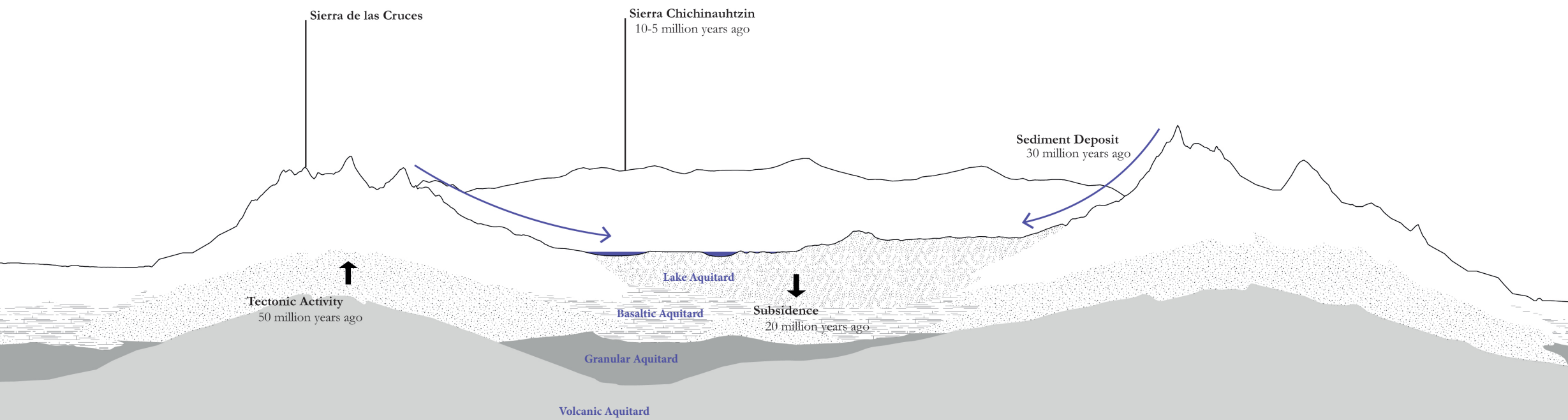
Memories of Tlaloc:
Water as the Cultural Legacy in Xochimilco

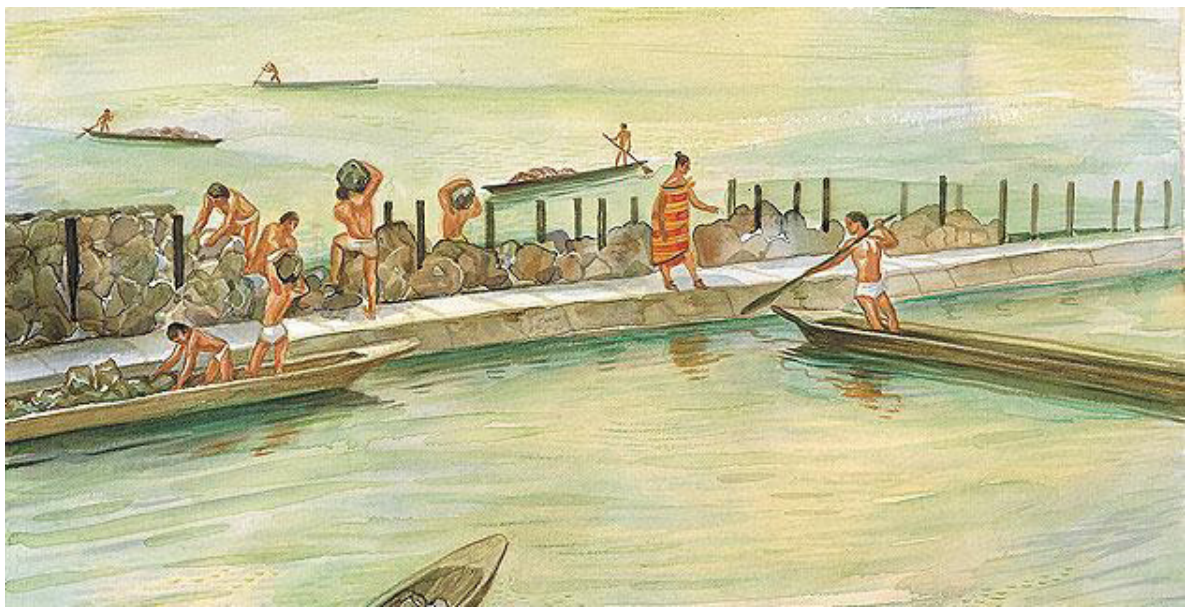
Carolina Marquez Luna

An aerial view of the Fountain of Tlaloc, mural by Diego Rivera honouring the god of water in Mexico City.
(Photo: Carlos Jasso, Alamy Stock Photo/Reuters)

Formation of the Endhoreic Basin



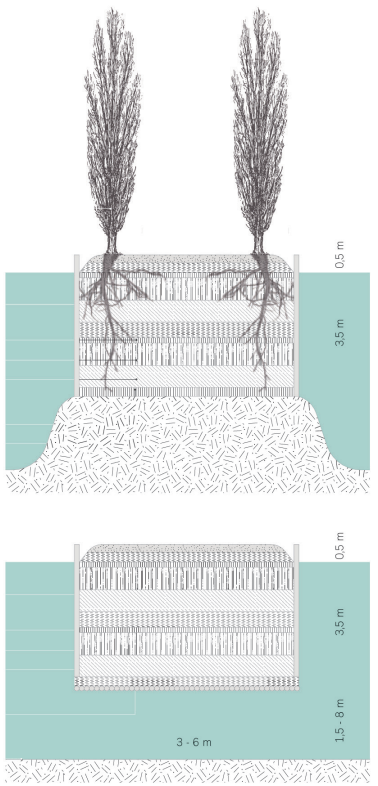
Lake Zumpango
Lake Xaltocan
Teotihuacan
Texcoco
Azcapotzalco
Tlacopan
Lake Texcoco
Tenochtitlan
Culhuacan
Lake Xochimilco
Lake Chalco
Xochimilco
Chalco
Brackish Water
Fresh Water
Marshes
Chinampas
Dikes and dams
0
10 km

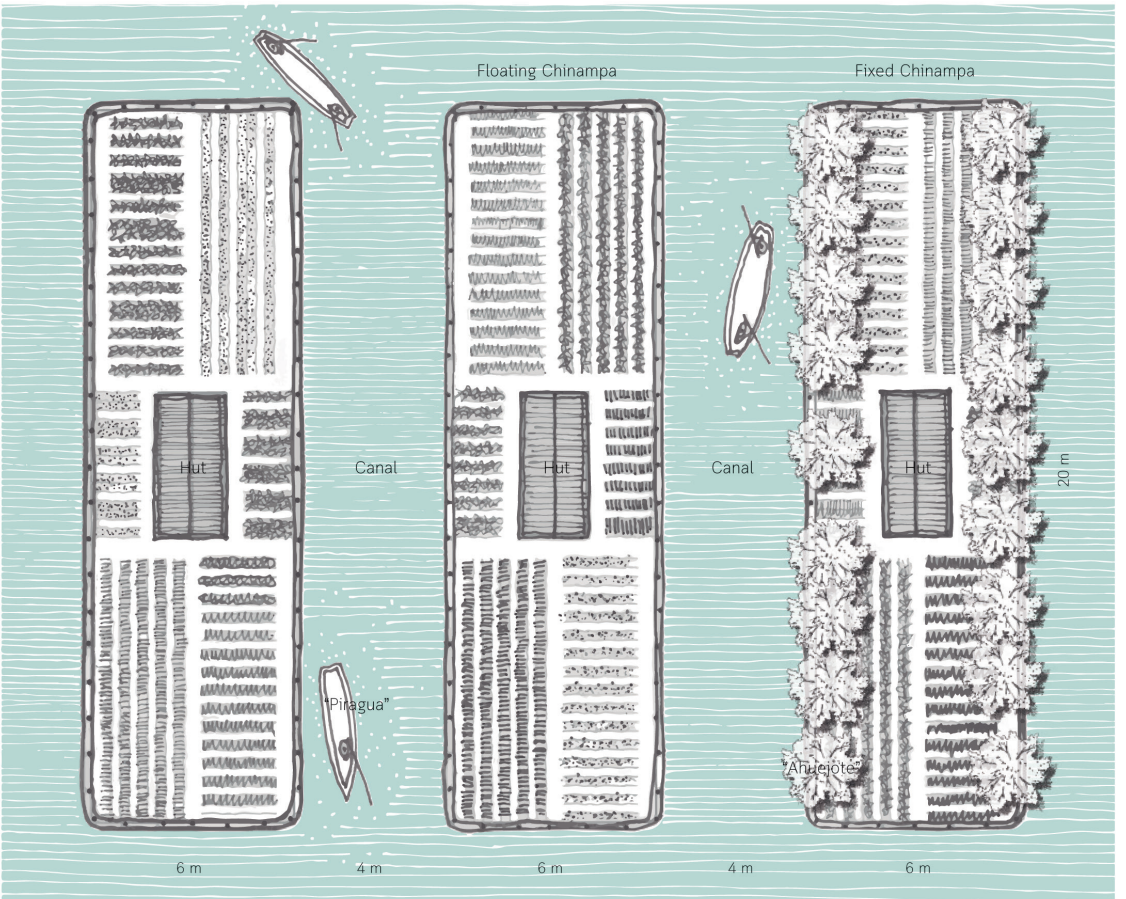


Mexicas building the Nezahualcoyotl Dam
(Source: Mexico Desconocido, n.d.)

