

Turn the Tide! A landscape-based strategy for a resilient Knysna shoreline



Perspective / Promenade and Marina

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TURN THE TIDE! A landscape-based strategy for a resilient Knysna shoreline

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Written statement, short description of the project in English, no more than 250 words

Knysna is a small coastal town nestled on the northern shore of the Knysna Estuary in the Western Cape Province of South Africa. Today, Knysna is experiencing rapid population growth. The stable economy, good infrastructure and quality of life are reasons why the region is so attractive. However, a dark cloud glooms on the horizon as the region is increasingly threatened by the effects of climate change. Knysna faces multiple social, economic, and environmental challenges, which all require immediate action. However, Knysna will only be able to tackle these once it has faced its main rising challenge: climate resilience. The aim of this thesis is to develop a landscape-based strategy that can be applied on multiple scales, supporting Knysna's development into a climate-resilient and socially reactivated district. The concept REACT(ivate) creates the base for this transformation to take place and consists of two steps: the first is to identify and react upon expected and unexpected climate change impacts. In the case of Knysna these are sea-level rise, drought, flooding, and wildfires. The second is to activate forgotten spaces by inviting people to rediscover the shoreline by creating opportunities for recreation. The design proposes a radical transformation of the town's central district to reconnect town and water. By retreating the urban edge, a connected shoreline with a variety of spatial qualities is created. The design places emphasis on the multidimensional value of public space, whilst preparing for a future with climate change-related challenges.

For further information

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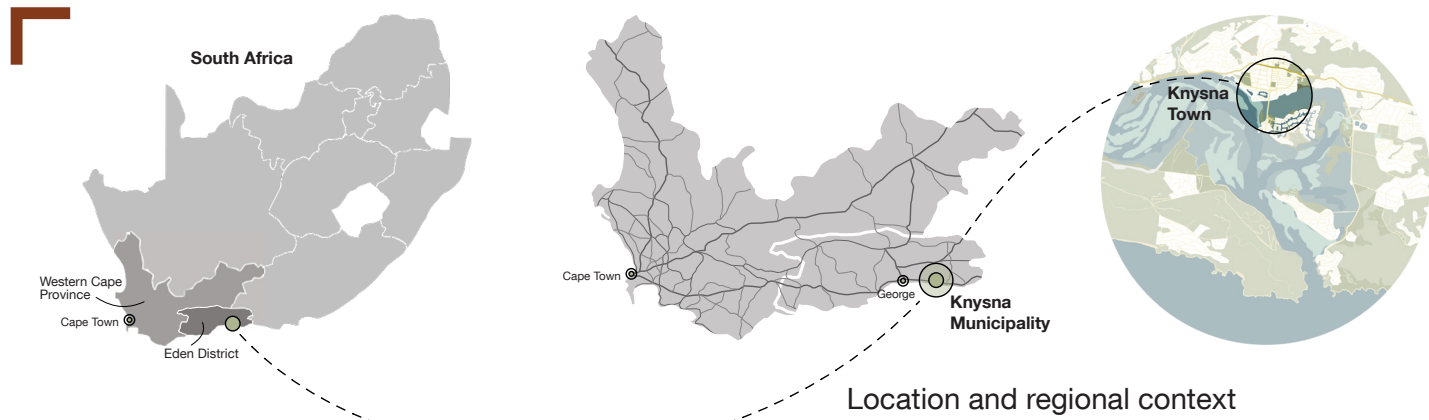
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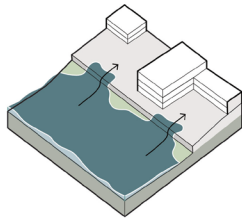
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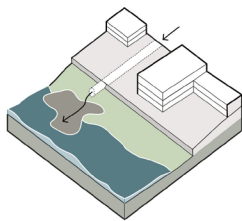
SCHOOL PRIZE



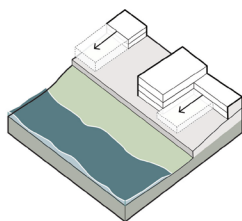
The current state of the shoreline:



