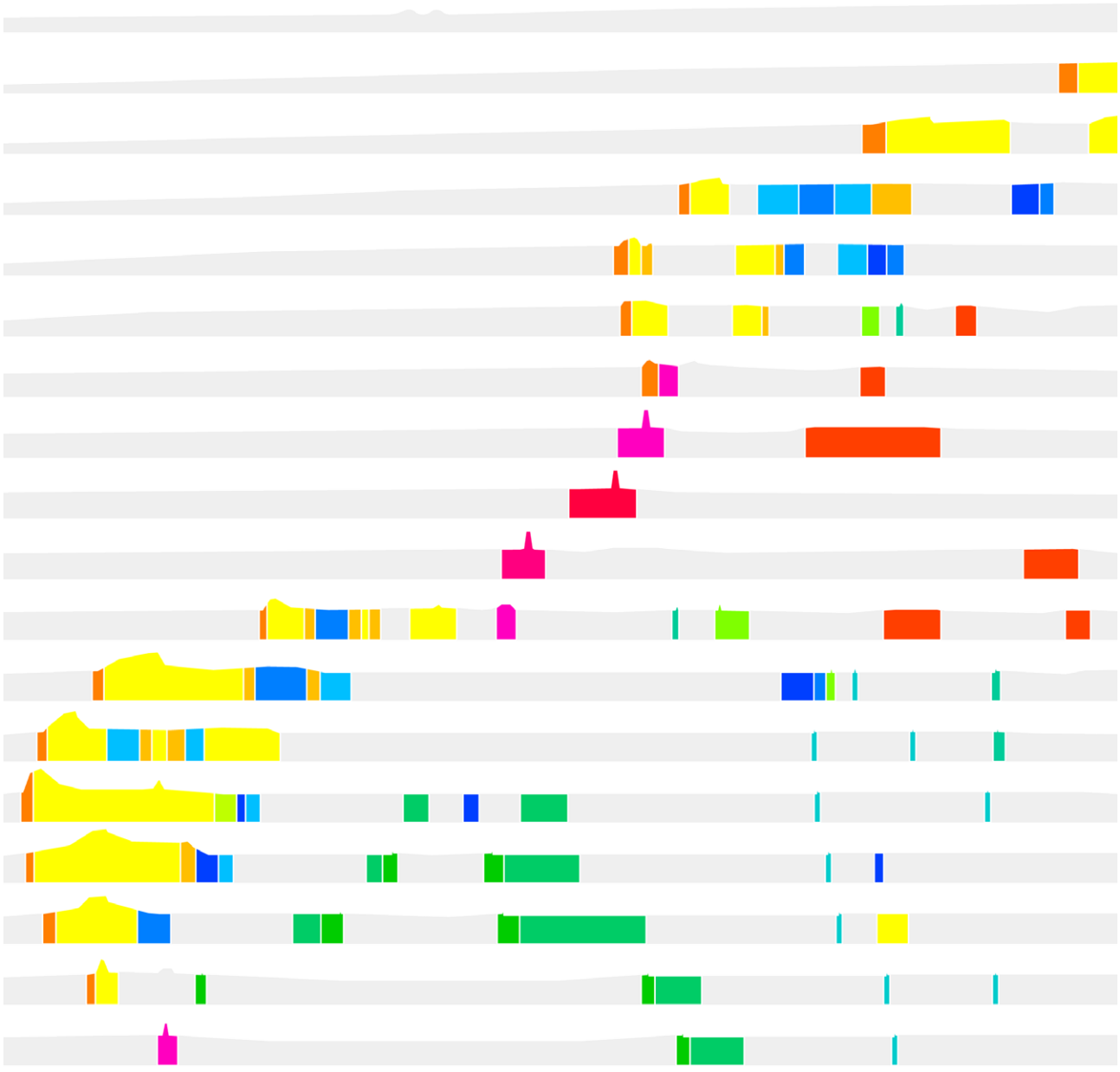


SECTION - Gradients of landscape



PATTERN ALONG TRANSECT

PATTERN 01
PATTERN 02
PATTERN 03
PATTERN 04
PATTERN 05
PATTERN 06
PATTERN 07
PATTERN 08
PATTERN 09
PATTERN 10
PATTERN 11
PATTERN 12
PATTERN 13
PATTERN 14
PATTERN 15
PATTERN 16



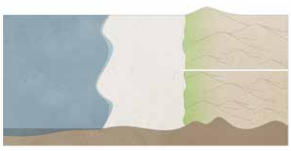
Principle 02 : Maintenance of the ecosystem

Maintaining Biodiversity and promoting natural, social, and cultural diversity is essential for long-term sustainable tourism. In order to maintain the cultural and ecological diversity, the recreation area, preservation area and recover area will be designed inside the ecotourism area.

Product: Ecotourism management plan

Management of the different zone in ecotourism area to maintain the ecological quality. The plan would designate the Costal area, Protented area and Recover area and develop strategies for each area. The design of each area is based on the criteria:

- Ecological quality
- Biodiversity



Costal area

The educational, econimical and other recreational activities are encouraged in this area.

Preservation area

The econimical activities are forbiden and the educational activities are allowed in this area.

Recover area

Only a few number of educational activities are encouraged in this area.

CONCLUSION - Ecotourism management plan

Costal Area

Protected Area

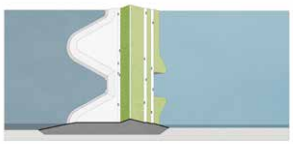
Recover Area

Principle 09 : Maintenance of the quality of fresh water

Recover the water quality and avoids the costs of restoring long-term biodiversity. Contributes to the spatial quality of ecotourism.