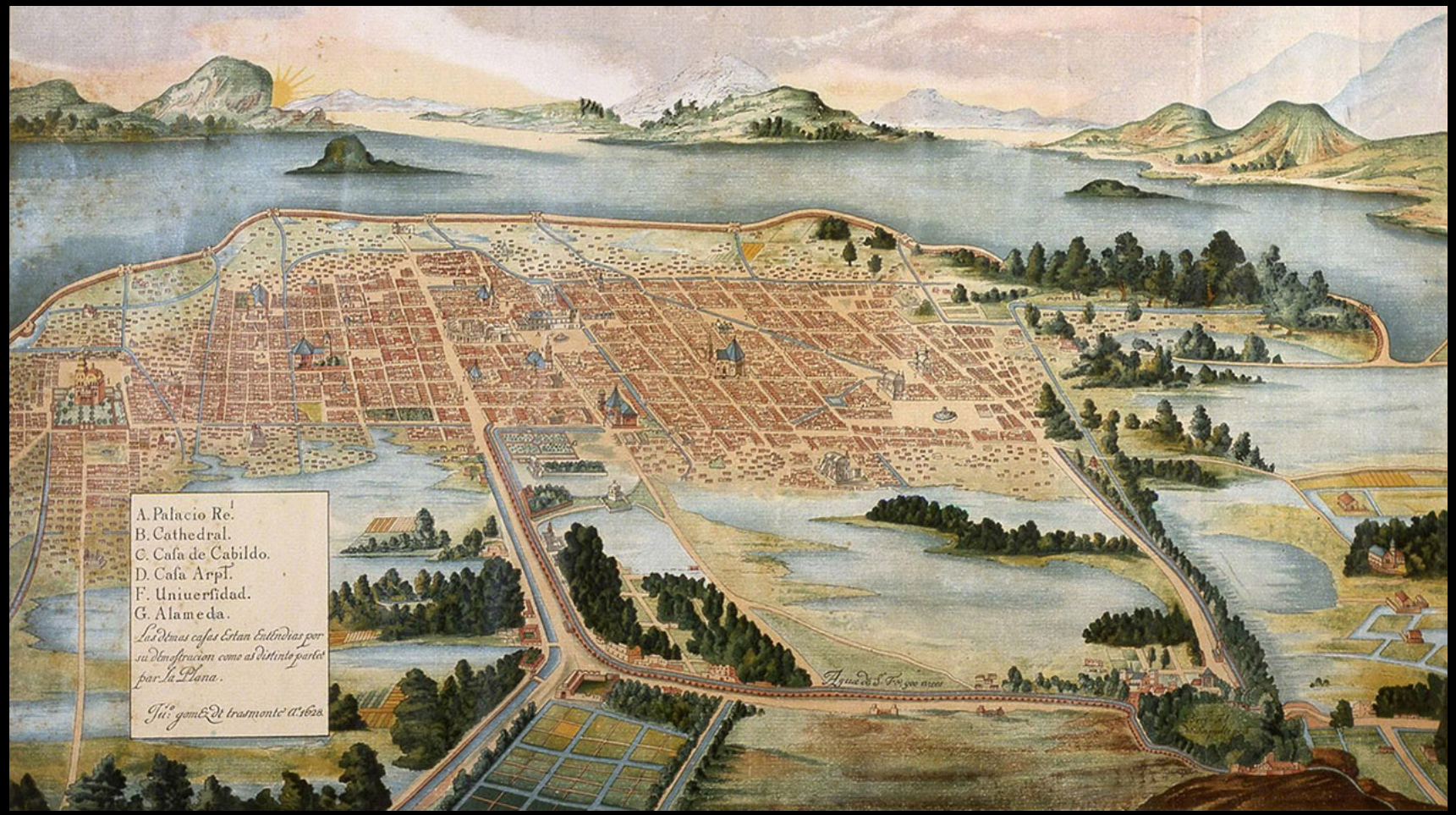
Mexicas building a Chinampa
(Source: mxc.com.mx, n.d.)

‘Chinampas’ - Woven Fence of Canes



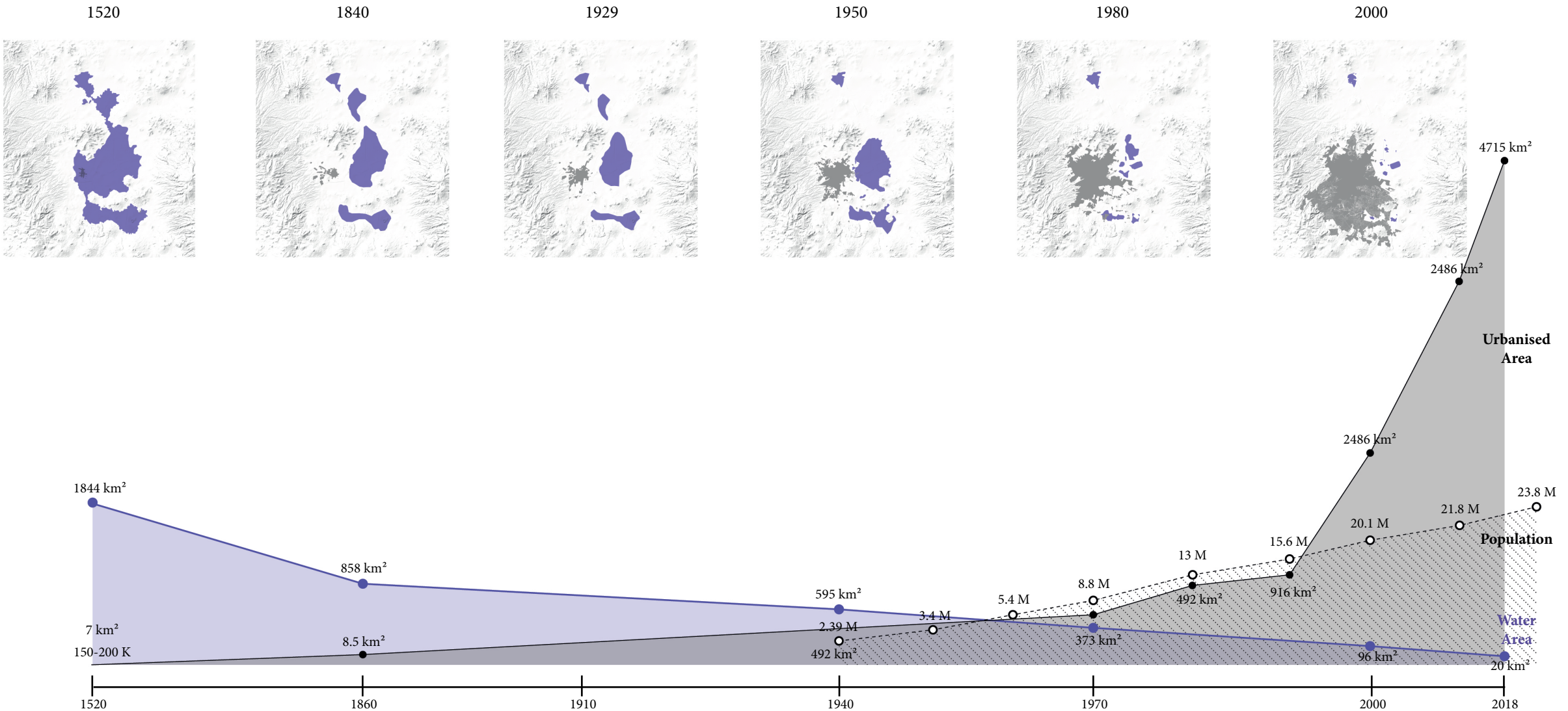


El tianguis de Tlatelolco by Diego Rivera
(Photo: Jen Wilton via Flickr, 2012)



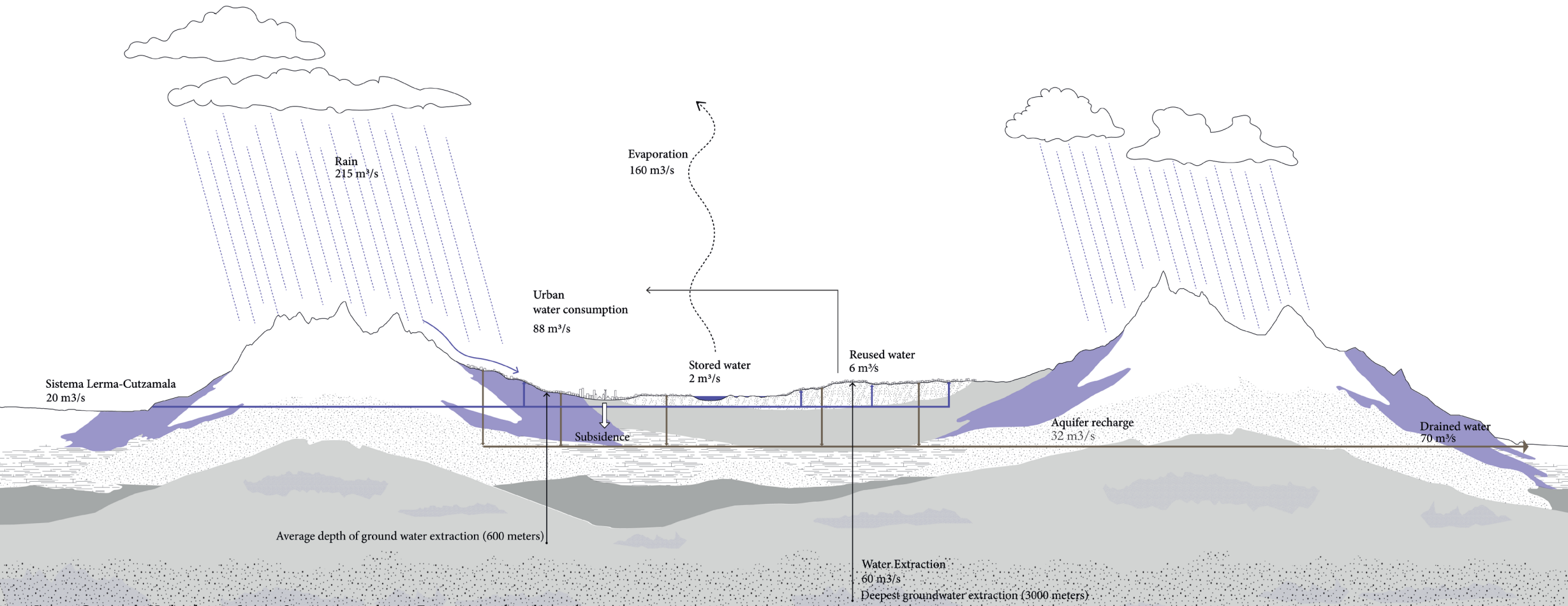
Mexico City in the colonial era
(Source: www.nhmdemexico.colmex.mx, n.d.)