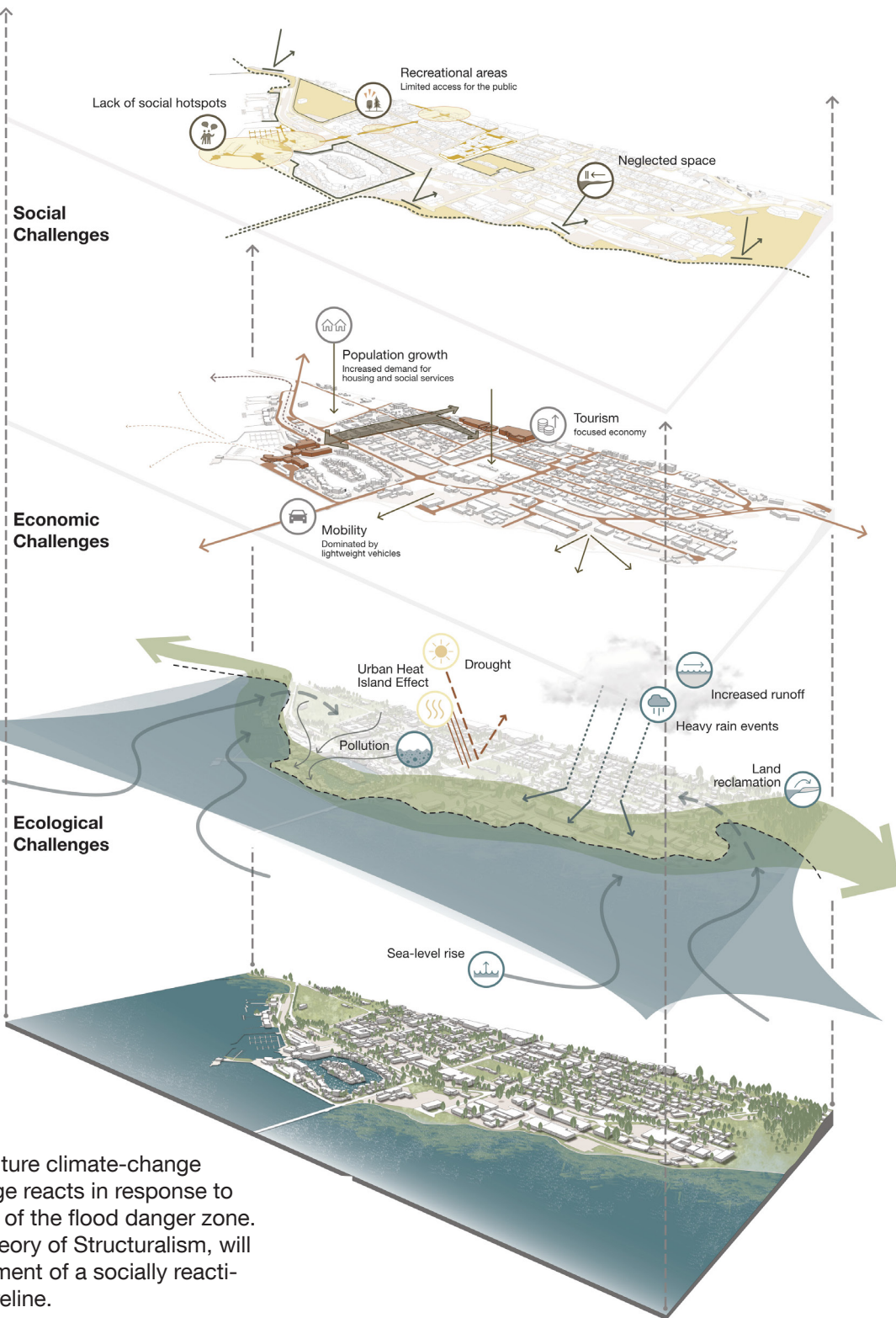
Due to the rising sea-level, the saltmarsh requires space to migrate inland. However, there is little space.



Polluted urban stormwater is directed into the estuary, causing erosion and impacting the health of the ecosystem.



Urban encroachment and land reclamation have resulted in a hard transition to the water – a faceless contact zone.



Layers of complexity

Knysna can only prepare for future climate-change related impacts if its urban edge reacts in response to the rising sea by retreating out of the flood danger zone. This process, guided by the theory of Structuralism, will support Knysna in its development of a socially reactivated and climateresilient shoreline.



Regional Strategy (original scale 1:30 000)

A connected green network is created that wraps itself around the lagoon and stretches out into the surrounding landscape along streams that feed into the estuary. A retreat of the urban edge means that infrastructure and communities must be relocated to other areas. This must occur without causing urban sprawl.

