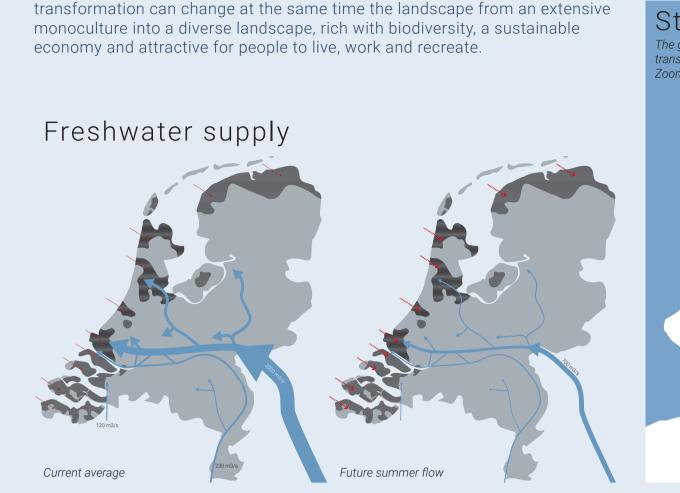
In 2028 the Volkerak-Zoommeer is no longer a freshwater lake. A diversity of problems

Landscape machine with the present water quality have caused the government to rethink the implications of the Delta Project that closed off the lake from the sea. The waterbody and its surroundings haven't developed as hoped in the last 30 years and the process to restore the connection with the sea has started. The Volkerak-Zoommeer will become saline again and limited tides will be reintroduced in order to create a more robust water- and ecosystem. The transformation from a fresh to a saltwater system can be part of a new era in the continues battle in the Netherlands to live with water. For centuries the Dutch have tried to tame the water by constructing dikes and flood defenses with as highlight the Delta Project which separates major areas of the delta from the dynamic sea and make the Volkerak-Zoommeer fresh. These interventions in the natural delta system have resulted in a complex artificially water system, that need continues improvements to keep quality and quantity of From the urban perspective a fourth aspect can be added: people. In order to create a fresh water acceptable. In order to keep the land optimized for different production sectors, living landscape, it should be a landscape where people are welcome and be part of. The the land is flushed with a high amount of water from the rivers in periods of drought, which landscape machine not only can help malfunctions in ecological processes, it also can have will become more frequent in the future due to climate changes. The first step to a more natural and robust water system is made with the decision for the

The study started with Waterpoort, that consists of multiple organizations and transformation to a saline Volkerak-Zoommeer. However, in the plans of the government municipalities around the Volkerak-Zoommeer. During the study, the research has zoomed the condition is set that in order to make the lake saline, an alternative fresh water system in to West-Brabant, with central the municipality of Steenbergen. It is an area that exist for should be established. This way another artificial system is created and it is unsure this 79 percent out of agricultural land with large fields of grain, potatoes and sugar beets. This system will be sufficient on long term. Research should be done for alternative strategies. monoculture that is dominant of most of the Dutch polders is in general low valued in the In today's world mankind take more from mother earth than natural recourses maintain their facility levels and a pleasant living environment. The estuary as a landscape can refill. To be able to maintain the current standards, we have to make the machine has the promise to revitalize the area and provide it with new qualities. transition to a more sustainable system and way of thinking. The project 'The estuary as a landscape machine' is a study to the potential for the area when saline water not only comes back into the lake, but will be welcomed into the land again as well. This way the dependency on a decreasing freshwater supply can be reduced and a more sustainable situation can be created. This



In order to transform the landscape into a saline landscape machine, independent of the The ecosystem can be divided into pieces with more concrete production cycles. This fresh water supply, the saline water has to be able to flow into the polders. For this existing can be used to cultivate the higher lands where the ecosystem of the estuary will not estuaries have been studied as inspiration. The tides that come back into the Volkerak can naturally occur. Different types of process chains are possible with various land-water be used as a natural engine to let the saline water flow in and out of the area. To transport ratios with result in different visual appearances. Some chains are mainly based on water and spread this water the historical creeks will be used, which date from the time the land related organisms, others make a combination between saline crops and water production existed out of saltmarshes and mudflats. The Dintel and the Vliet are two of the main creeks methods, a last category exist mainly out of land production with water as a support that are left, but remains can also be found in the polders, their winding structure are in function. When similar chains are clustered in a polder, the polders will get more distinction By connecting these remains and restoring them where it is necessary, the carriers of the formation of the landscape can become visible again, water can be transported into the area and at the same time a water network is created that is navigable. This can be used as

processes can cause a wealthy biodiversity and change the current monoculture while still area Moerdijk is also situated nearby. cattle graze or saline crops been grown.