Product: Water management plan

Plan for the provision of service systems to ensure the water quality in terms of climate change and at the same time, increase the water quality and biodiversity in the water.



Open partly Dam

Allow the tide again by partly open the dam and improve the nutrition in the water.

Strengthen recreational value

The area can be used to develop the economical and educational activities.

CONCLUSION - Water management plan

Open Dam

Improve water quality

Strengthen recreational and ecological value to main water course

Principle 04 : Involving Local Communities in the ecotourism plan

Includes local and indigenous communities in the planning of regional ecotourism. The development and future growth of the communities will contributes to lasting local economic development and creates permanent jobs for local people.

Product: Recreational amenity community plans

Design of communities oriented to increase the spatial qulity for the development of ecotourism, whic include the spatial quality improvement area, spatial character strenthen area and spatial quality maintainance area. The designate of these area is based on the criteia:

- Heritage
- Landscape Diversity
- Spatial Quality
- Scarcity

Spatial quality improvement area

The landscape is diversity in this region which make it has potential to become the touristic destination.

Spatial character strenthen area

The spatial character is quite unique in this region and this kind of charcter need to be improved.

Spatial quality maintainance area

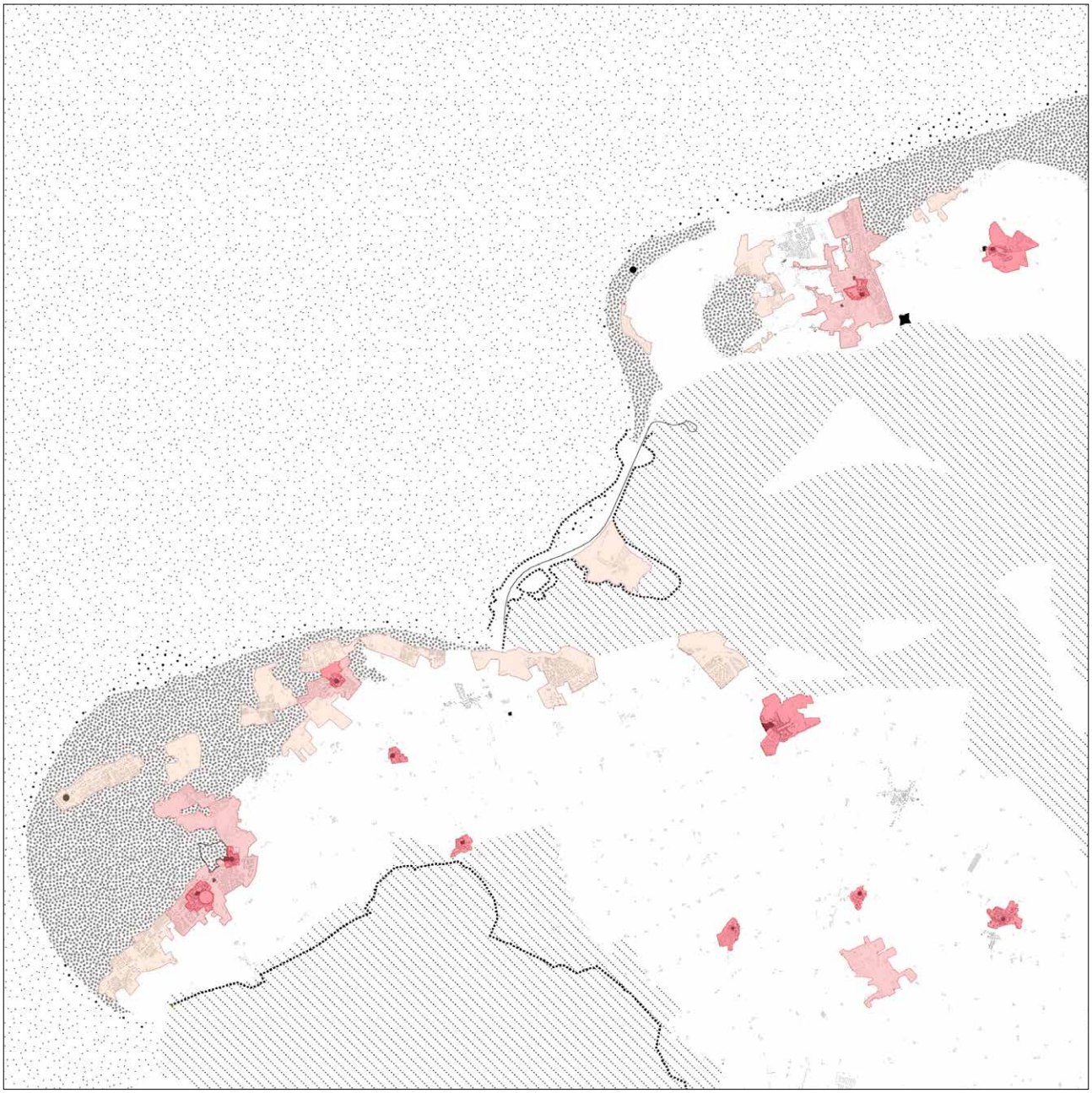
These area has long history and many heritage and the spatial structure need to be protected.

