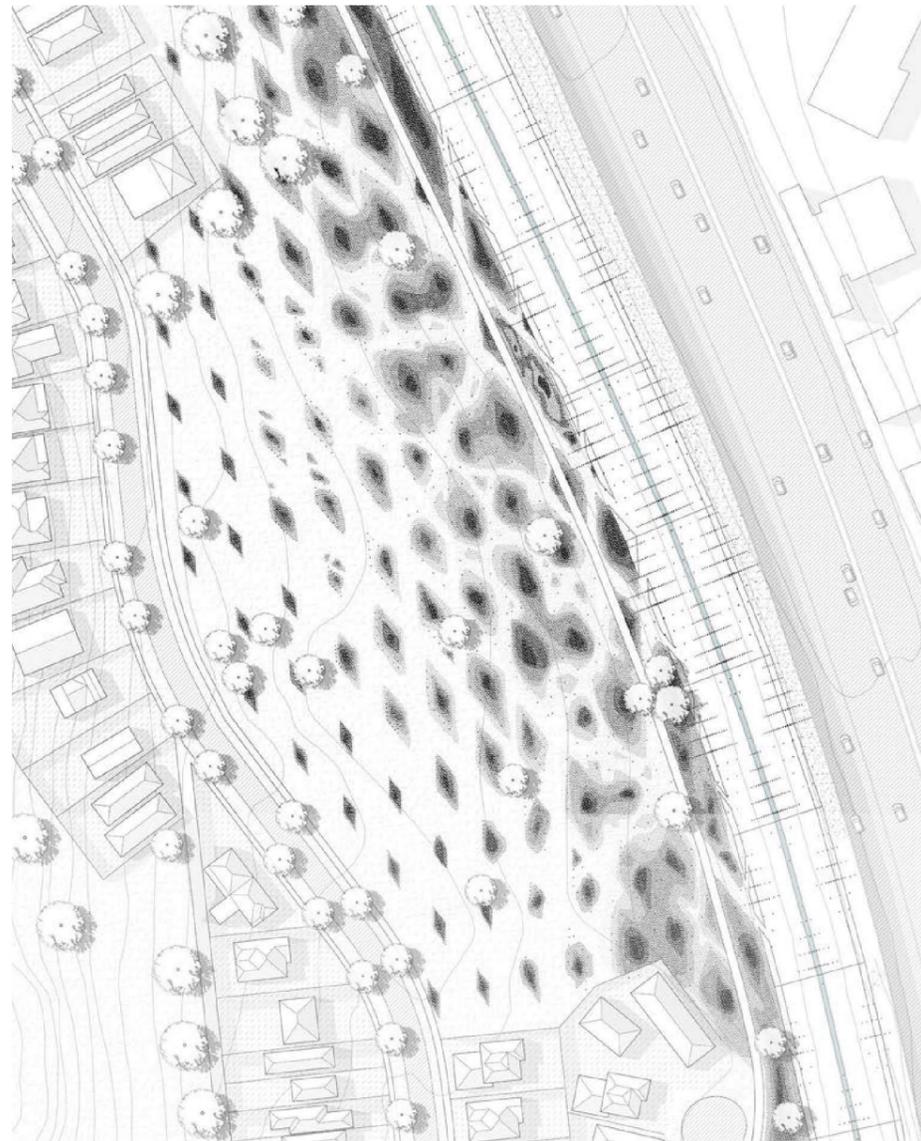




Low grasses Tall grasses Shrubland Woodland 1:2,000 N



Low grasses Tall grasses Shrubland Woodland 1:2,000 N



Low grasses Tall grasses Shrubland Woodland 1:2,000 N

Country / City Australia / Melbourne
University / School RMIT University / School of Architecture and Urban Design
Academic year 2019
Title of the project Engaging Spontaneity
Authors Reuben Spurge

TECHNICAL DOSSIER

Title of the project	Engaging Spontaneity
Authors	Reuben Spurge
Title of the course	Landscape Architecture Project
Academic year	2019
Teaching Staff	Charles Anderson, Alban Mannisi, Alice Lewis, Zoe Loomes, Qidi Li, Martin Woodbine
Department/Section/Program of belonging	Landscape Architecture Discipline / Master of Landscape Architecture
University/School	RMIT University / School of Architecture and Urban Design



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

Engaging Spontaneity imagines an initiative funded by Melbourne Water that seeks to improve the ecological productivity of the Moonee Ponds Creek through the establishment of spontaneous urban ecologies. The focus of the project has been largely on social interactions with spontaneous ecologies, rather than on the ecologies themselves. None of the final outcomes depicted through this document are completed works but rather speculations on how the project might take shape.