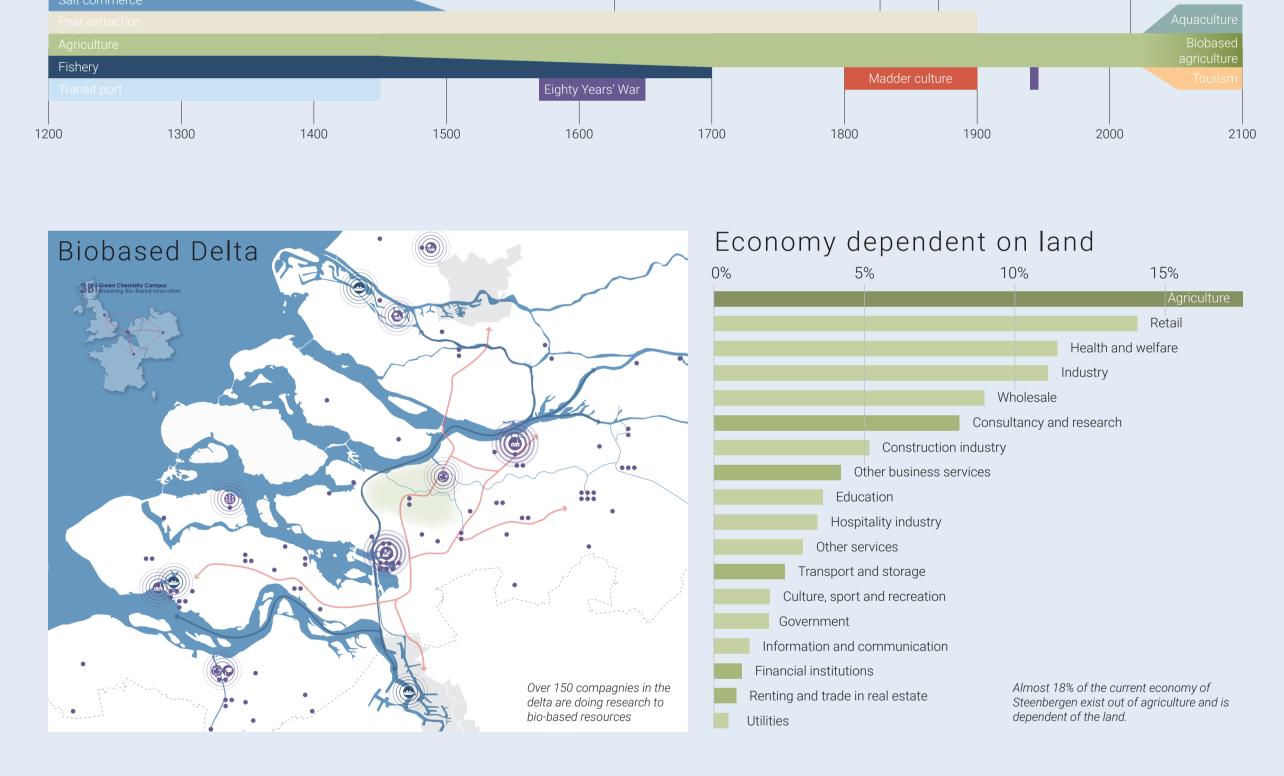
parts of the land are peat reclamations and are situated below sea level. At the location of organizations and universities have start studying the possibilities to make products polders are now situated above sea level. In the two areas, two different landscapes, based companies work together on a more sustainable future.

strong contrast with the linear lines from the roads and the straight agricultural allotment. and become recognizable units. The polder landscape will become more diverse. ne products are becoming more popular in the culinary world. Products like fish and llfish are traditional popular Dutch products, but samphire and seaweed are more often The origin of the polder has had as result there are height differences in the area. The older served. There is however another market growing fast, the bio-based economy. Multiple the current accretion polders, the sea had a longer period to deposit clay, as a result these out of biomass. One of the leading organizations is the bio-based Delta, where over 150 The estuary of Steenbergen can join in this development and take a leading role to show not only industrial production should change, but the way to cultivate the new raw materials between two main ports and the new highway A4 makes the area good accessible. In

In an estuary, a wide range of ecological processes happen that make it a very fertile area. can be more sustainable too. There are already experiments with different plant types to see A lot of organisms live here which have a positive influence on the environment and can what the possibilities are. Especially seaweed and algae are very promising in this sector be harvested for food or as raw materials for certain products. Examples of this are a wide and grow opulent in salt conditions. In the estuary they can be cultivated by the farmers. range of shellfish, saline crops, seaweeds and fish. At the same time the area is a popular At the multiple business areas, products can be developed and produced. The position Bergen op Zoom, the Green Chemistry campus is situated just a few kilometers south of This ecosystem can be implemented in the landscape machine. Making use of these natural

Steenbergen and has extensive research facilities, specialized in this field. The industrial The new estuary brings this way new work to West-Brabant in multiple forms. Apart from In the lower areas, where the land is below 0 NAP, this ecosystem can grow in a natural the industry, saline farms are smaller in size. The current farm sizes are average between way when the water is welcomed back in the area, but tuned to improve the harvest. In 30 and 50 hectares and this is growing. Calculations done by the foundation Zeeuwse the lowest part with permanent water fish can swim, at the lower mudflats shellfish and

Tong claim that a farm based on saline water products of a total area of 5 to 6 hectare can seaweed fields can be cultivated. On the higher grounds plants like samphire, reed and provide a steady income for a farmer. Even with in mind the continues upscaling of farms, statice take over and the permanent dry areas can be used as a breeding area for birds, can the expectancy is that there become opportunities for new entrepreneurs.