Urban Expansion Timeline

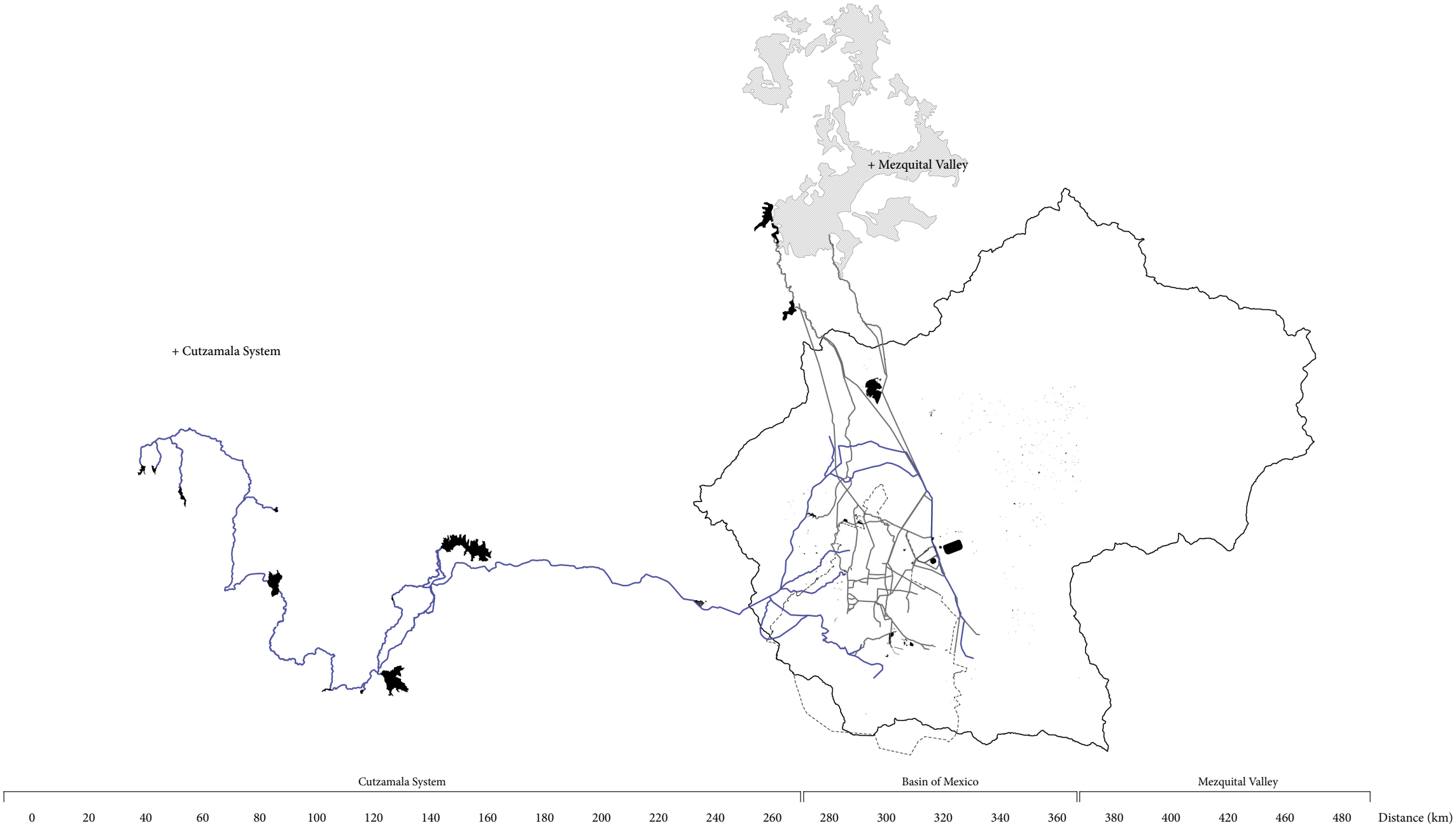


La Ciudad de México in 1949 by Juan O'Gorman
(Photo: Fundación ICA, n.d.)

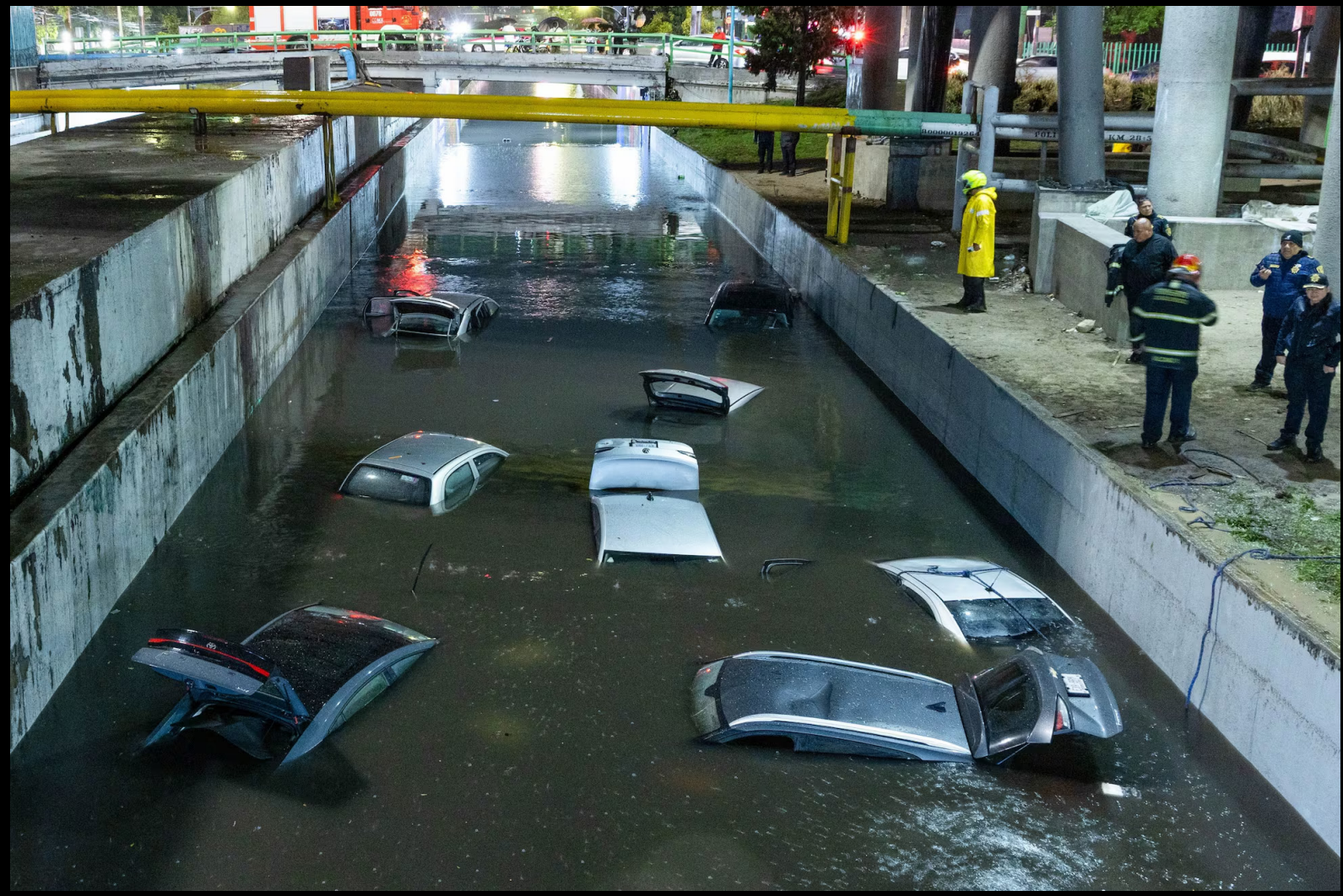
Horizontal sprawl of Mexico City
(Photo: Santiago Arau, 2018)



Lerma-Cutzamala Hydroelectric System Section, groundwater Extraction and its disposal outside the Basin


+ Mezquital Valley
+ Cutzamala System
Cutzamala System
Basin of Mexico
Mezquital Valley
0
20
40
60
80
100
120
140
160
180
200
220
240
260
280
300
320
340
360
380
400
420
460
480
Distance (km)

Pipelining of the La Piedad River
(Photo: El Universal, n.d.)



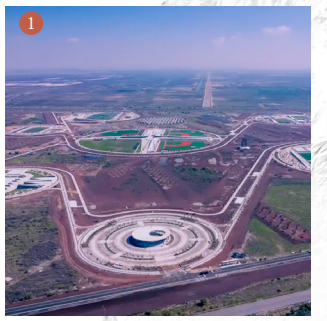
Pipelining of the La Piedad River
(Photo: El Universal, n.d.)

People filling containers during a public water distribution as more than half of Mexico faces moderate to severe drought conditions
(Photo: Daniel Becerril, 2022)

The average consumption of the Mexico City population more than doubles the consumption rate advised by the World Health Organisation (WHO) for large cities.

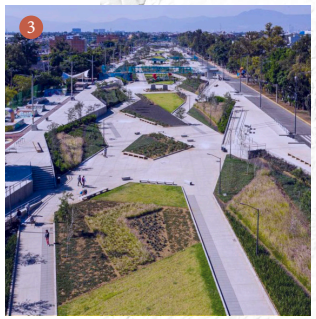
Street Art depicting Tlaloc.
(Photo: Santiago Arau, 2021)

How can historical water values in the Basin of Mexico be reintroduced to mitigate flooding, water scarcity, and pollution, enhance community awareness and engagement to conserve the unique endemic ecosystem in Mexico City, particularly in Xochimilco?