The formation of thoroughfares through Delth Reserve, for example, relied on the assumption that, over time, the suppressional force of footsteps would match the upward force of the vegetation. However, there may be an unexpected imbalance between the two, leading to either an overgrown unusable space or alternatively to a space that has suppressed spontaneous ecologies to the point of being unable to become established.

It is the ambition of the project to shift the negative perceptions of such ecologies by implementing a catalytic framework that exaggerates the generative capacity of the Moonee Ponds Creek. This framework will facilitate social interaction with the dynamic processes by which spontaneous urban ecologies are defined. Through this, the stigma towards them will be diminished, shedding light on their potential to introduce self-sustaining ecologies into hyper-disturbed urban environments and to find compatibility between urban and ecological systems.

For further information
Máster d'Arquitectura del Paisatge -DUOT - UPC

T: + 34 93 401 64 11 / +34 93 552 0842
Contact via email at: biennal.paisatge@upc.edu

Máster d'Arquitectura del Paisatge -DUOT - UPC
ETSAB- Escola Tècnica Superior
d'Arquitectura de Barcelona
Avenida Diagonal, 649 piso 5
08028 Barcelona-Spain



CLIMATE CHANGE AGAIN

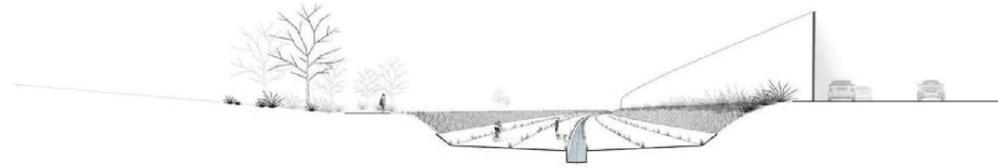
11th International Biennial Landscape Barcelona