CONCLUSION - Ecotourism management plan

Spatial improvement area

Spatial character strenthen area

Spatial maintainance area



4
Gathering Story

Program Analysis

Nowadays, to have a successful management of museums, natural parks, heritage monuments and other tourism sites we must learn and analyze the necessities of the visitors before, during and after the visit. This program will provide an essential insight into the general components and particular aspects of the design and management of tourism heritage sites. The following section will provide an analysis of the existing functional program and its relationship with the landscape and heritage.

Ecotourism activities have been sorted into the following categories: (Economic Development Branch BC Ministry of Sustainable Resource Management, 2003)

Marine Ecotourism
- marine cruising including sailing, yacht and power cruising
- sea kayaking tours

Land based Ecotourism
- Bicycle Touring/Mountain Biking
- Horseback Trail Riding
- Hiking/Backpacking/Trekking
- Freshwater River Rafting, Canoeing and Kayaking
- Winter Tourism (Back Country /Tour Skiing, Dog Sledding, Snow Shoeing)
- Walking, camping, boating, hunting, sight-seeing, swimming, cultural activities, observing wildlife and nature, skiing, visiting historical places, and horse riding among

The general trend in ecotourism is to increase experiences by encouraging activities such as long-distance walking, camping, boating, hunting, sight-seeing, swimming, cultural activities, bicycling, observing wildlife and nature, skiing, visiting historical places, and horse riding among others. Generally, instructive activities, for example, wildlife observation, participation in festivals, cultural activities and nature landscapes, attract most attention. Activities like hiking, outdoor sports, picnic, paragliding arranged according to different areas of interest influence the preferences of many visitors (Kiper, 2011; Cengiz, 2007).

According to Soykan, for Europeans rural roads are natural and cultural heritages. This is because they have natural, economic and cultural identities. Some give us opportunity to familiarize with local planting patterns by passing through agricultural lands, some lie among virgin natural areas with beautiful views (e.g. forests, rivers, lakes) and some connect the settlements which have unique cultural monuments. Therefore, in many countries in Europe (specifically Austria, Switzerland and France, which have mountainous areas) long distance trekking is well-organized (Kiper, 2011).

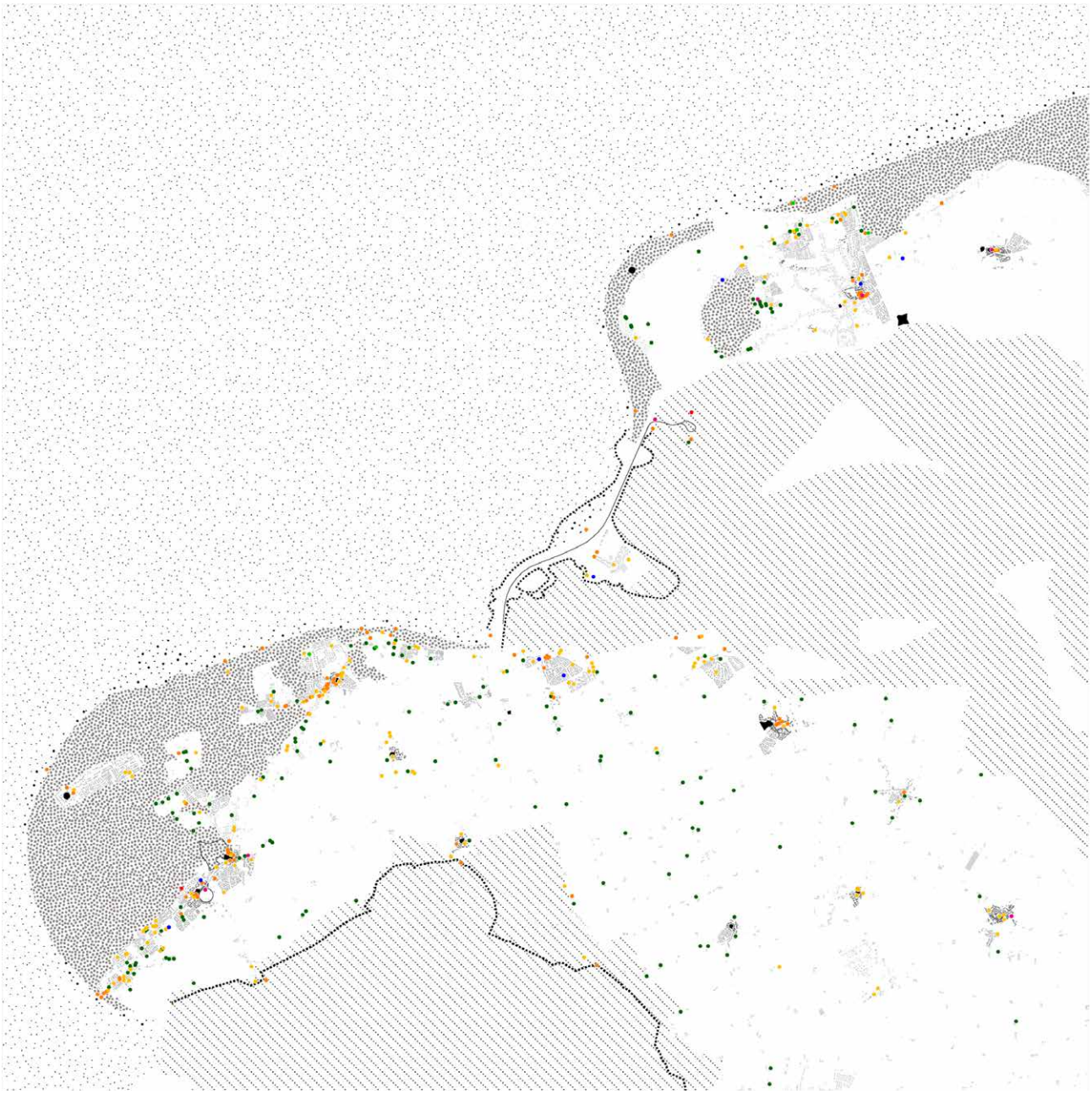
CURRENT PROGRAM

Landscape

- *Urban Central*
- *General Urban*
- *Rural Urban*
- *Marshes*
- *Agriculture*
- *Dune*
- *Beach*
- *Dike & Dam*