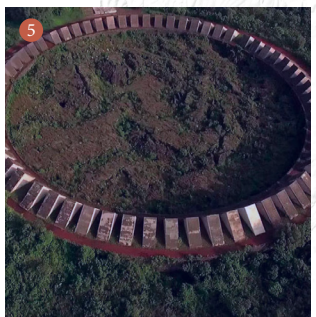
Texcoco Ecological Park

Bicentenario Park

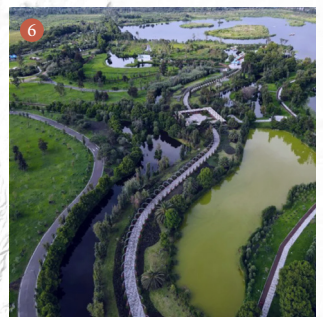


Gran Canal Linear Park

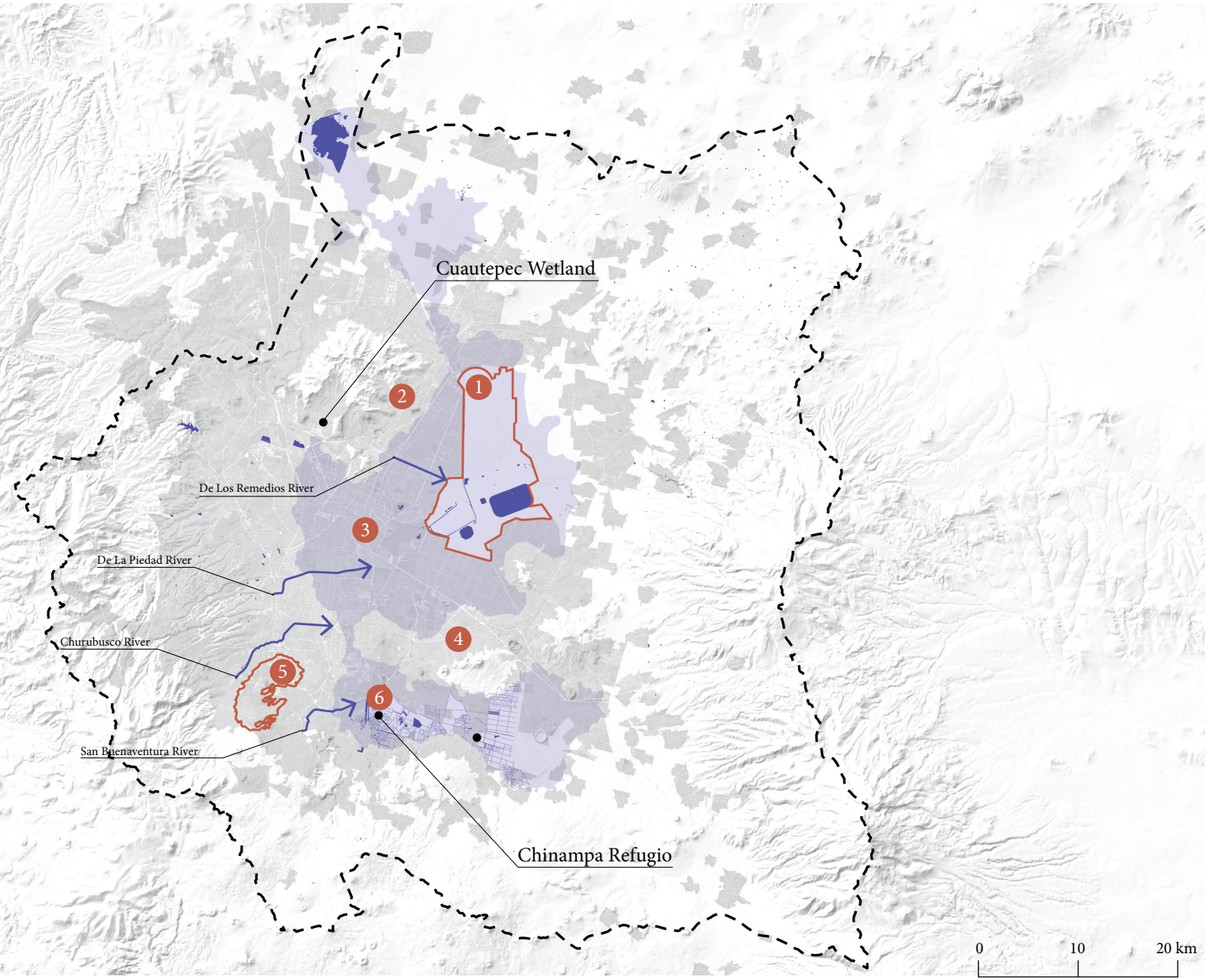
La Quebradora Hydric Park



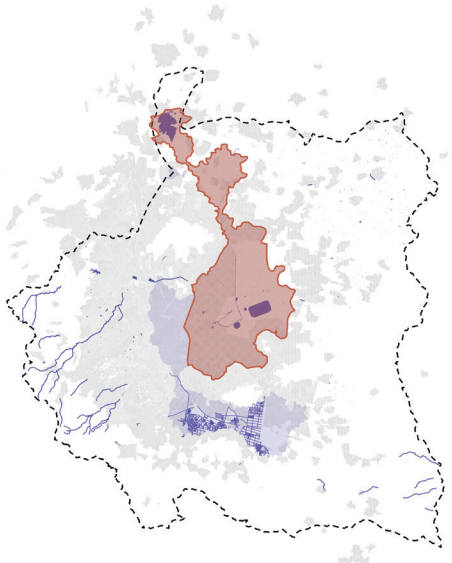
El Pedregal Protected Area

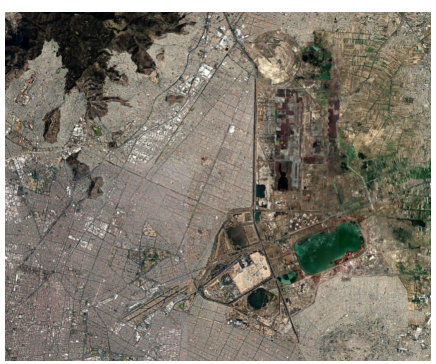


Xochimilco Ecological Park



1
Retain and Store





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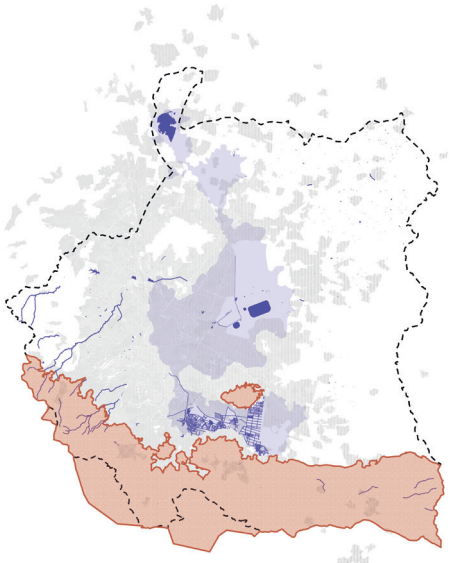
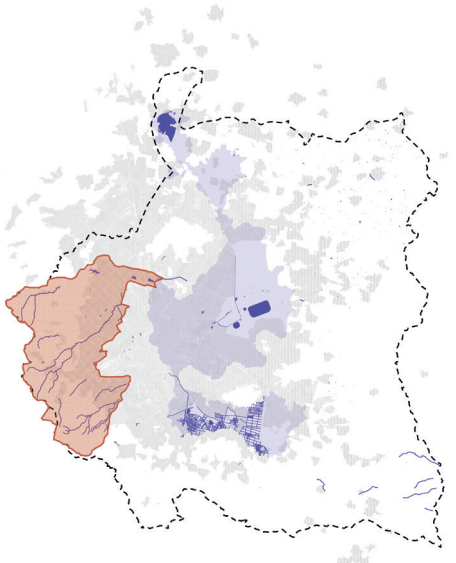
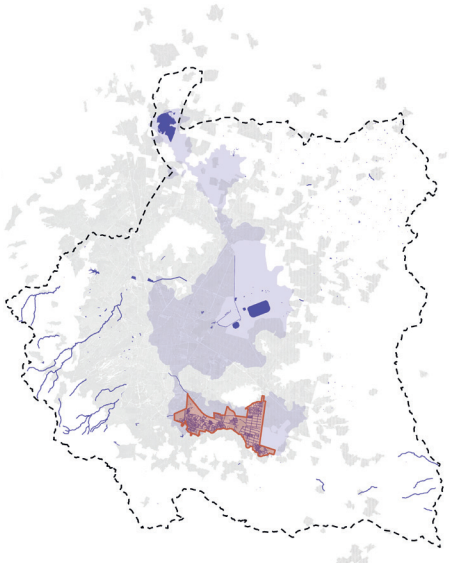
Infiltrate