Barcelona September 2020
SCHOOL PRIZE

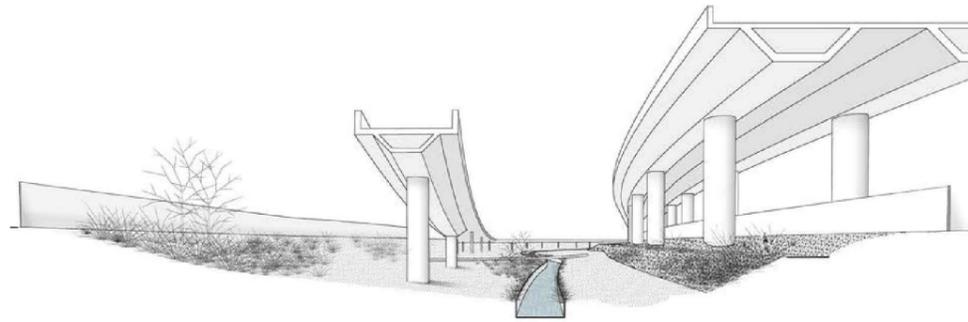


Existing Spatial Qualities

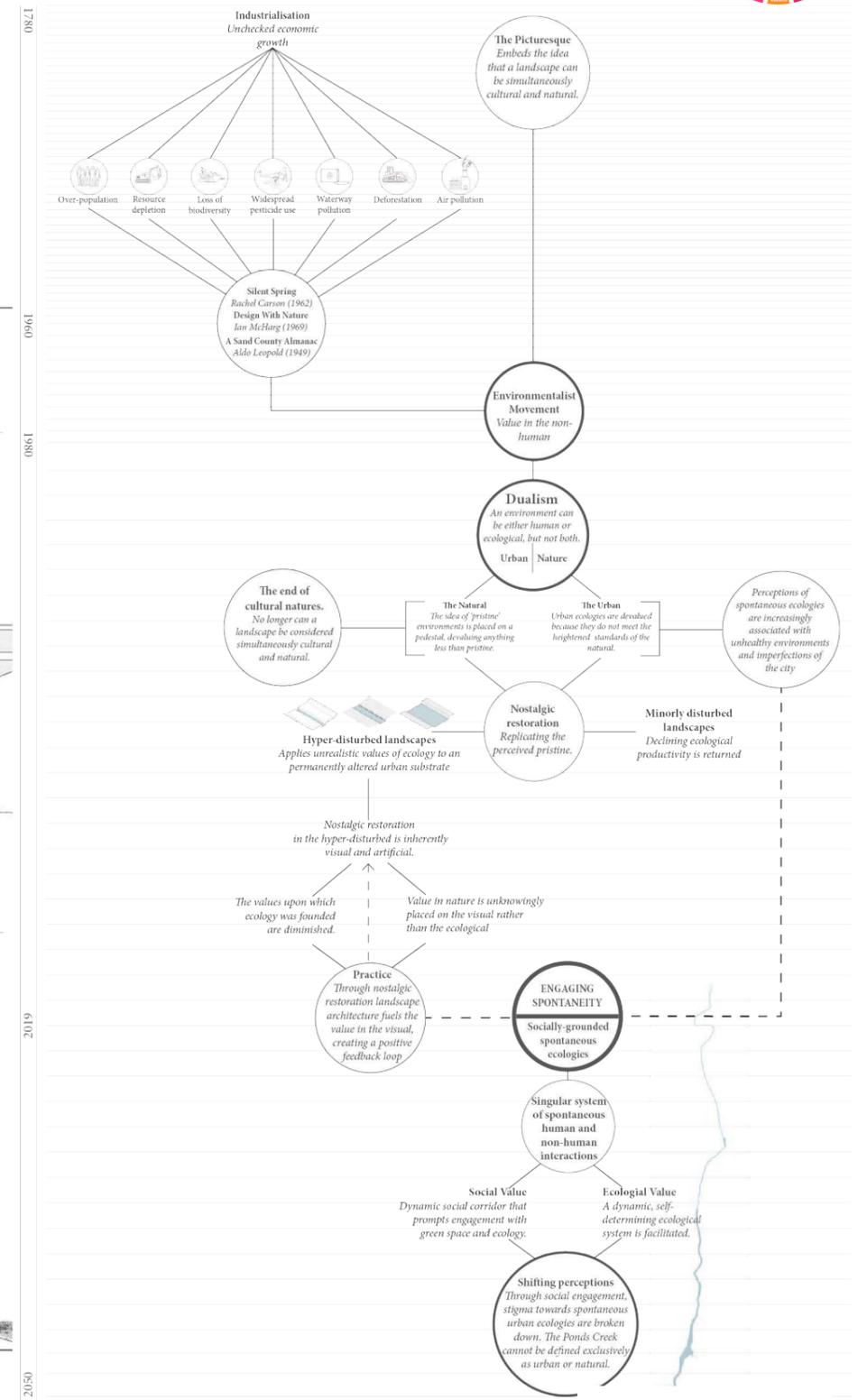
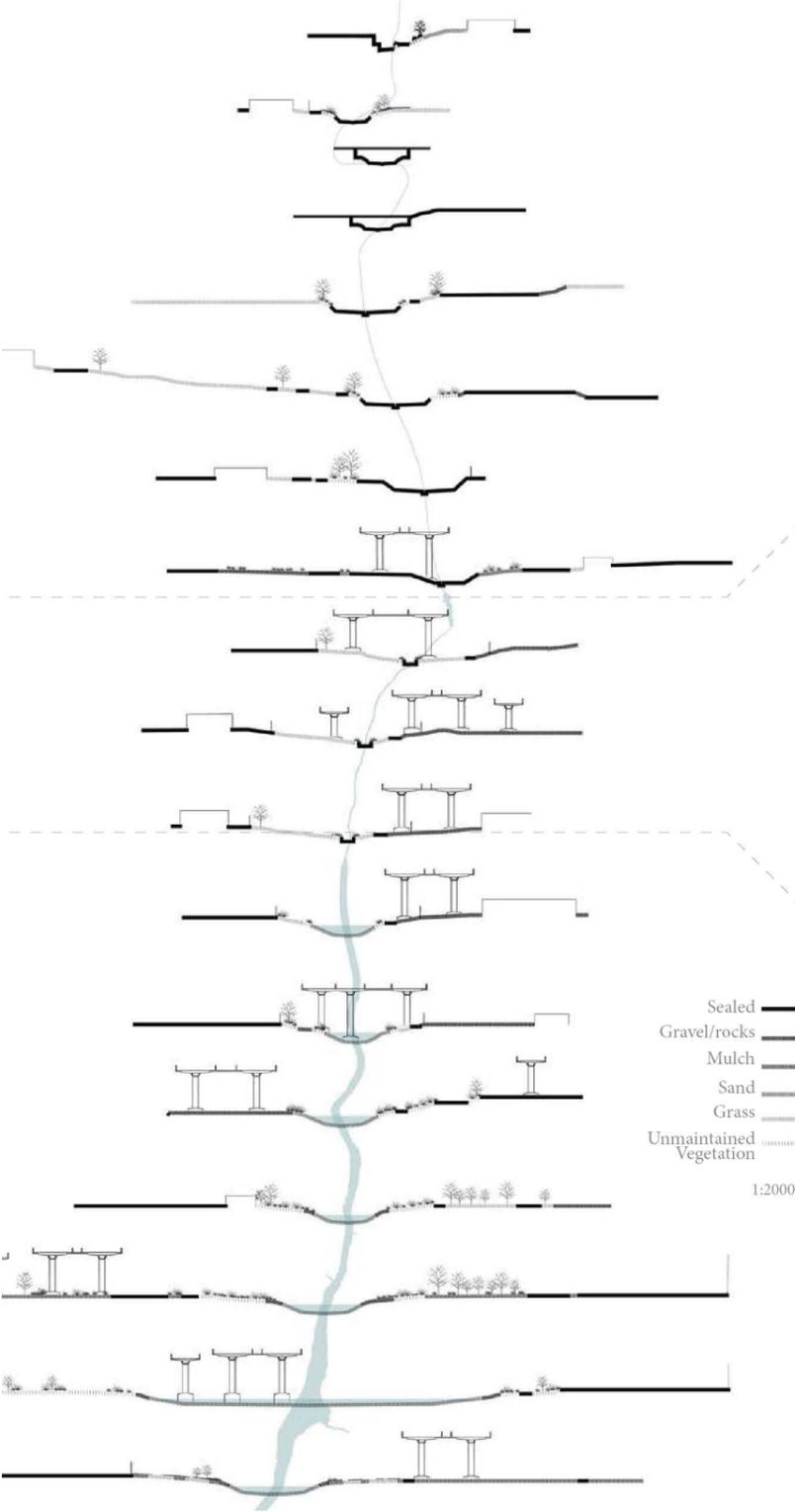
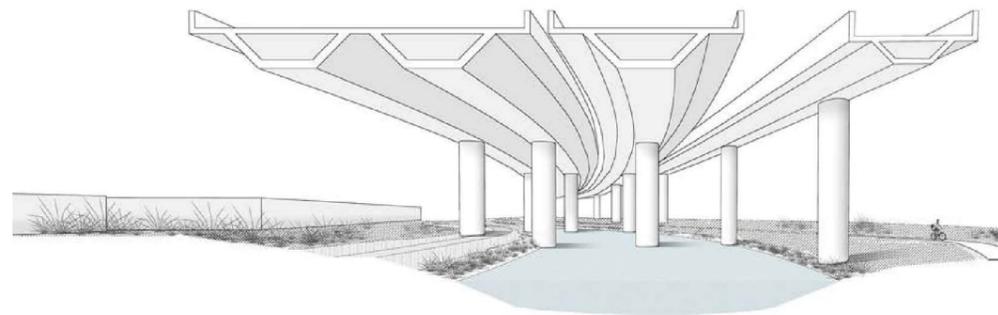
Zone 1 Concrete drain