Heritage

- *Ringwallburgh & Castle*
- *Parish Church*
- *Water mills & Lighthouse*
- *Railway*



CURRENT PROGRAM

01 - Beach

02 - Hiking

03 - Surfing

04 - Playground

05 - Golf

06 - Tennis

07 - Housemenship

08 - Biking

09 - Swimming

10 - Climbing

11 - Fishing

12 - Camping

13 - Canoe

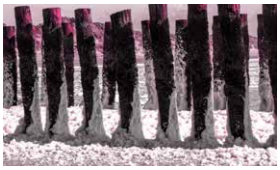
14 - Big Events Fields

15 - Museum

16 - Monument

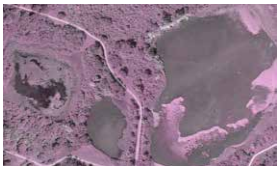
17 - Picnic Space

18 - Cultural facilities



19 - Bird Watching

20 - Water Retention



21 - Habitate Nest

22 - Tree Patches

23 - Farm visiting

24 - Exhibit space

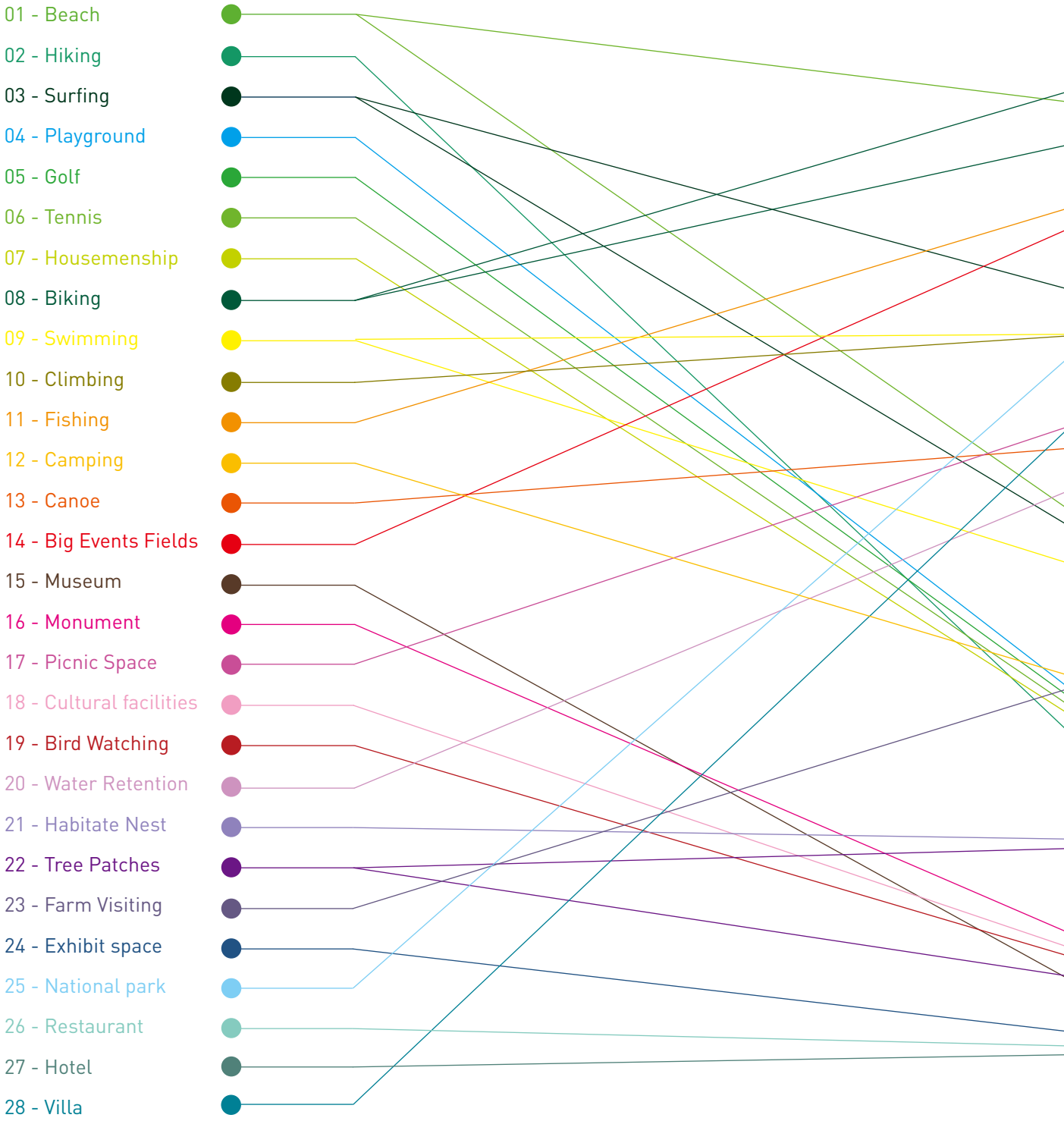
25 - National park

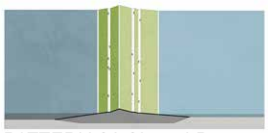
26 - Restaurant

27 - Hotel

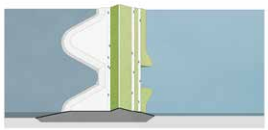
28 - Villa

Territorial Relationships with Program





PATTERN 01 Closed Dam

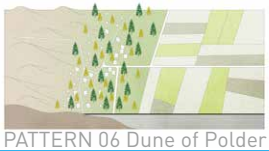


PATTERN 02 Open Dam

PATTERN 03 Comprehensive Dam

PATTERN 04 Reclaimed land

PATTERN 05 Beach



PATTERN 06 Dune of Polder landscape

PATTERN 07 Dune

PATTERN 08 Dune of urban landscape

PATTERN 09 Lake dike of urban

PATTERN 10 Lake dike of marshes

PATTERN 11 Marshes

PATTERN 12 Lake dike

PATTERN 13 Polder dike

PATTERN 14 Rural Urban

PATTERN 15 General Urban

PATTERN 16 Central Urban

Principle 03 : Develop resort projects for environmental education