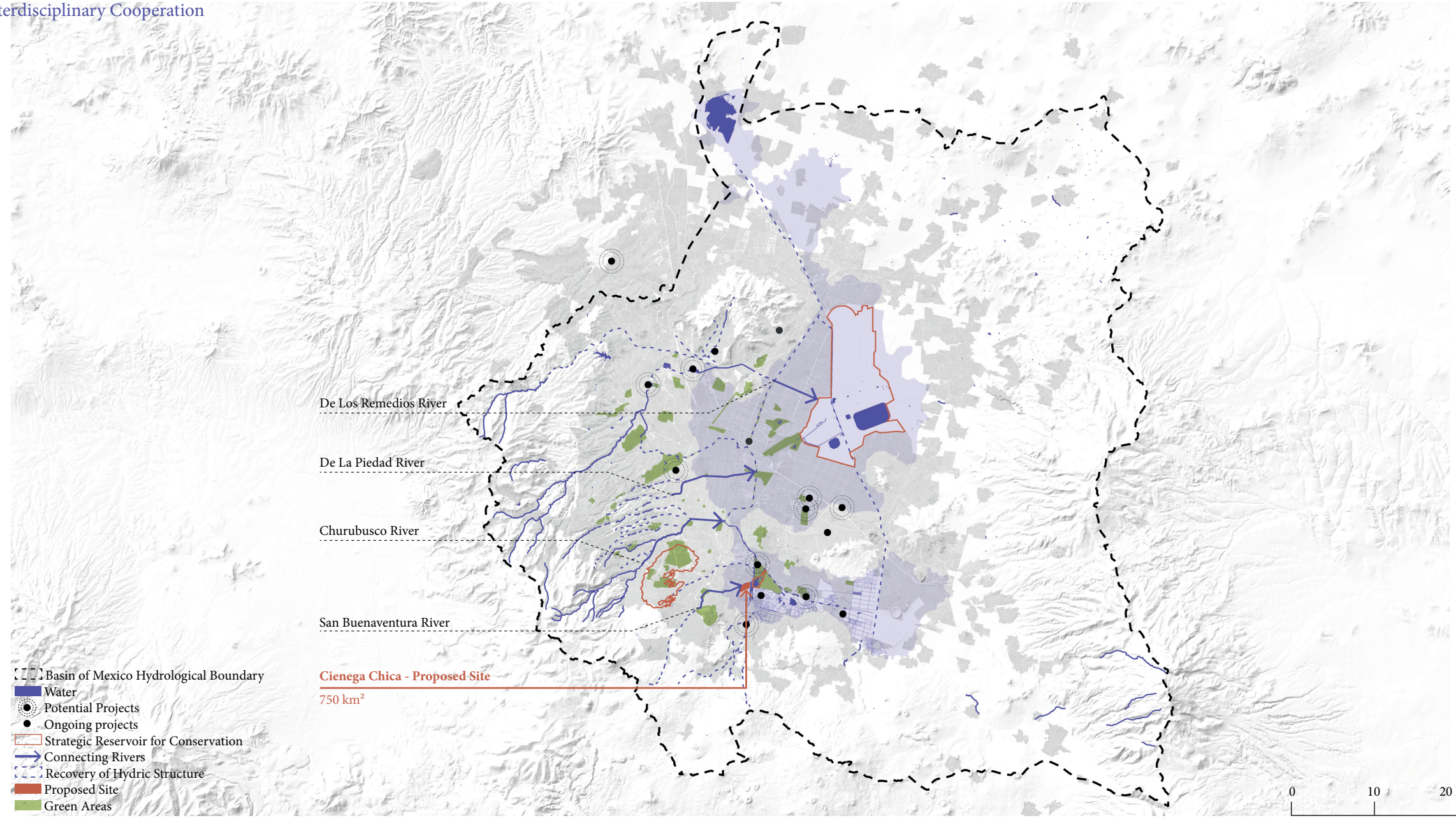


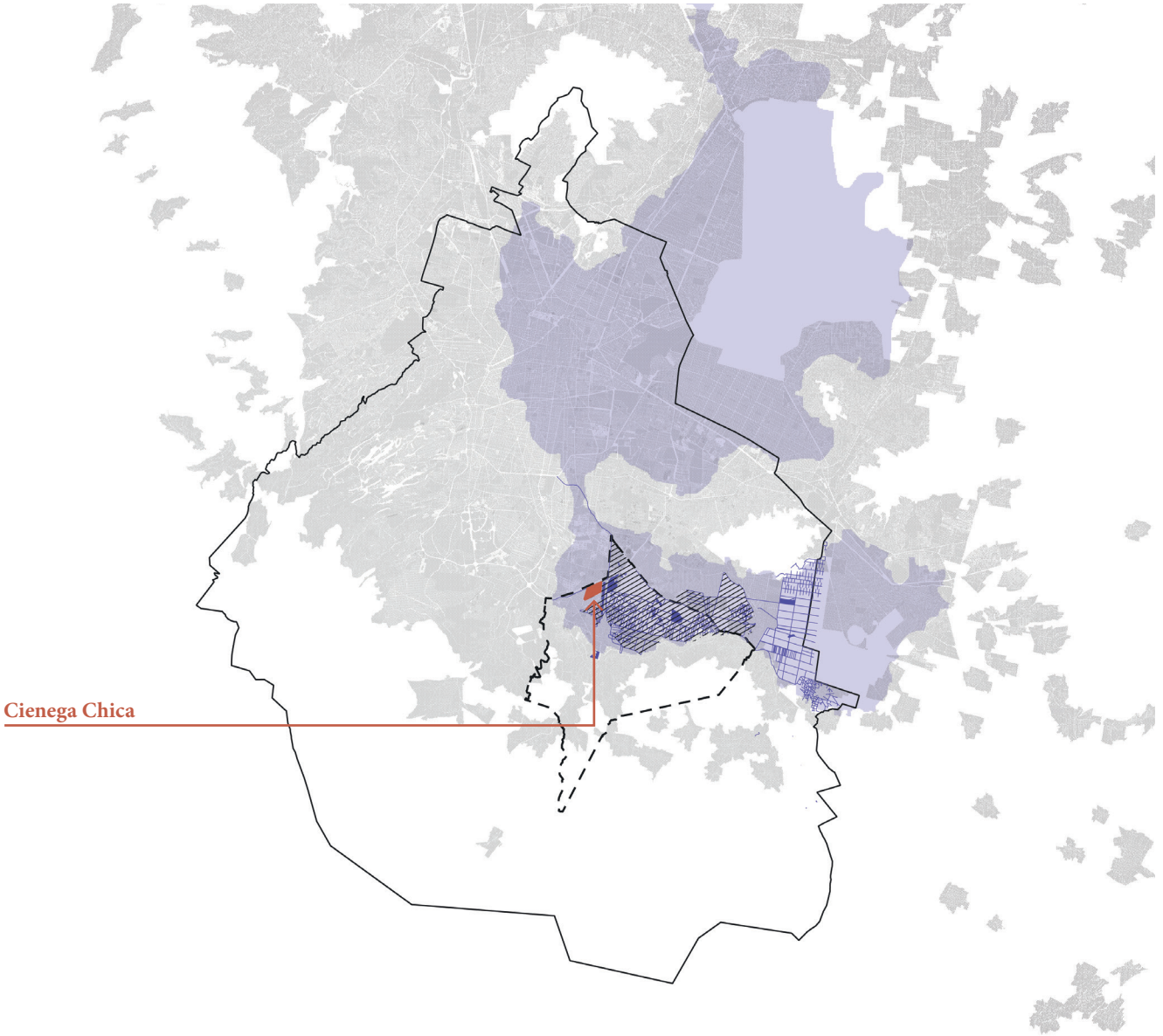
3
Delay and Infiltrate



4
Clean




De Los Remedios River
De La Piedad River
Churubusco River
San Buenaventura River
Cienega Chica - Proposed Site
750 km²
Basin of Mexico Hydrological Boundary
Water
Potential Projects
Ongoing projects
Strategic Reservoir for Conservation
Connecting Rivers
Recovery of Hydric Structure
Proposed Site
Green Areas
0
10
20 km

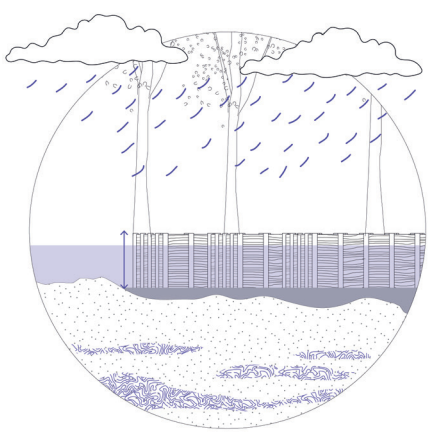


Mexico City
Xochimilco
Xochimilco's Conservation Land
Former lake bed
Urban Areas
Water
Cienega Chica

0 10 20 km

Aerial photo in Xochimilco
(Photo: Santiago Arau, 2017)

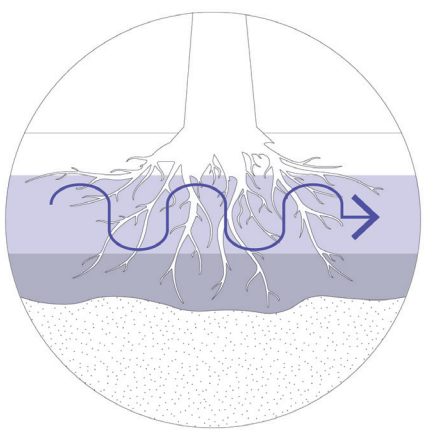
Regulation Services of the Hydrological Cycle