Design Concept / REACT(ivate) the Knysna shoreline

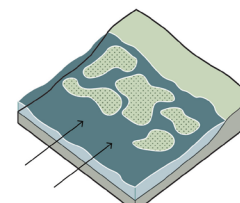


Identify and react upon expected and unexpected climate change impacts: sea-level rise, drought, flooding and wildfires.

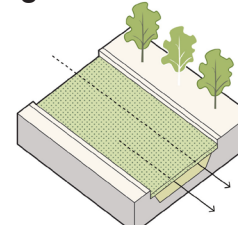


Invite people to rediscover the shoreline by creating opportunity for recreation.

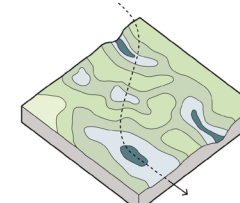
Climatic response typologies



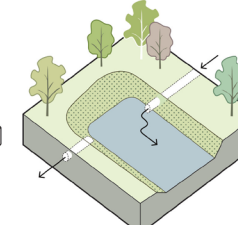
By retreating the urban edge, space is given back to the saltmarsh.



Subsurface wetlands are used for the initial treatment of the stormwater.



Surface wetlands are used for the secondary treatment of the water. The clean water can be reused or replenish the lagoon.



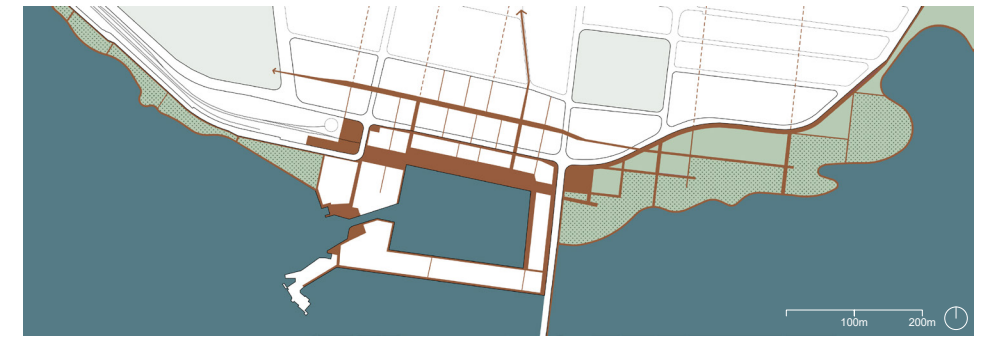
Detention basins capture large amounts of stormwater during heavy rain events and slowly discharge it into the wetlands.