Provide opportunities to experience nature in ways that lead to greater understanding, appreciation and enjoyment by interpreting the different typology of natural and cultural heritage.

Product: Educational project location including Ecological Hotspots and Cultural Hotspots

A master plan for development of a specific educational project which could cover the primary uses and supported recreational, educational use. The selection of these location is based on the following criteria:

- Biodiversity
- Heritage
- Existing program

Principle 05 : Supporting local economies

Ecotourism should supports a wide range of local economic activities and which takes environmental costs and values into account, both protects these economies and avoids environmental damage, like villa, restaurant, hotels, etc.

Product: Economical project location

A master plan for development of a specific economical project which could cover the primary uses and supported recreational, economical use.

- Existing economical facilities including hotels, camping sites, villa, sports clubs, etc.

Cultural Hotspots

A cluster of program which can be used to educate people the history of the region.

Ecological Hotspots

A cluster of program which can be used to educate people the process of ecosystem.

Economical Hotspots

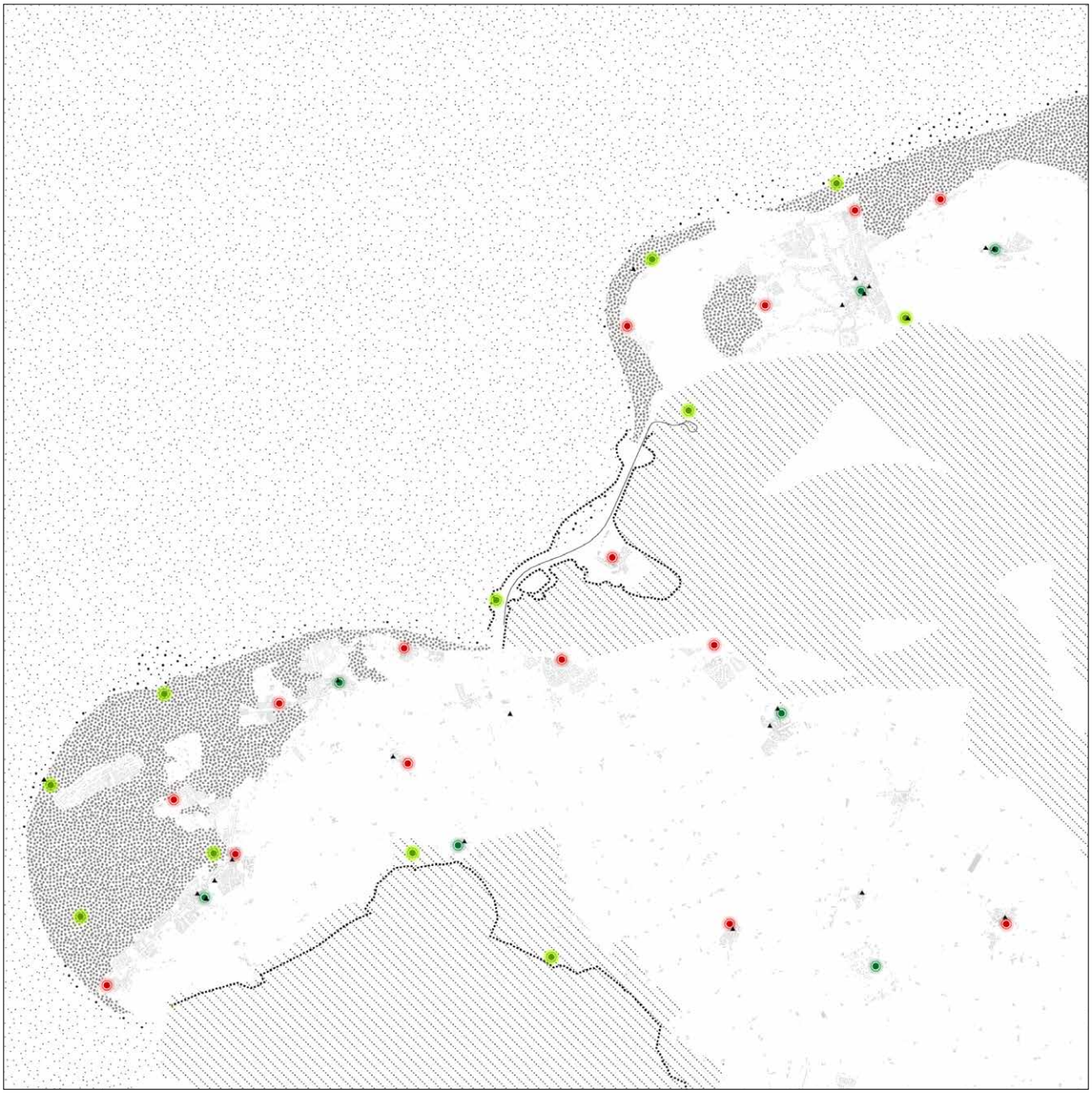
A cluster of program which is mainly aimed for the improvement of income.