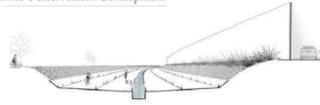
Zone 2 Incised floodplain



Zone 3 Dredged



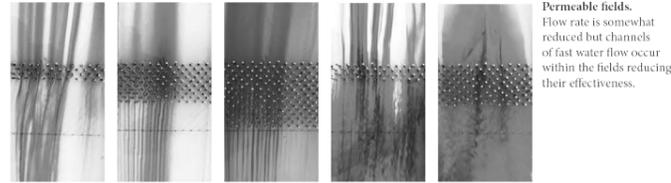
Zone 1 Intervention Development



How can interventions exaggerate identified generative processes in zone 1?

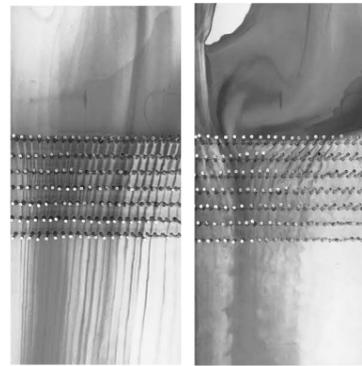
Sediment deposits.
Spontaneous ecologies in Zone 1 (concrete drain) typically form from sediment deposits atop the concrete. Interventions in this zone are focused on exaggerating sediment deposition by tactically reducing rate of water flow and thus exaggerating the depositional capacity of the creek. Deposits will improve water quality by filtering sediment and nutrients, large sediment will oxygenate the water and vegetation cover will provide shade that mitigates overheating.

Model testing



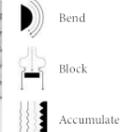
Permeable fields.
Flow rate is somewhat reduced but channels of fast water flow occur within the fields reducing their effectiveness.

Model outcomes



Permeable rows.
Longitudinal rows result in a successive decrease in flow rate and increase in oxygenation as water passes each row, creating and dramatic cumulative decrease in flow rate.

Exaggerated processes



Low water level High water level

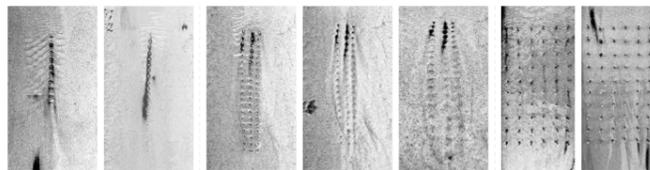
Zone 2 Intervention Development



How can interventions exaggerate identified generative processes in zone 2?

Variable floodplain.
The most significant producer of spontaneous ecologies in zone 2 is the temporal wetlands that form around the base of obstructions such as trees and columns. Interventions in this zone are focused on exaggerating the excavation of sediment by tactically increasing water turbulence and forming a chain of temporal wetlands. Excavational zones inherently form wetlands whilst depositional zones form paths of travel. Not only do the wetlands provide habitat and improve ecological productivity, they also act as settling ponds that improve the water quality of the creek by filtering storm water.

Model testing

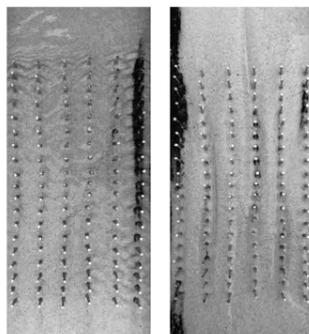


Longitudinal row.
Excavation occurs either side of the row, displaced sediment is deposited in a trail at the base of the row.

Field of longitudinal rows.
Excavation occurs within each row and is deposited behind and to the side of the field.

Grid.
The spacing of each obstruction is too large to significant areas of excavation and erosion.