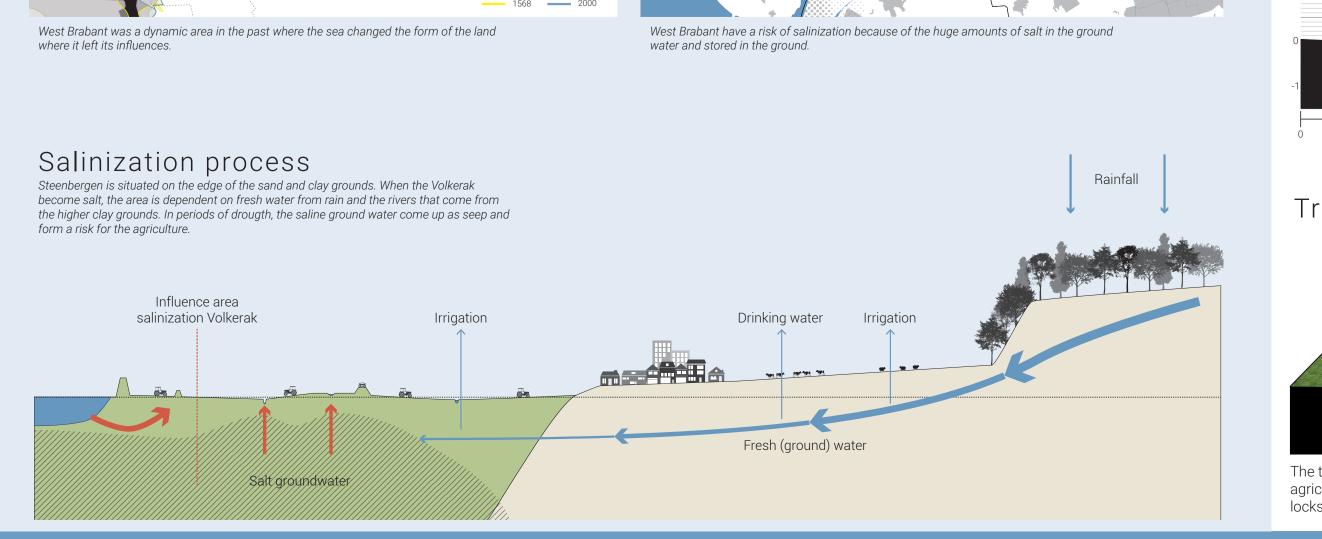


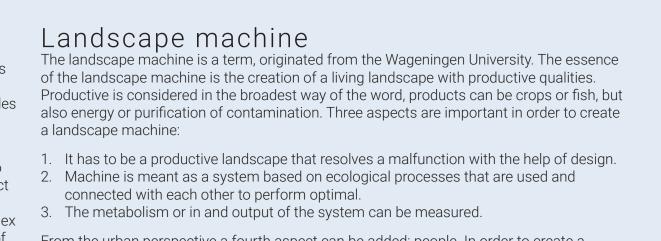
Living in the landscape machine The area shouldn't be only a place for production and ecology, in this landscape machine.

The detached houses stand in the middle of the estuary but with a minimal impact on their people have a place as well and should feel welcome. At the moment estuary-like surroundings. They are off grid with a minimal infrastructure. To prevent the houses are landscapes are rare in the Netherlands. There are a few spots in Zeeland where saltmarshes spread all through the landscape, they can be grouped into small clusters. The clusters have lie at the foot of dikes like the Verdronken land van Saeftinghe and there are the Wadden to keep distance to each other so they are recognizable in the landscape and the landscape Islands in the north. But most of these areas are difficult to access and hidden because of stay the dominant factor. To blend in with the landscape a uniform and simple architecture is desired, with materials that have a natural feeling, preferably developed in the region. The region of Steenbergen will be a new estuary where ecological values are accompanied It is also possible to live together in the landscape on mounds, situated as islands in the by social and economic values. The transition from a monoculture to a rich and diverse estuary. When structuring them along dikes and by using the dimensions of the traditional economy bring new life to the area and attract new people. Because the ecological and farm they will fit in with the local characteristics. A mass study has shown that by keeping social development are tied together in this concept, it can be opened up for different kinds the shape compact and combining vegetation and buildings to form an assemble, a lot of of programs in the housing and recreational sector. These developments contribute to the freedom in form and material for the buildings is possible. By joining the houses together, it area. The uniqueness of the area makes it attractive for tourists and recreation. Facilities is possible to share facilities to become self-sufficient in energy and water use. like boat and bike rentals, hotel accommodations, wellness and culinary activities can be

The traditional family comes primarily from the area. Some will work there, but often it are commuters that travel to their work. A safe surrounding is desired with affordable The estuary is also a place to live. Generally speaking, you can distinguish three target housing. In the direct area daily facilities should be available. For people like this, who like groups that initially settle in the area: The new entrepreneur, the landscape lover and the aconnection with the landscape as well, there is space at the border of the town. In the more traditional family. The entrepreneur is a pioneer who wants space to start up his current situation, Steenbergen has its back to the landscape, just like many other villages. business in the industrial, agricultural or tourism sector. The first type can settle on one of The existing houses form a strong border of the town and set the landscape at a distance. the industrial areas or in the saline city, depending on the type of business. The other two By creating a new edge for the village, it is possible to improve the connection. When the settle in the rural area. Existing farmyards can be expanded or transformed and new ones landscape can be extended into the city and new houses blend in with the landscape at the can be created within specified conditions. Recreational facilities can be strategically placed edge, city and countryside become intertwined and the threshold for people to go outdoors along the main structures, nearby villages to give a boost to these places. get lowered so they experience the unique region they live in. Landscape lovers are idealists and pioneers. They are independent of their location within Summarizing, the transition from a fresh water to a saline water system brings many the land and are attracted by the special landscape qualities that arise here. The sustainable opportunities. By following the concept of the landscape machine, the monoculture can

character of the development speaks to them and they are very aware of their environment. transform into a rich and diverse landscape with ecological and economical values that They are adventurers that dare to try a different form of living and love the space and strengthen each other. A sustainable area will be achieved that is pleasant to live in. silence around them. Dependent on their desires, it is possible to live solely or together.