CONCLUSION - Ecotourism management plan

Ecological hotspots

Cultural hotspots

Economical hotspots



4
Gathering Story

Mobility

The following section aims to bring out a potential touristic route in order to structure the territory through the stream of tourism. The idea of the Territorial Route is used to enlace local economies and identities, shape spaces and structuring territories. The route is identified by the enhancement by design of the qualities of the landscape. The map aims to define the relationships that the Brouwersdam region with its surroundings according to mobility, connections and touristic relationships.

Mobility System

As a project principle, the mobility is evaluated in its relevance for tourism in terms of infrastructures and destinations connectivity.

In the national scale, the Brouwersdam region is connected to the city of Rotterdam and Antwerp through the highway A12 and A 20. These two highway are the major European infrastructure. In the project's view the fast main infrastructure are necessary for an efficient connection through the whole regional territory.

In the regional scale, the mobility mode of the Brouwersdam region can be identified in 4 main modes including driving, biking, walking and boating. The different mode of transportation can be identified in different categories according to their carrying capacity and width of its section and, therefore, for their impact on the territory.

Territorial Relationships as a Touristic Destination

The base map highlights the different ecological, historical, cultural destinations defined in the landscape gradients and landscape gradients sections. Commuting between coastal area is extremely popular due to the unique recreation and landscape that the region offers despite the poor condition of the infrastructures.

Tertiary infrastructure consists in slow mobility roads with a limited width that run through the landscape but that, often, lack of care. Although necessary, the project enhances the importance of the "landscape mobility lines" that promote a slower typology of mobility more related to a slow, touristic fruition and enjoyment of the landscape.

In the following pages, each kind of transport will be analysised, so does their relathionship with the potential touristic destinations.

NATIONAL MOBILITY - High Way

Territorial Relationships as a Touristic Destination

Primary Motor Way

The connection between Brouwersdam region and the other place is made possible by the highway of the N57, N59 that covers the entire the Southwest delta. The primary highway mainly walk across the farm land.

Secondary Motor Way

The structure of the secondary mobility enhances the poly-centricity of the region around the different town. The Secondary road mainly mainly walk across the farm land to connect the primary road with each central village.

Tertiary Motor Way

The Tertiary road mainly walk across more different kinds of landscape and it provide the main connection between the village with these landscape.

Mobility - Motor Way

Landscape

- *Urban Central*
- *General Urban*
- *Rural Urban*
- *Marshes*
- *Agriculture*
- *Dune*
- *Beach*
- *Dike & Dam*

Heritage

- *Ringwallburgh & Castle*
- *Parish Church*
- *Water mills & Lighthouse*
- *Railway*

Mobility

- *Primary*
- *Secondary*
- *Tertiary*
- *Parking*

Territorial Relationships as a Touristic Destination

Bike Route - Agriculture & Urban

The current bike routh has already formed the relatively complete slow network. It provides the connection between the different villages.

Bike Route - Dune

The bike route provide little connection for village and beach. Also, there is not enough parking space for bike along the beach.

Bike Route - Dike

Along the lake, the dike is also used as the bike route. It increase the accesibility of the lake and the marshes.