Model outcomes

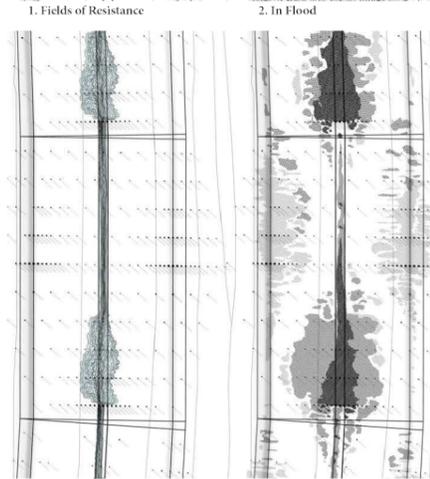
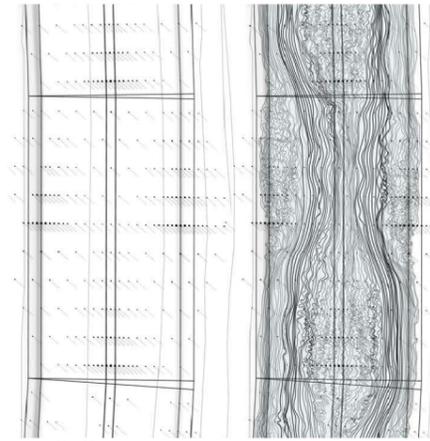


Longitudinal grid.
Significant excavation occurs within the field of rows with deposition occurring at the ends. When the grid is dense, a continuous area of excavation occurs, maximising the potential size of temporal wetlands.

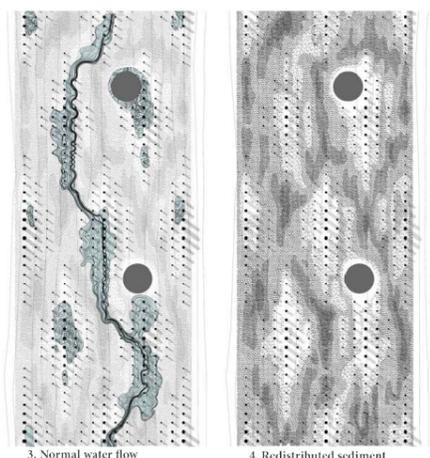
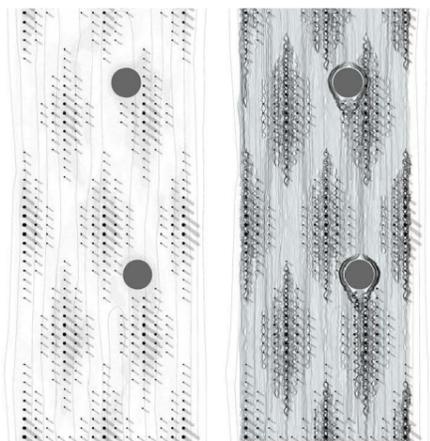
Exaggerated processes



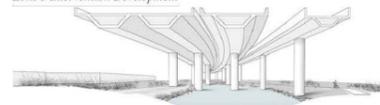
Translation of Models



Translation of Models



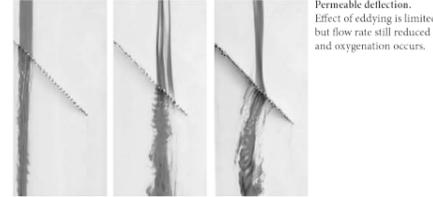
Zone 3 Intervention Development



How can interventions exaggerate identified generative processes in zone 3?

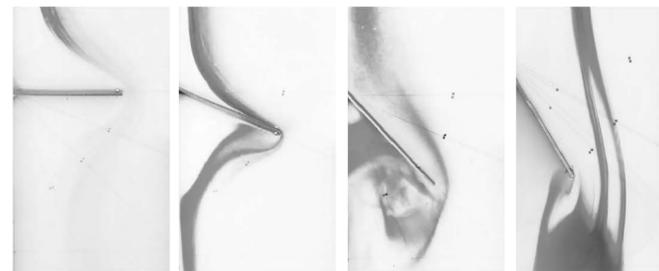
Variable intertidal zone.
Due to dredging Zone 3 is characterised by steep banks and a subsequent limited intertidal zone, which is typically the most ecologically productive zone of an estuary system. The steepness of the banks also limit physical engagement with the creek edge. Interventions are focused on the horizontal redistribution of the banks in order to create an enlarged and dynamic intertidal zone that improves ecological productivity and creates a variable experience with the waters edge.