Cultural and Recreation Services

Preservation of Aquatic and Terrestrial Biodiversity

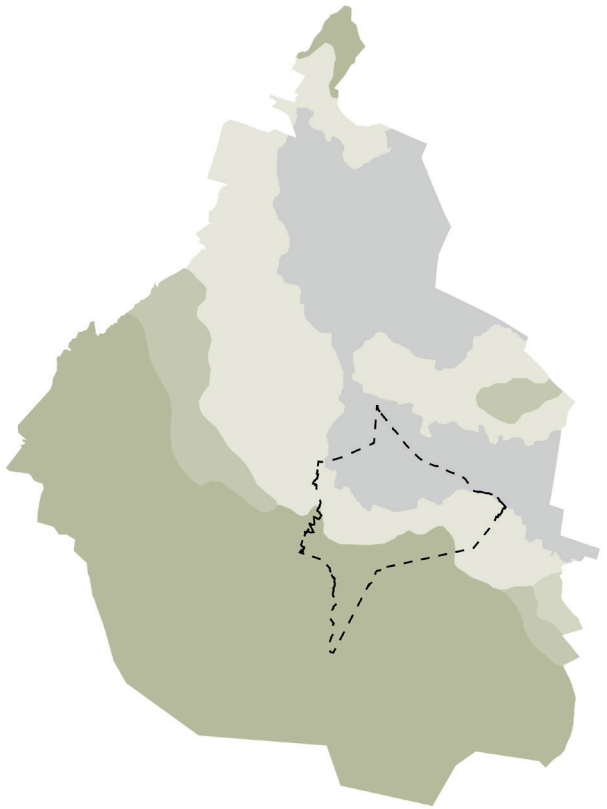
Water Quality Control



Productivity

Xochimilco as part of Mexico City's Periphery

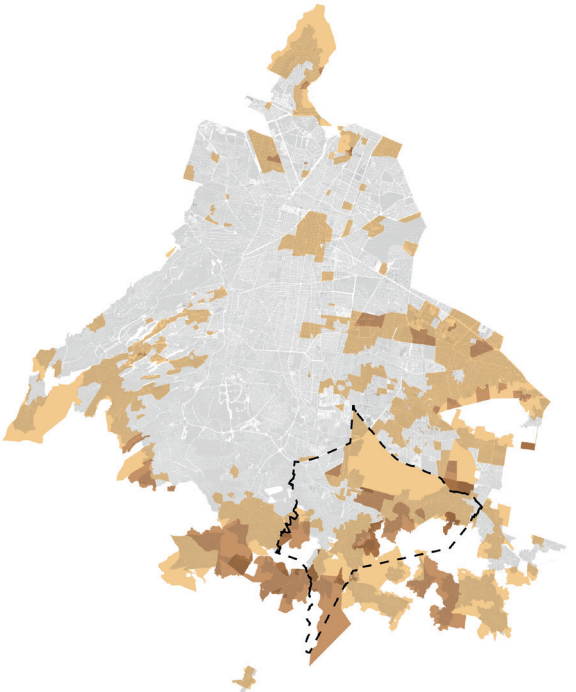
Geological Periphery



Geological Type

- Extinct lake bed
- Plain
- Hill top
- Mountain

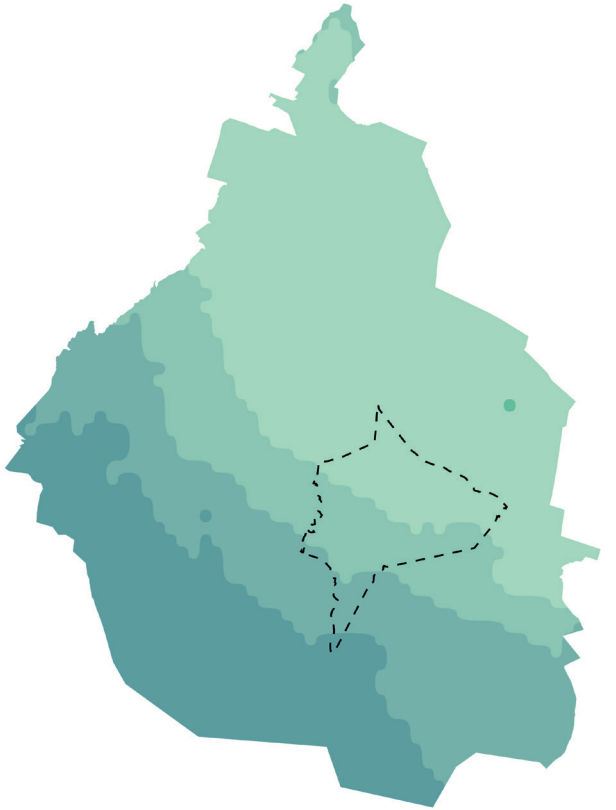
Social Periphery



Urban Marginalisation Index

- Medium
- High
- Very High

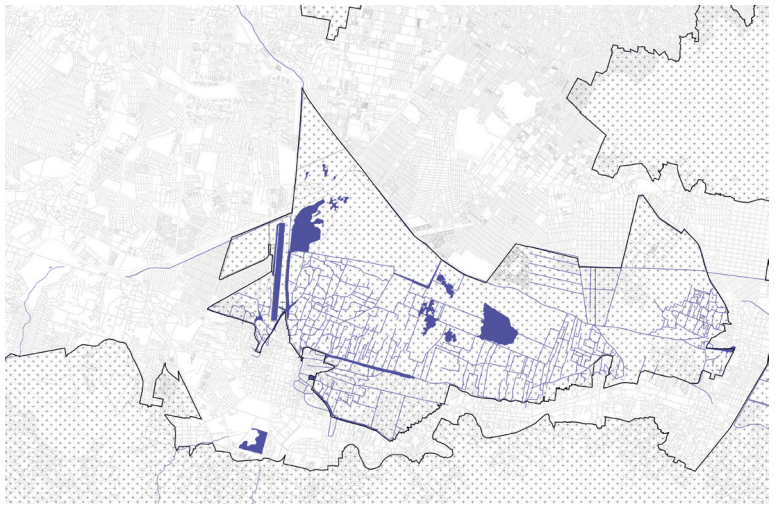
Precipitation Periphery



Annual precipitation (mm)

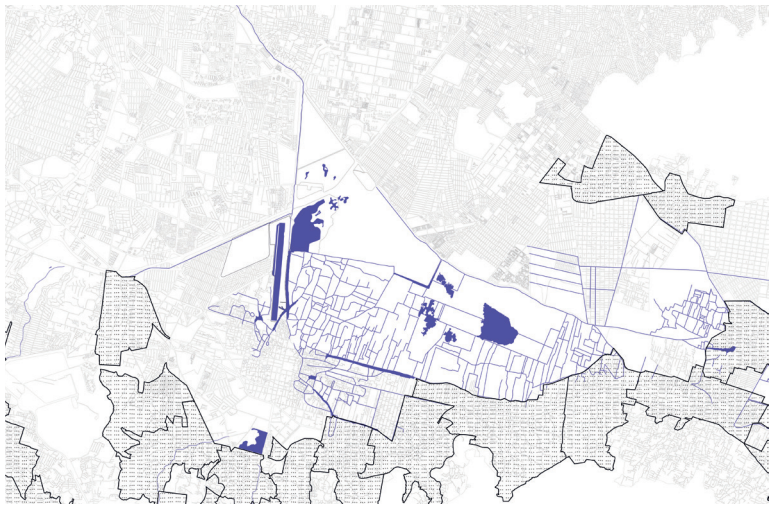
- 600-800 mm
- 800-1000 mm
- 1000-1200 mm
- 1200-1500 mm

0 10 20 km



Xochimilco's Conservation Land

Water
Conservation Land



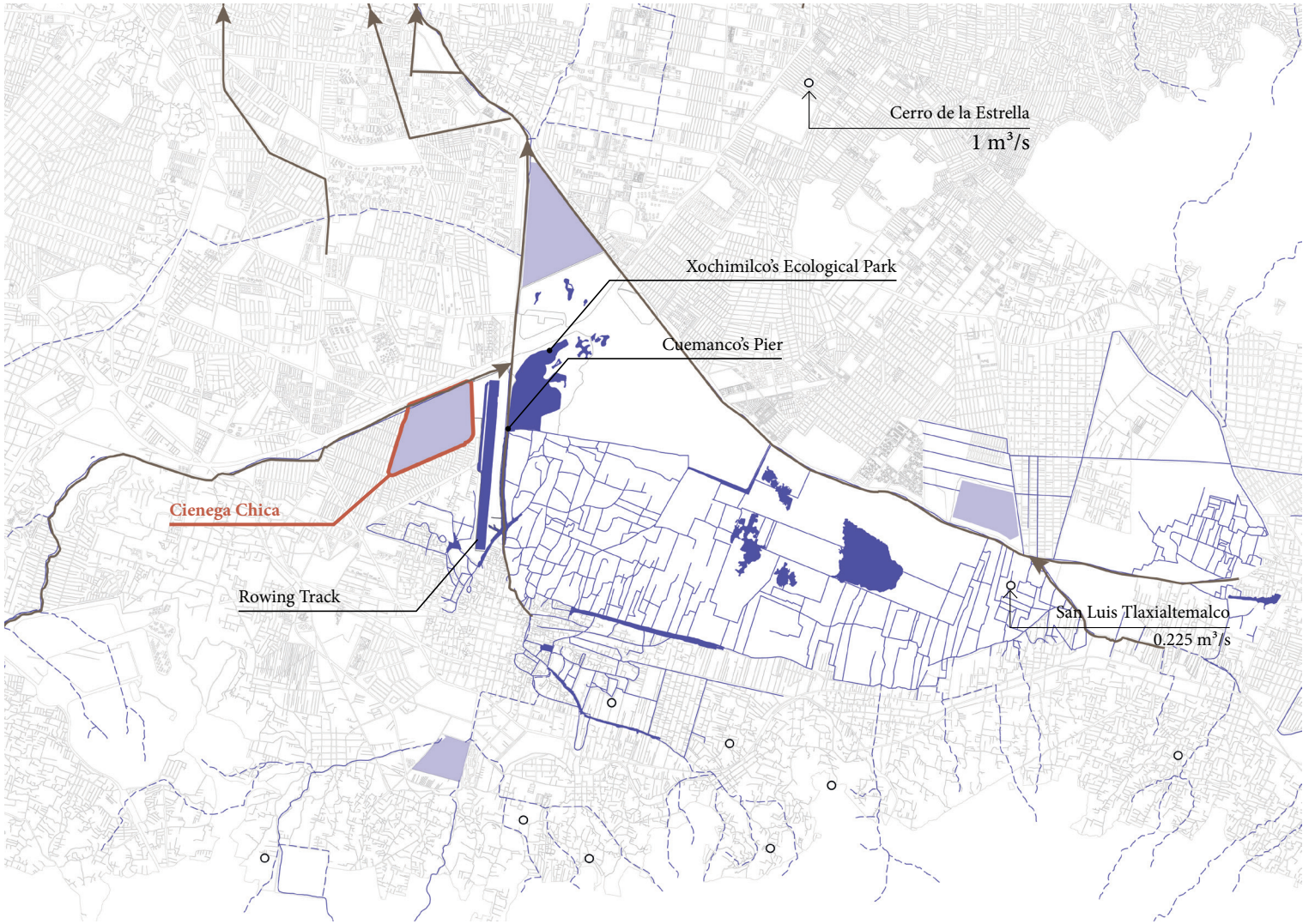
Location of indigenous communities

Water
Indigenous Communites

Irregular settlements in Xochimilco

Water
Irregular Settlements

0 2.5 5 km



Water
Sewage System
Wastewater Treatment Plants
Flooding Plain
Intermittent Run-Off
Proposed Site