Mobility - Bike Route

Landscape

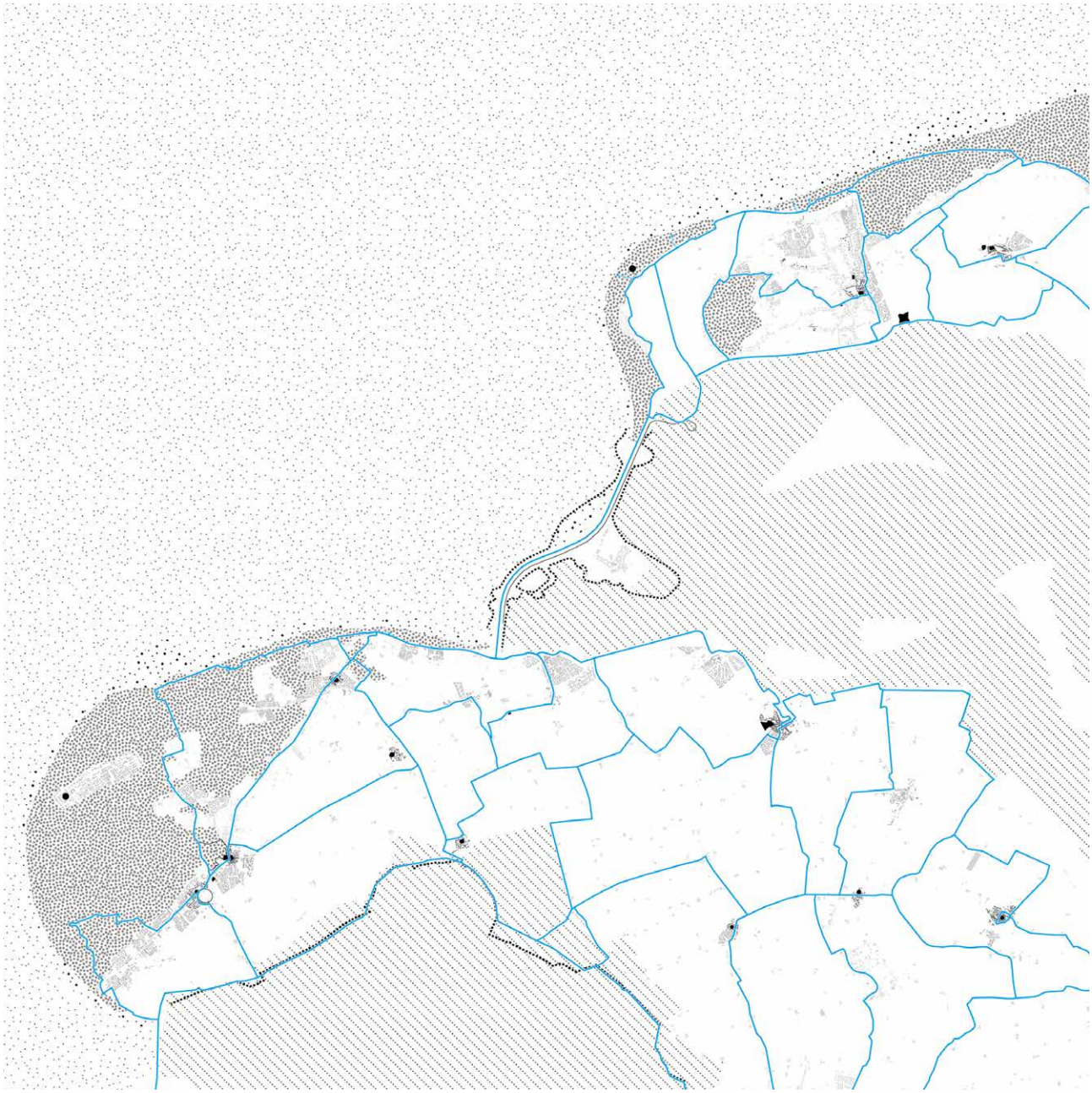
- *Urban Central*
- *General Urban*
- *Rural Urban*
- *Marshes*
- *Agriculture*
- *Dune*
- *Beach*
- *Dike & Dam*

Heritage

- *Ringwallburgh & Castle*
- *Parish Church*
- *Water mills & Lighthouse*
- *Railway*

Mobility

- *Bike Route*
- *Parking*



Territorial Relationships as a Touristic Destination

Walk Path - Urban

The walk path mainly exist in the urban area and provide access inside each village. The walking connection between different villages are still fragmented.

Walk Path - Dune

The walking path also exist in some part of dune area, especially those with forest. These walking network are popular space for activities like hiking currently.

Mobility - Walk Path

Landscape

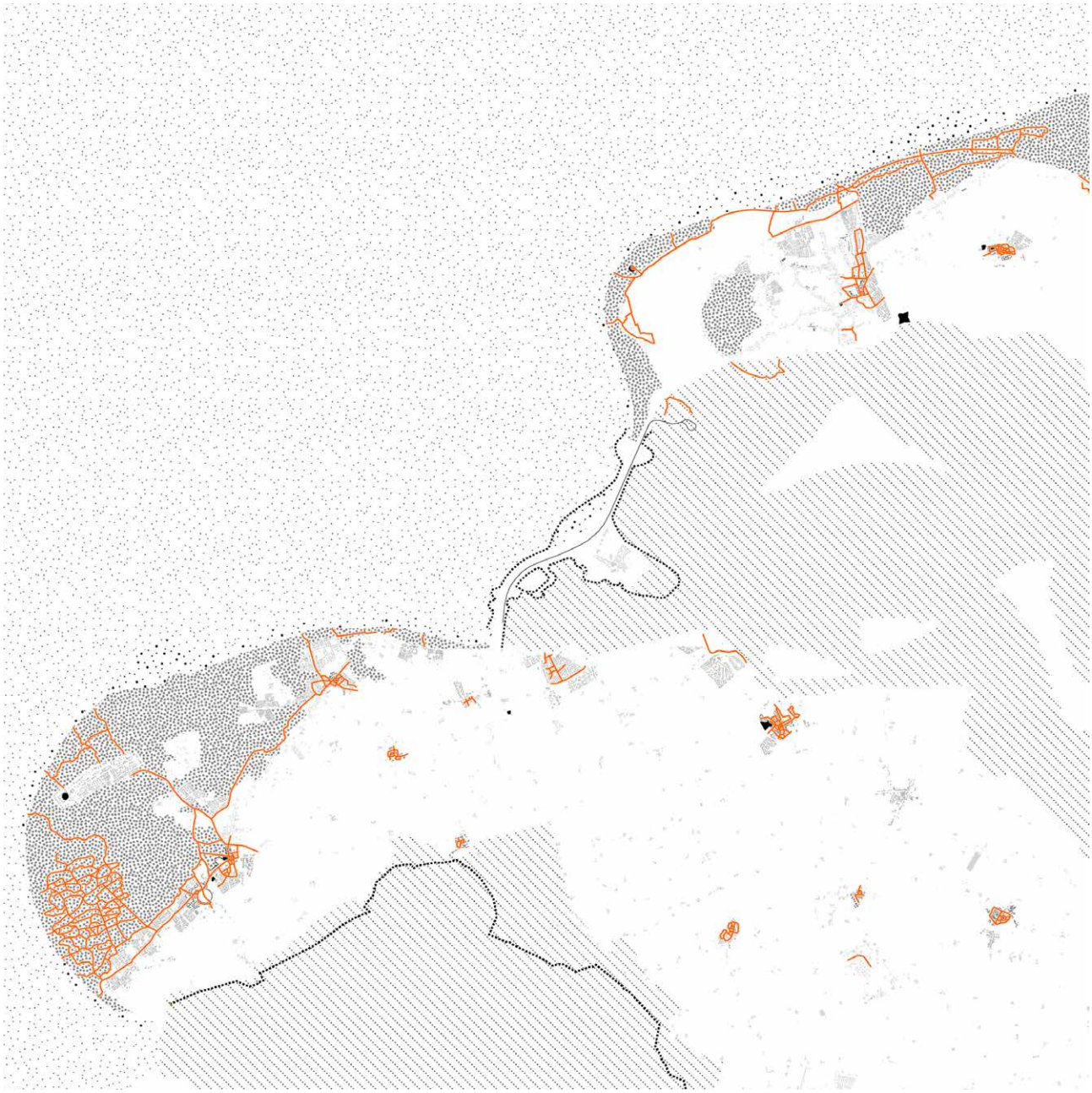
- *Urban Central*
- *General Urban*
- *Rural Urban*
- *Marshes*
- *Agriculture*
- *Dune*
- *Beach*
- *Dike & Dam*