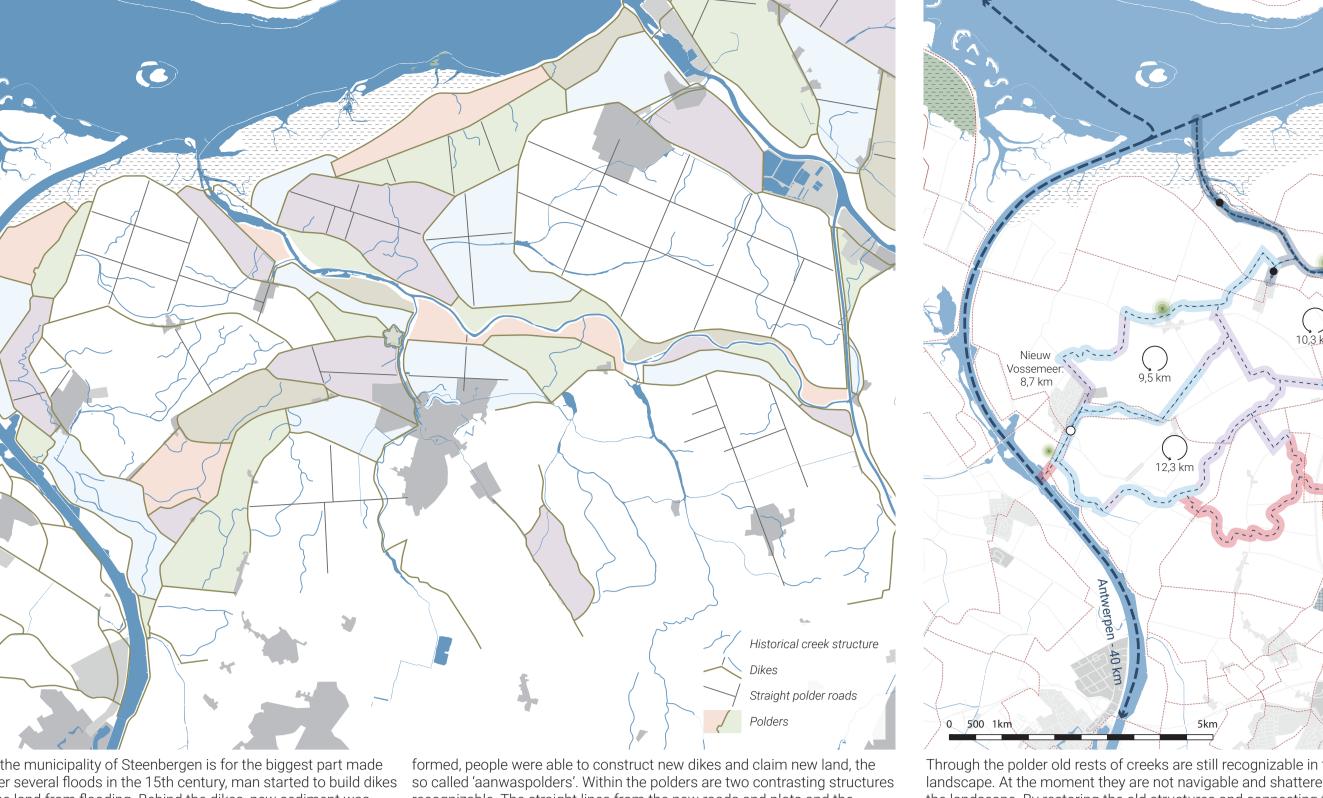


meaning for an area on the level of welfare. spect of spatial quality. The villages in the area have, like in more rural areas difficulties to