Design Concept / React by retreating



Give structure



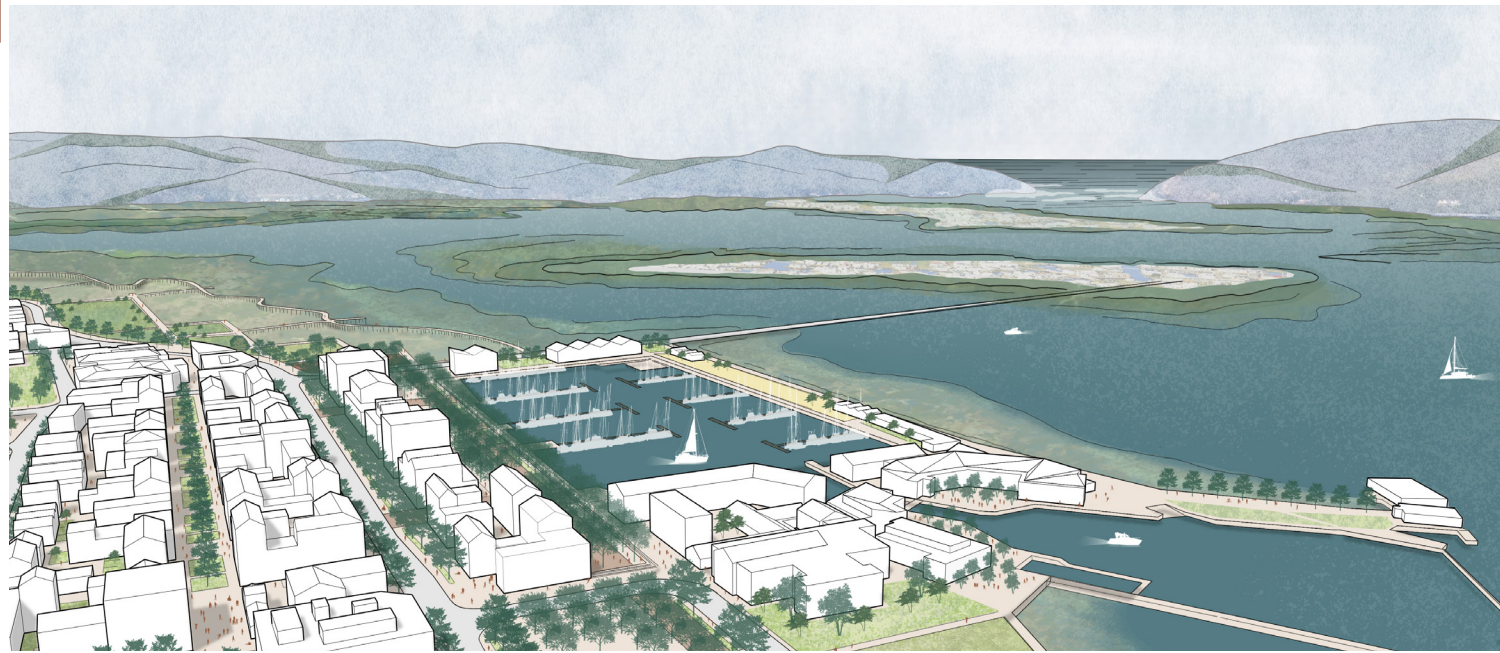
Activate by inviting



Masterplan (original scale 1:1000)



Section C (original scale 1:200)



Aerial Perspective



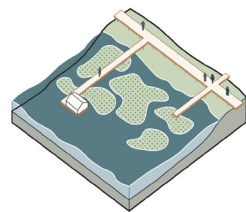
Perspective / Saltmarsh Park



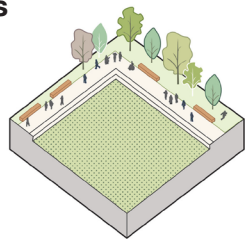
Plan of the Promenade and Saltmarsh Park (original scale 1:200)



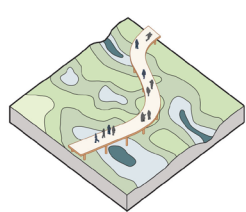
Social invitation typologies



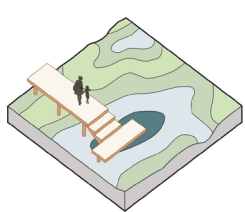
Bird hides, viewing platforms and piers allow people to experience the growing saltmarshes.



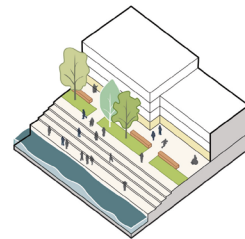
Edges between park and subsurface wetland can become interesting transition zones.



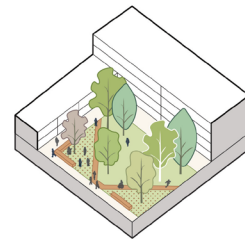
Unique experiences of the wetland create opportunity to increase community awareness about climate change impacts.



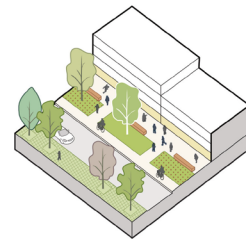
Lowered/raised platforms invite people to make direct contact with the wetland, delivering sensory and atmospheric experiences.



Hard urban edges are transformed into inviting public spaces, such as promenades.



Small open spaces create opportunity to serve the surrounding community by providing small-scale recreational activities.



Streets can act as green corridors, which additionally encourage social interaction.

Knysna's urban edge is transformed into a socially reactivated district, whilst establishing proximity and relation to the water.

The **Promenade** acts as a new central pedestrian zone and invites people to stroll and linger along the edge of the marina. Wide seating steps stretch along the southern edge of the promenade and provide access to the boat docks.

The **Saltmarsh Park** highlights the open quality of the Knysna landscape. Its main feature of the park is an elevated boardwalk, which offers its visitors a unique experience of the saltmarshes and the lagoon.