Heritage

- *Ringwallburgh & Castle*
- *Parish Church*
- *Water mills & Lighthouse*
- *Railway*

Mobility

- *Walk Path*



Principle 07 : Upgrade the mobility system

Increase the accessibility of the touristic destination and the connection between different hotspots.

Product : Access plan

Design circulation that accommodates ongoing or seasonal tourist travel(along with resident travel). Includes public transportation linkages and special travel lanes, such as express lanes for public transit.

- Motor Way

Principle 08 : Encourage environmentally friendly transport mode for ecotourism

Encourage the use of public transport, bike, pedestrian as the main way to develop the touristic route to enhance local economies and identities, shape spaces and structuring territories.

Product: Touristic Route Plan

Design trails (i.e. pedestrian, bicycle, historical, interpretive) connecting the user to significant historic and cultural buildings and places. The trails are selected based on the current bike and pedestrain system. The road which walk across more different kinds of landscape will be selected to for the ecotourism routes.

- Bike
- Pedestrain

CONCLUSION - Ecotourism management plan

High Way *Motor way* *Main Train (Bike)* *Main Train (Pedestrain)*

4
Gathering Story

Conclusion

Principle 01 : Cultural and Natural Respect
Make use of the culture and nature resource existing in the area to develop Ecotourism. The sustainable use of resources -natural, social, cultural, -is crucial and makes long-term business sense by using resources sustainably.

Principle 02 : Maintenance of the ecosystem
Maintaining Biodiversity and promoting natural, social, and cultural diversity is essential for long-term sustainable tourism. In order to maintain the cultural and ecological diversity, the recreation area, preservation area and recover area will be designed inside the ecotourism area.

Principle 03 : Develop resort projects for environmental education
Provide opportunities to experience nature in ways that lead to greater understanding, appreciation and enjoyment by interpreting the different typology of natural and cultural heritage.

Principle 04 : Involving Local Communities in the ecotourism plan
Includes local and indigenous communities as well as their culture, lifestyle in its planning, development and future growth, and contributes to lasting local economic development and creates permanent jobs for local people.

Principle 05 : Supporting local economies
Ecotourism should supports a wide range of local economic activities and which takes environmental costs and values into account, both protects these economies and avoids environmental damage, like villa, restaurant, hotels, etc.

Principle 06 : Upgrade the mobility system
Increase the accessibility of the touristic destination. Encourage the use of public transport.

Principle 07 : Encourage environmentally friendly transport for ecotourism
Encourage the use of public transport, bike, pedestrian as the main way to develop the touristic route to enhance local economies and identities, shape spaces and structuring territories.

Principle 08 : Maintenance of the quality of fresh water
Recover the water quality and avoids the costs of restoring long-term biodiversity. Contributes to the spatial quality of ecotourism.

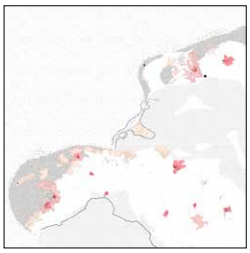
Landscape

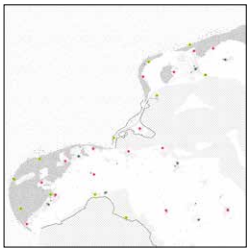
Community

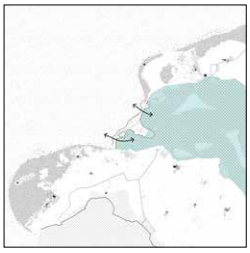
Program

Water

Mobility







Vision

CONCLUSION - Vision of Ecotourism

Nature

- *Costal Area*
- *Protected Area*
- *Recover Area*

Community

- *Spatial improvement area*
- *Spatial character strenthen area*
- *Spatial maintainance area*

Water Management

- *Open Dam*
- *Improve water quality*
- *Strengthen recreational and ecological value to main water course*

Heritage & Program

- *Heritage*
- *Ecological hotspots*
- *Cultural hotspots*
- *Economical hotspots*

Mobility

- *High Way*
- *Motor way*
- *Main Train (Bike)*
- *Main Train (Pedestrain)*