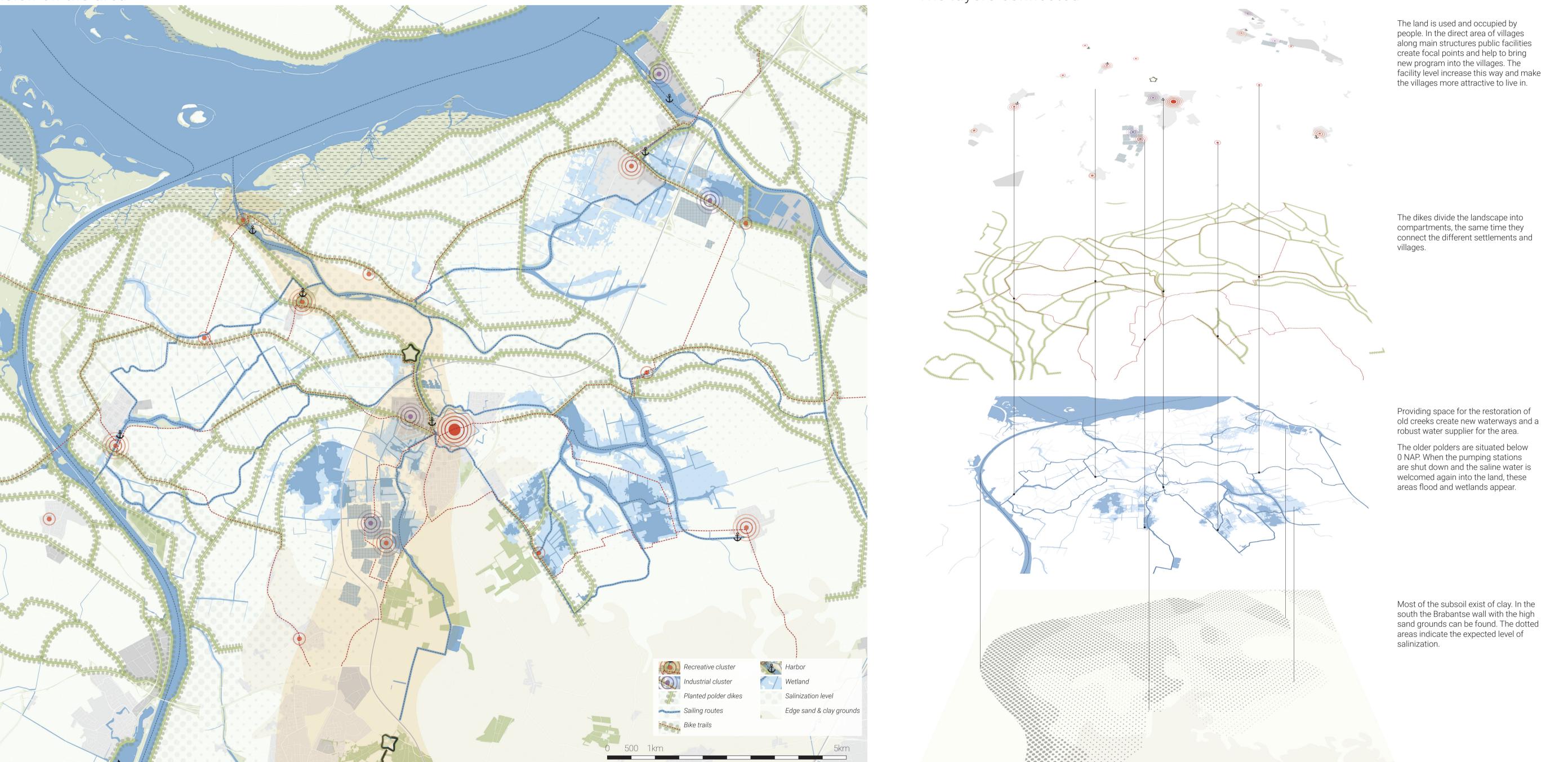


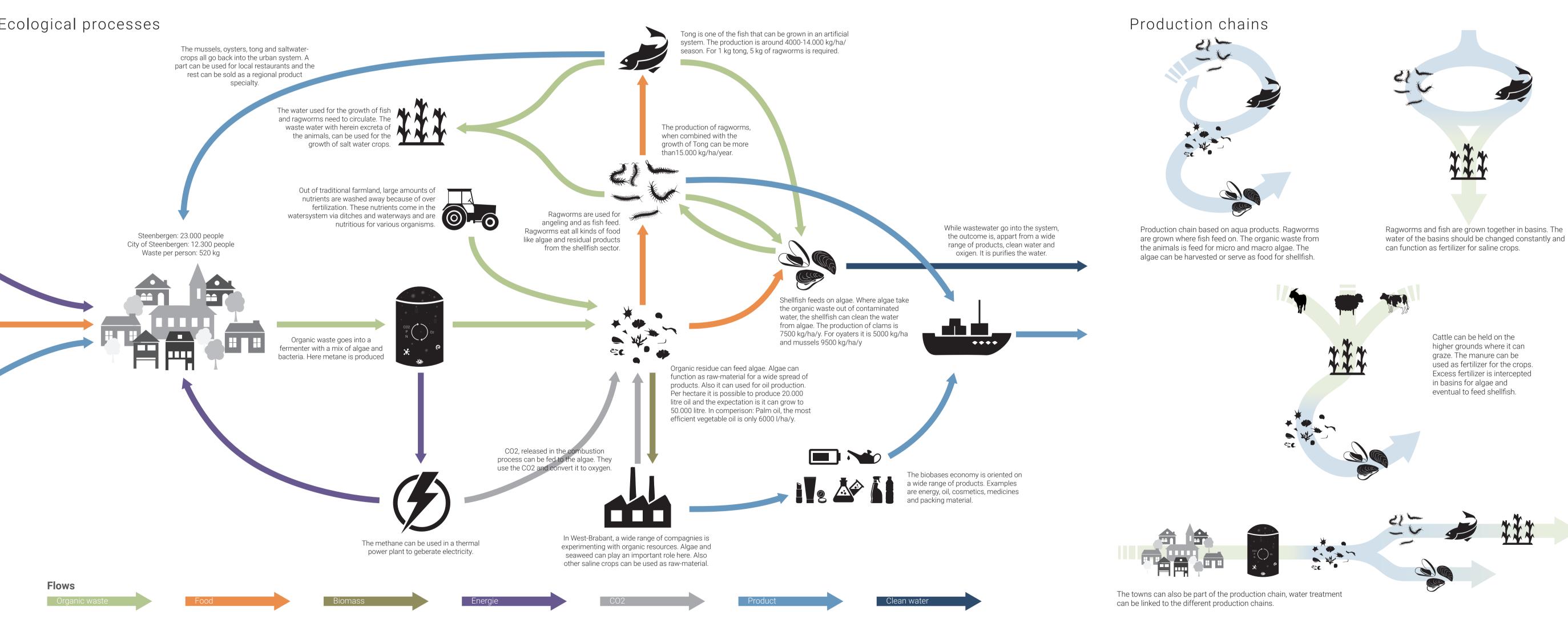
Recreational landscapes

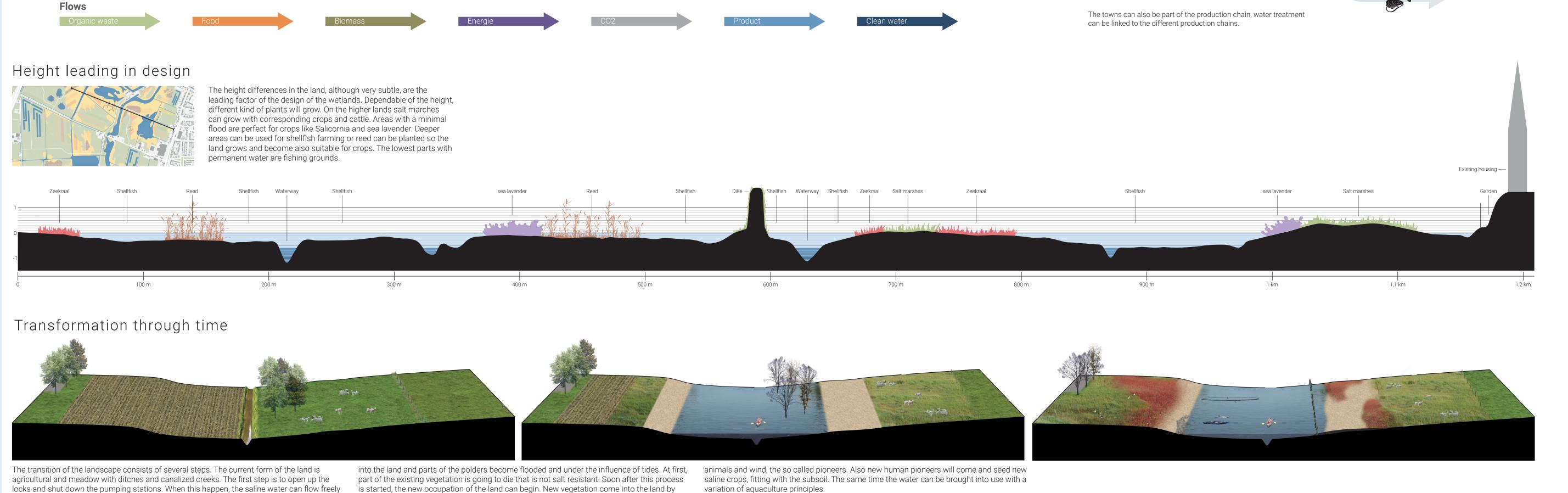
West Brabant have some special areas with natural and cultural values. They forming a string from the Brabant Wall, area. When good connections are made and information is available, it can help people to explore the rest of the area. The Brabant wall already have branded itself and has become an understanding. The new estuary can do the same. Both have a very unique and different character, and they can complement each other.