Model testing

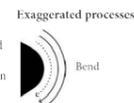


Permeable deflection.
Effect of eddying is limited but flow rate still reduced and oxygenation occurs.

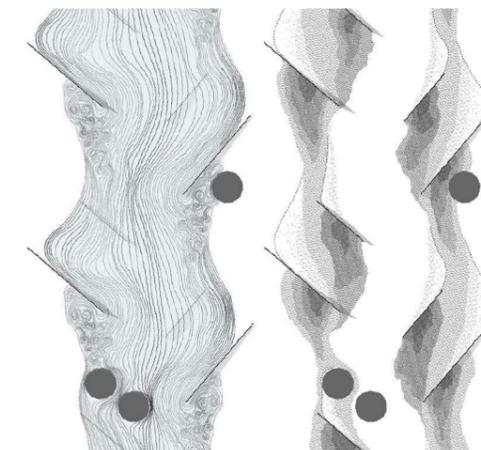
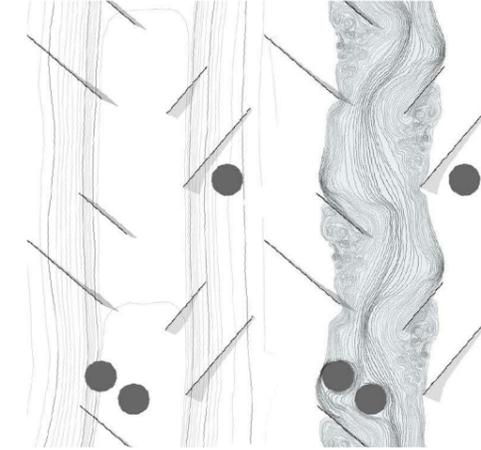
Model outcomes



Deflections
Water flow is increased on the outer edge of the deflections and is reduced on the inner edge, translating to zones of excavation and deposition respectively.



Translation of Models



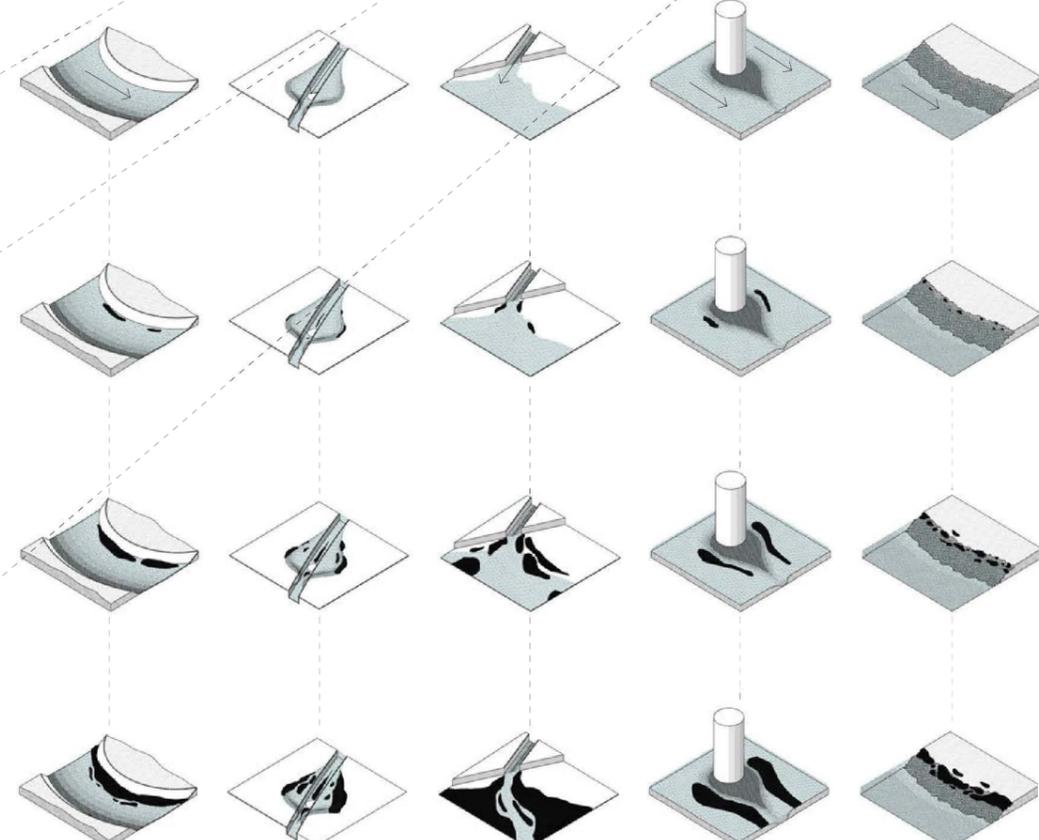
Bend
Water flows slowly on the inner bank of creek bends.