0 2.5 5 km

Aerial view of Cienega Chica, the Xochimilco Ecological Park, and the chinampas cultural landscape
(Source: Google Earth, 2025)

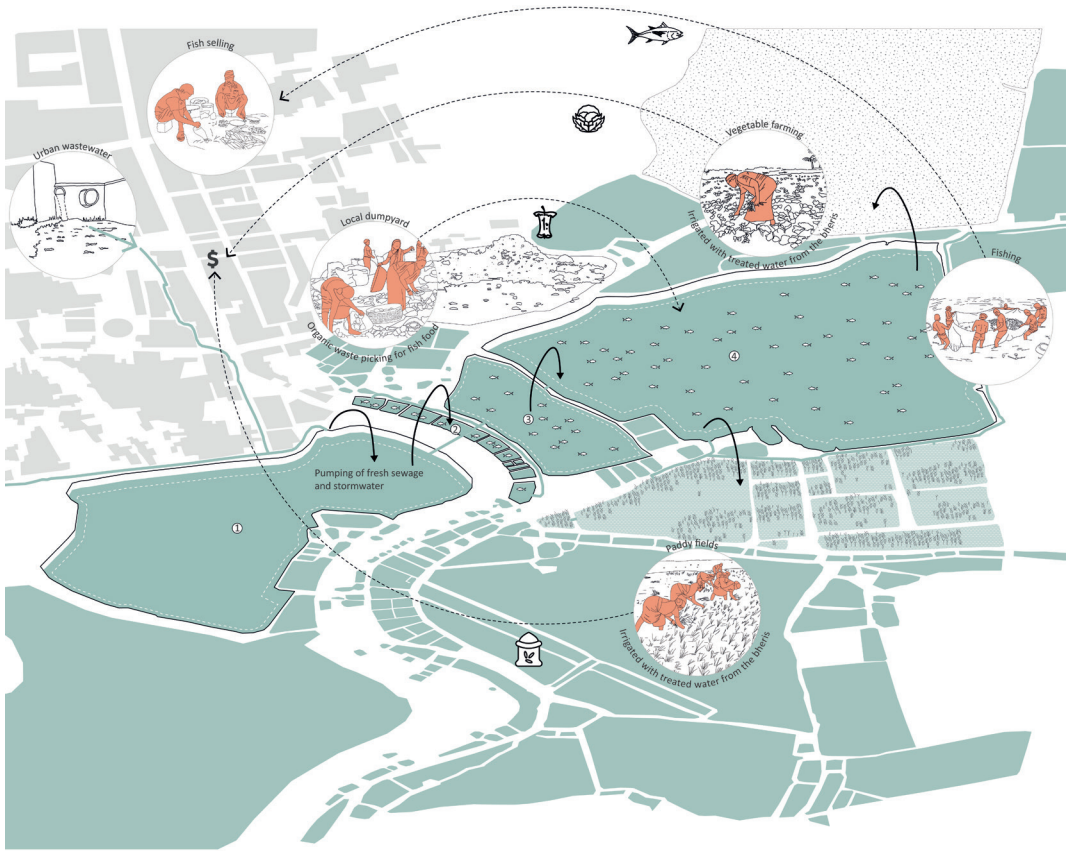
Every Drop Counts

Wastewater is the only water source that increases with water demands

Lankheet Park
Location: Landgoed Het Lankheet, Haaksbergen NL
Designer: Strootman Landschaparchitecten

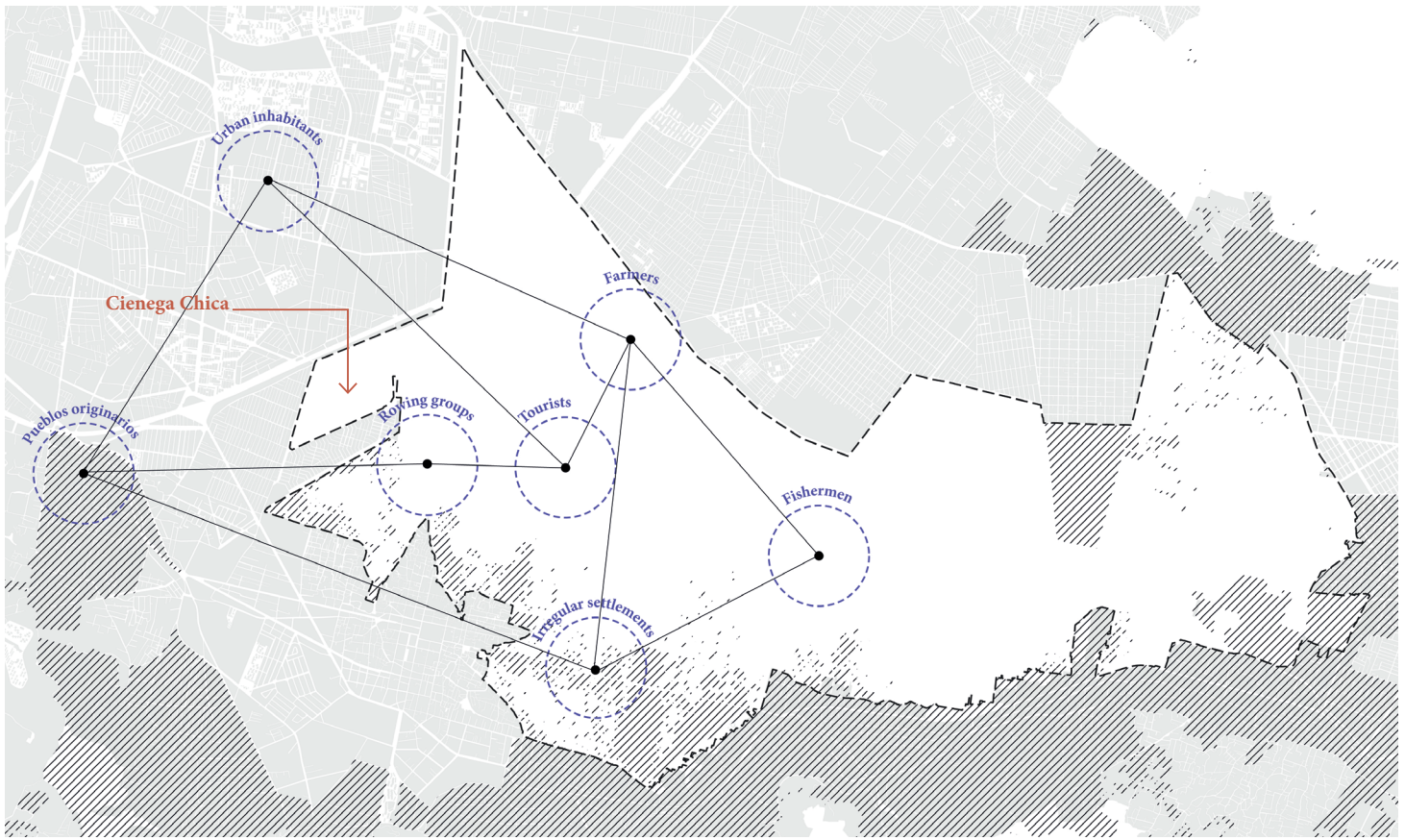
Lankheet's Reed Filtering System
(Source: Strootman Landschaparchitecten, n.d.)

Bheri Wastewater Aquaculture Treatment
Location: Kolkata, West Bengal IN
Urban Context

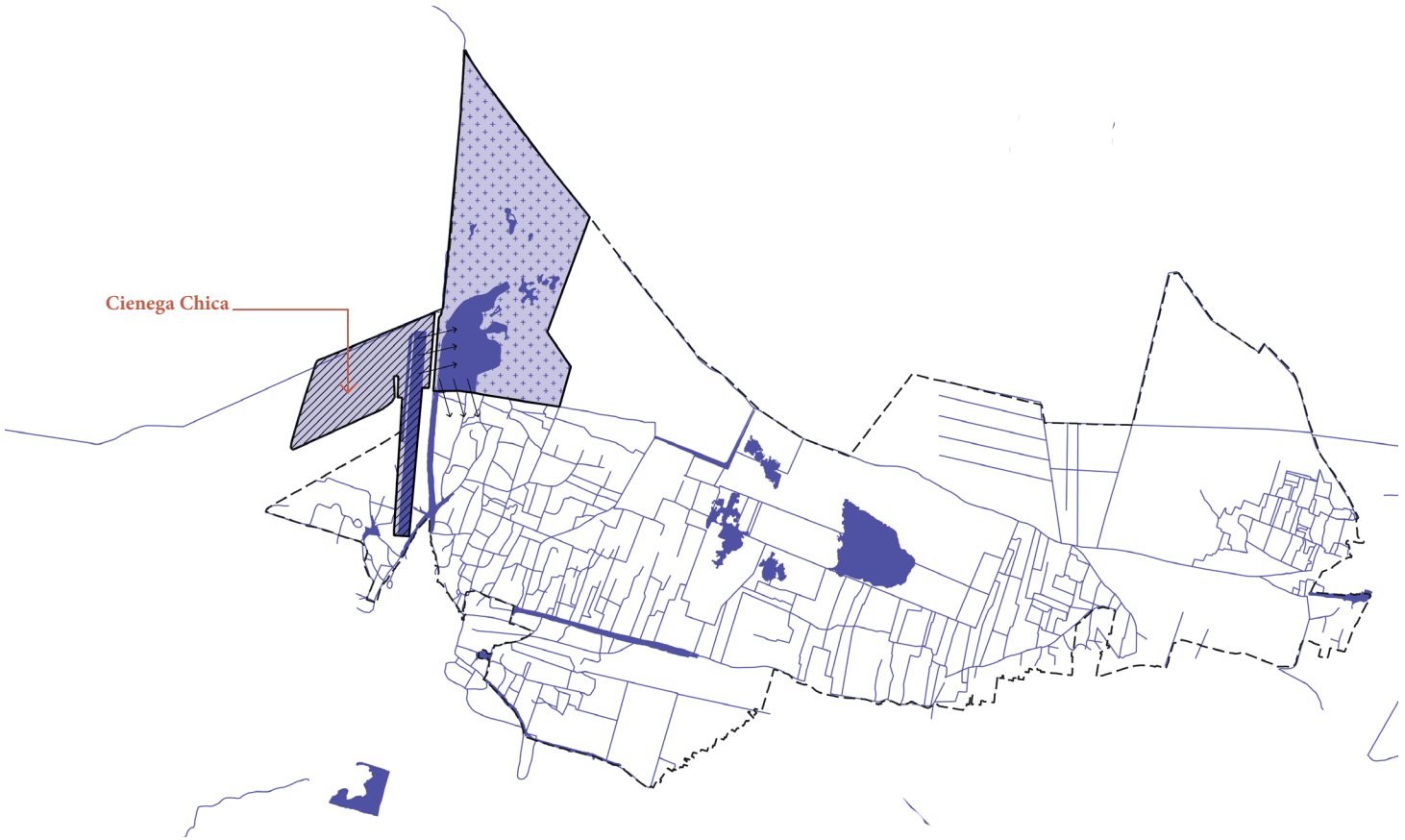


Circularity System of the East Kolkata Wetlands m
(Source: Carolina Marquez, 2025)