The land of the municipality of Steenbergen is for the biggest part made formed, people were able to construct new dikes and claim new land, the polder old rests of creeks are still recognizable in the possible to navigate from Dinteloord to Fort de Roovere. The routes created along the Water Linie and the Steenbergse Vliet to the Volkerak. At the height of Steenbergen is now a missing link the by man. After several floods in the 15th century, man started to build dikes so called 'aanwaspolders'. Within the polders are two contrasting structures — landscape. At the moment they are not navigable and shattered through — are between the 6 and 10 km, navigable between 1 to 2 hours for canoes estuary can fill in. The scale and uniqueness of these places make it very attractive for people to visit. At the moment to protect the land from flooding. Behind the dikes, new sediment was recognizable. The straight lines from the new roads and plots and the there is no program linked with these places, but when this change it can become the starting points of the visits to the deposition was high enough and salt marshes were meandering creeks that are the last visible remains from the salt marshes were meandering creeks that are the last visible remains from the salt marshes were meandering creeks that are the last visible remains from the salt marshes were meandering creeks that are the last visible remains from the salt marshes. boat. Places can be connected with each other though the water. Nieuw- and reach new places that aren't accessible by road. Vossemeer and Kruisland can both get a small harbor and it became





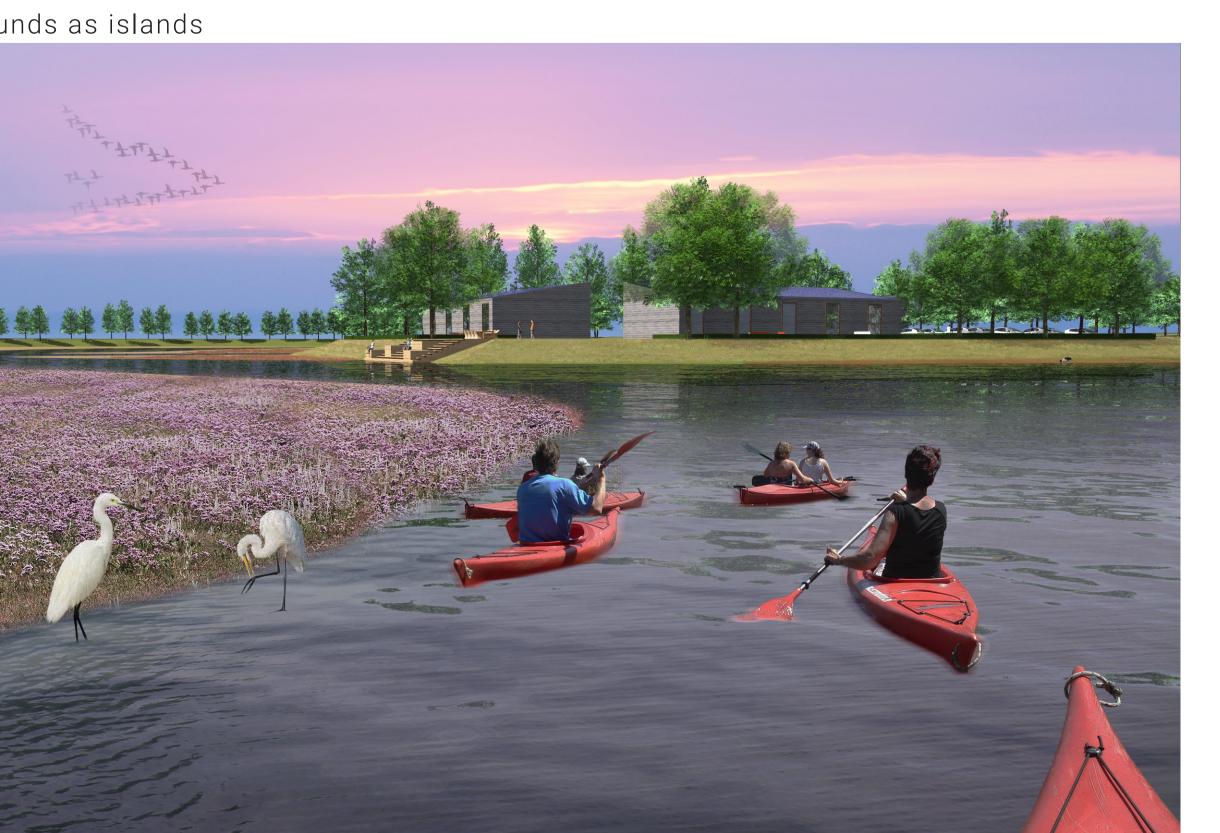
















One of the possibilities to use it, is as

Techniques are under development where different kind of biomass can

be press into a mold and create wall

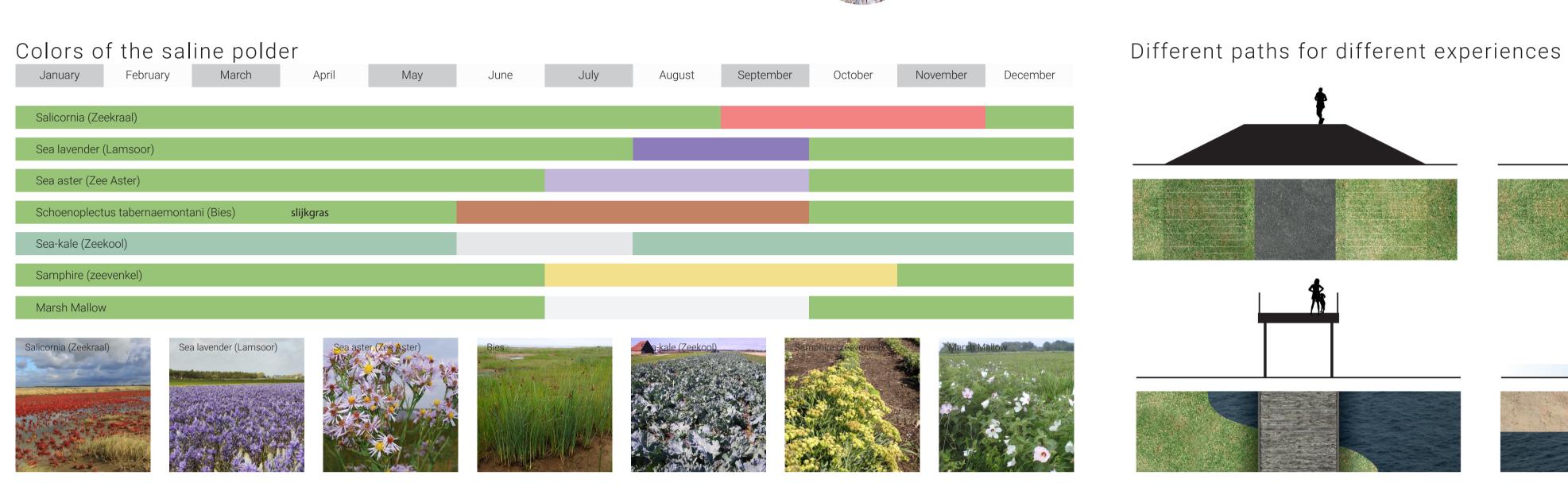
panels that are usable on the outside of

buildings. Dependable on the vegetation