Block
Blockages create swelling and reduced flow speed.

Expand
Greater flow area results in reduced flow speed.

Obstruct
Increased turbulence around obstruction prompts excavation.

Accumulate
Banks of large stones reduce flow speed and prompt sediment accumulation.





Progression through site:

Stage 5. Creek bed
(The core of the creek system)



Location of perspective.

Degree of Spontaneous Engagement: Immersion



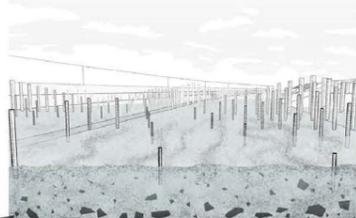
Spontaneous ecologies are the primary force that governs the structure of the space. The establishment of ecologies defines paths of travel, meeting spaces and spatial experience. As the arrangement and morphology of the ecologies change, so too does the way that the space is used. The creek bed is the purest form of spontaneous engagement.



Initial condition



Moderate flood: sediment movement



1 year



5 years



10-20 years

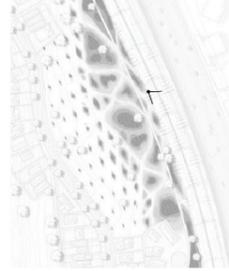


10-20 years: alternative outcome



Progression through site:

Stage 4. Banks
(Entering the creek system)



Location of perspective.

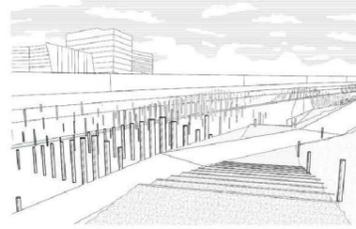
Degree of Spontaneous Engagement: Partial immersion



Spontaneous ecologies are no longer separated from public space. Instead they are suppressed by semi-permeable materials such as gravel to define paths of travel but these paths have to potential to be lost to vegetation if they are disused. Spontaneous ecologies are now defining the structure of the space.



Initial state



1 year



5 years



10-20 years



10-20 years: alternative outcome



Progression through site:

Stage 3. Adjacent
(Parks & public space adjacent to the Creek)



Location of perspective.

Degree of Spontaneous Engagement: Blurred Edges

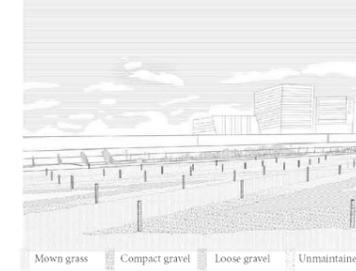


Spontaneous ecologies are separated from public space by transitional thresholds and are arranged in such a way to facilitate movement across them. Over time paths of travel are formed primarily by desire lines, establishing a greater level of social interaction with spontaneous ecologies.



Threshold

Initial state



1 year



5 years



10-20 years



10-20 years: alternative outcome



Progression through site:

Stage 2. Periphery
(Entry points to public space adjacent to the Creek)



Location of perspective.

Degree of Spontaneous Engagement: Partial Exclusion



Spontaneous ecologies are separated from public space by permeable borders. Although physical interaction is minimal, the sense of segregation between public space and spontaneous ecologies is lessened.



Initial state



1 year



5 years



10-20 years