used and time of the year, it has different

panels. new farmyards will be established.

of the local cycles. When the panels The proposed interventions make the polders more distinctive from each other. Dikes become recognizable structures e being consumed, they should be in the landscape and define the polders. Each polder gets its own structures and become a unity. In the landscape new eplaced in time. Not every panel have farmyards will appear, dependent on the production chain used. Each type requires different type of barns and facilities. the same aging speed and this way, Some need a place for indoor basins where others need a cowshed or storage for machinery. In General, the existing the buildings become a patchwork of farms will grow. Aquaculture is more labor intensive and produces products with a higher value, in these areas the most



1. A new farmyard needs a connection with one of

the main structures as a dike or a creek.

views over the landscape.

average of volumes of 700 m2.

ovide a full income. Taking into account the continues scale enlargement in 4. The residential building is parallel to the road on a

the agricultural sector, can be assumed that the future farm is around 15 till distance of min. 15 meter to the main structure.

for storage and living. The average saline company have around 2500 m2 6. Each function is recognizable as an own volume,

landscape gets a sloppy appearance. Because of this, a few basic rules are maximum surface of 1000 m2, with a maximum

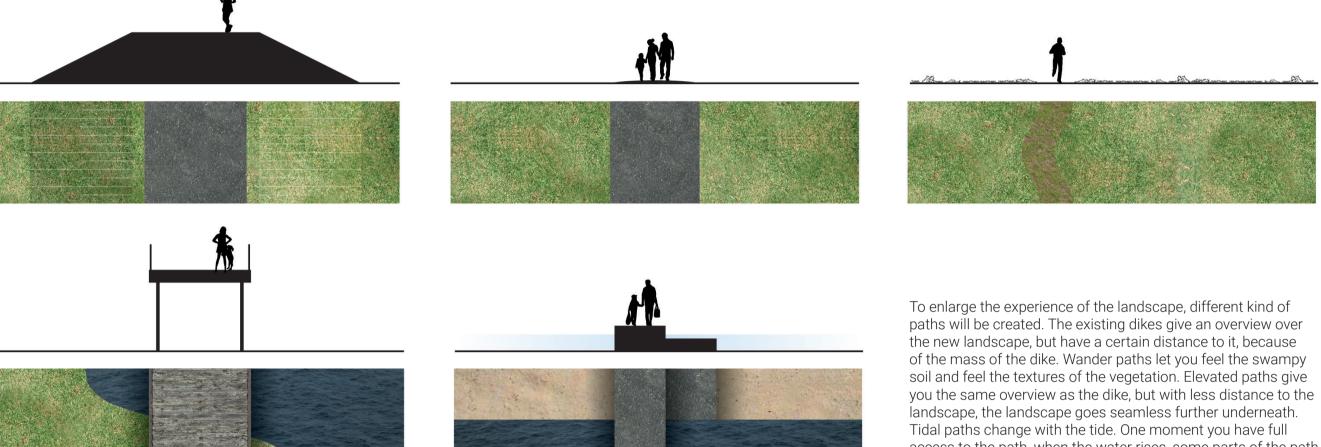
20 hectares. This is a scale jump down in comparison with the current size 5. The barns are situated behind the house,

or storage and breeding. When this is placed randomly in the landscape, the to keep the human scale. A volume has the

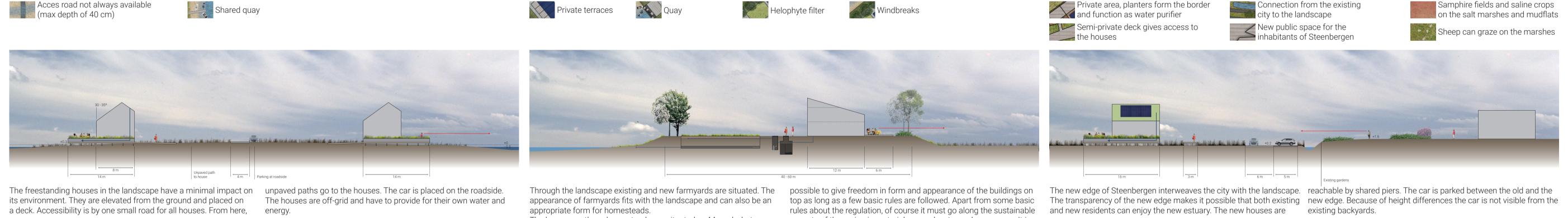
of average 30 - 50 hectare. New work arises and with this, new farmyards perpendicular to the main structure.

2. Clustering of farmyards to maximize the free

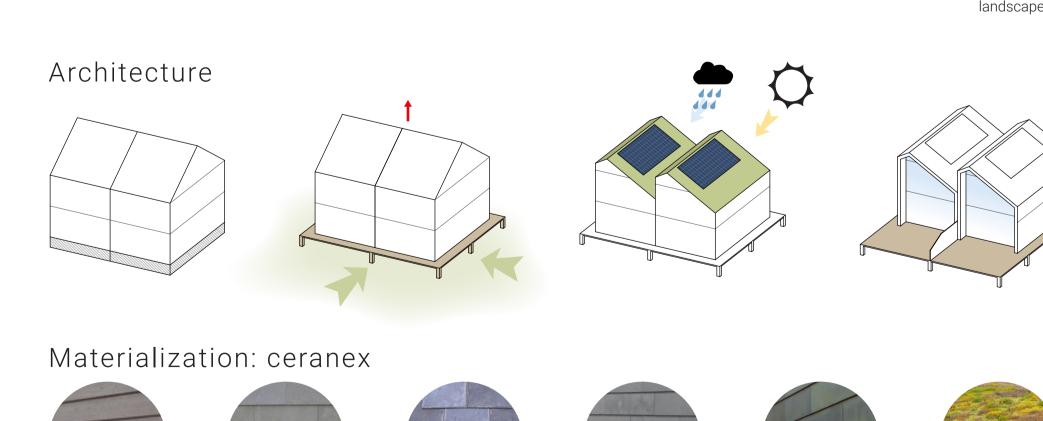
3. The farmyard is situated on a small mound, to





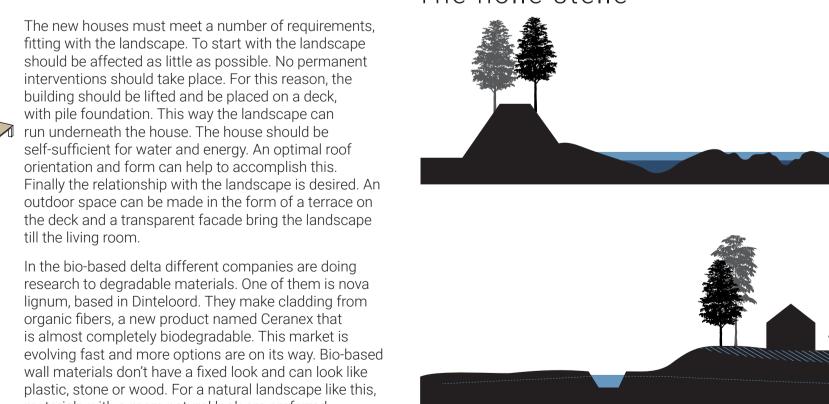


16 m | -3 m | -6 m | -5 m | Existing gardens rules about the regulation, of course it must go along the sustainable and new residents can enjoy the new estuary. The new houses are existing backyards. The houses on these homesteads are situated on Mounds, between aspects of the region in material use and water and energy use. It is 2 and 4 meters high and with a slope with a minimal steepness of 1:3 also a building form where the social aspect come in. The homestead and maximal 1:1. This way the homesteads become islands in the has to be developed together and facilities can be shared. landscape. The mounds have a strong form language, this make it



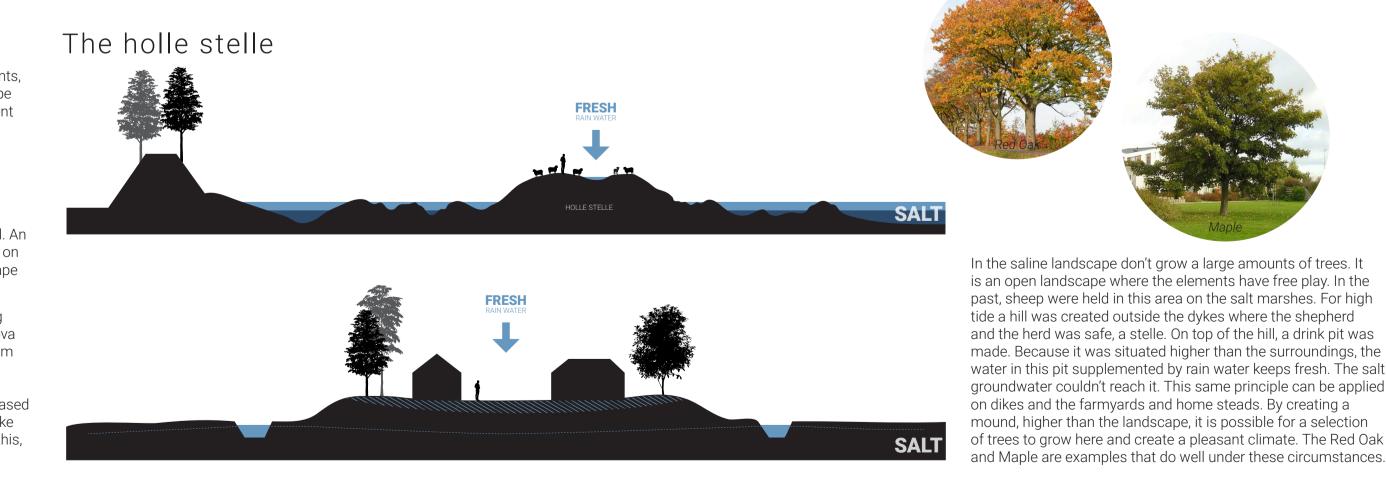
The different in land surface is large between low tide and high tide. Big areas are no longer passable when the water comes up. The form the

water take is very different in both situations and the water - land ratio changes with the hour.



for the transformation to a saline Volkerak-Zoommeer. When this is decided, the plan is to open the locks in 2028. Before this happen,

preparations can be made for a smooth transition. Multiple interventions can already be done and influence the area in a positive way.



New activities in

recreational sector

Completing the creeks system

Intake saline water Phased transition of polders

Transition first polders to a robust saline system