1. Interconnected spaces for new ways of interaction

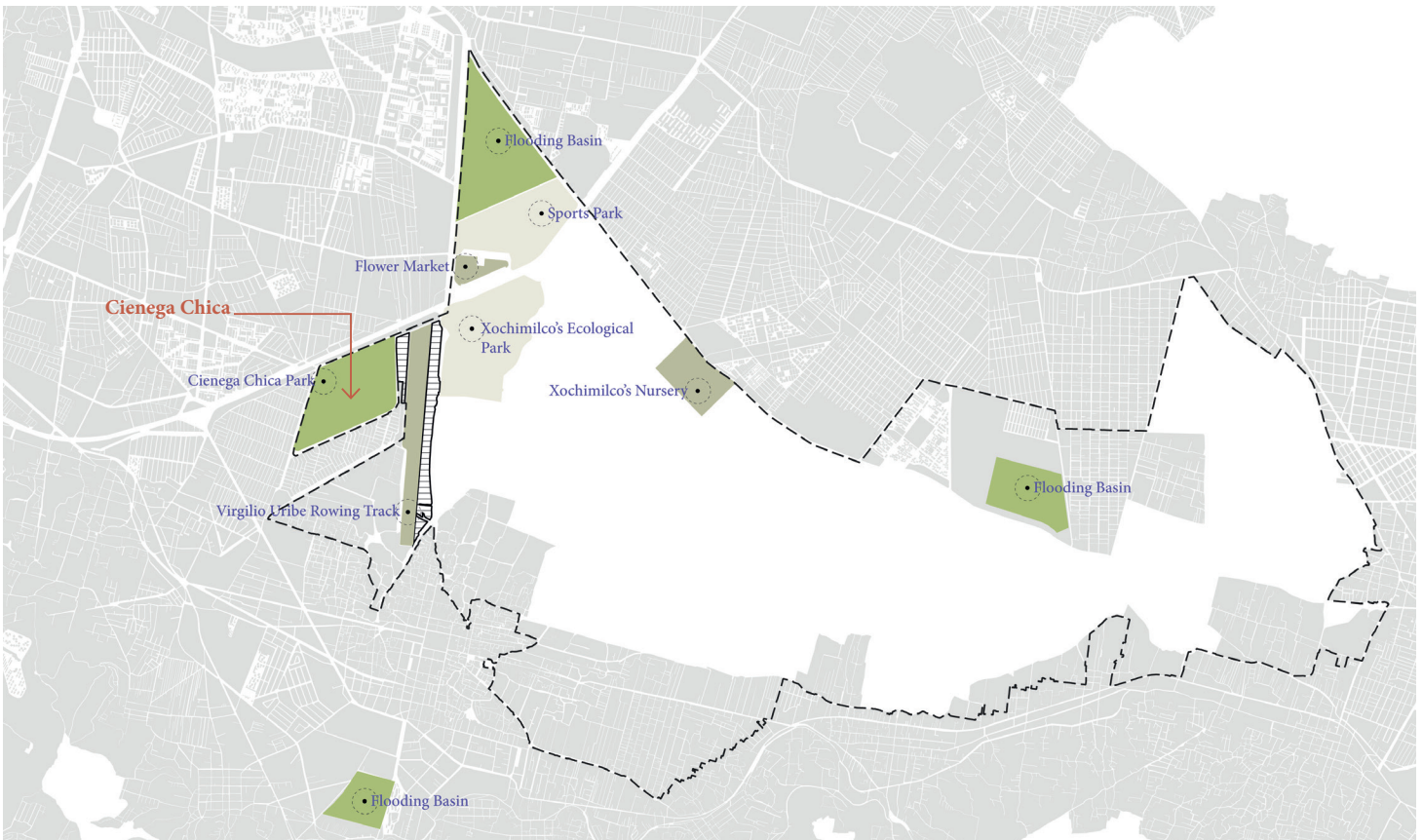


2. Reconnected water purification system



0 2.5 5 km

3. Repurposed urban infrastructure

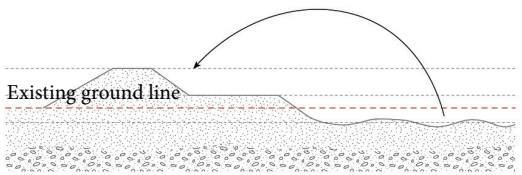


0 2.5 5 km

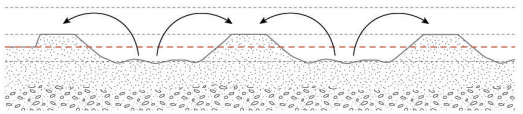
4. Prioritising an ecological balance

0 2.5 5 km

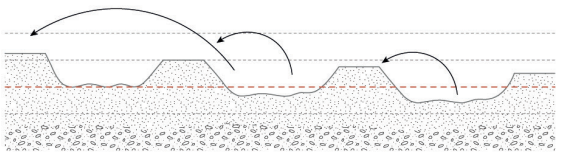
Sedimentation



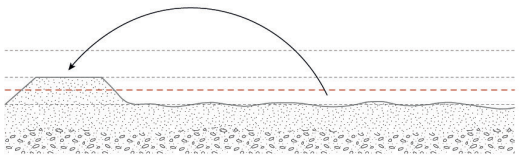
Reed filtering

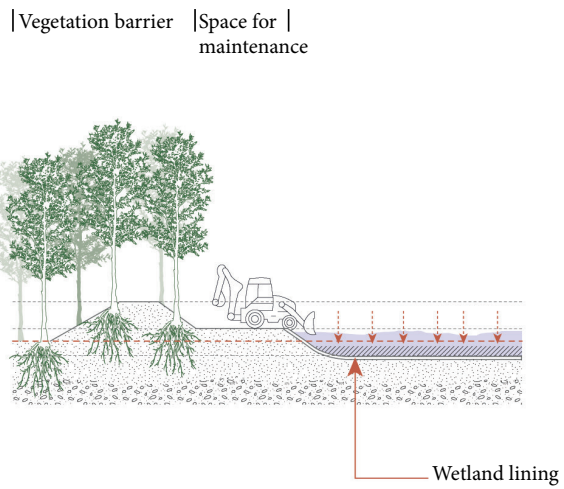


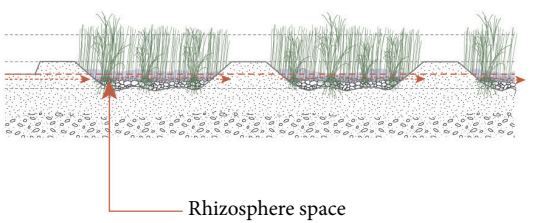
Anaerobic

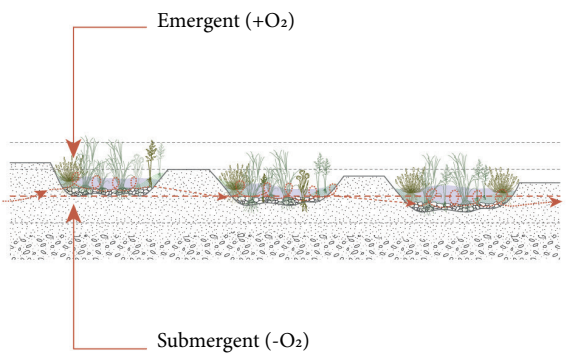


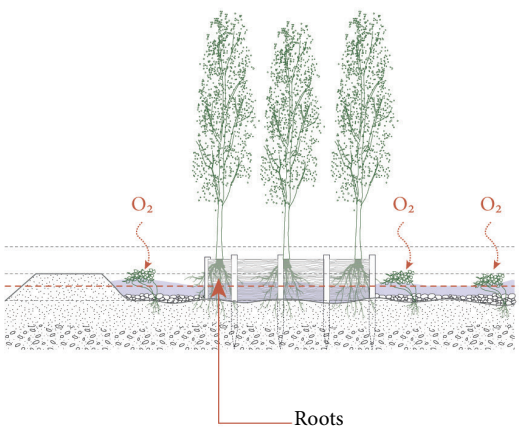
Facultative



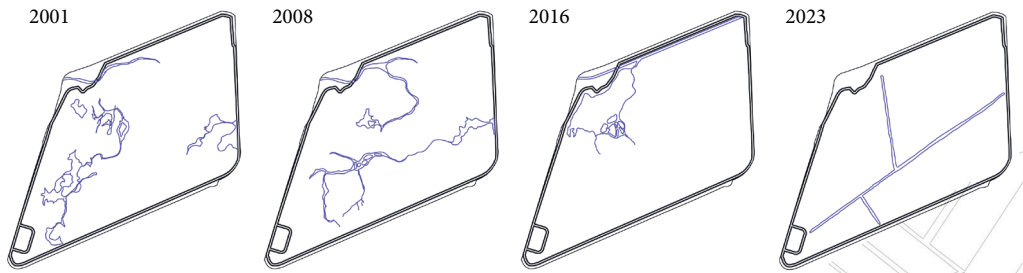


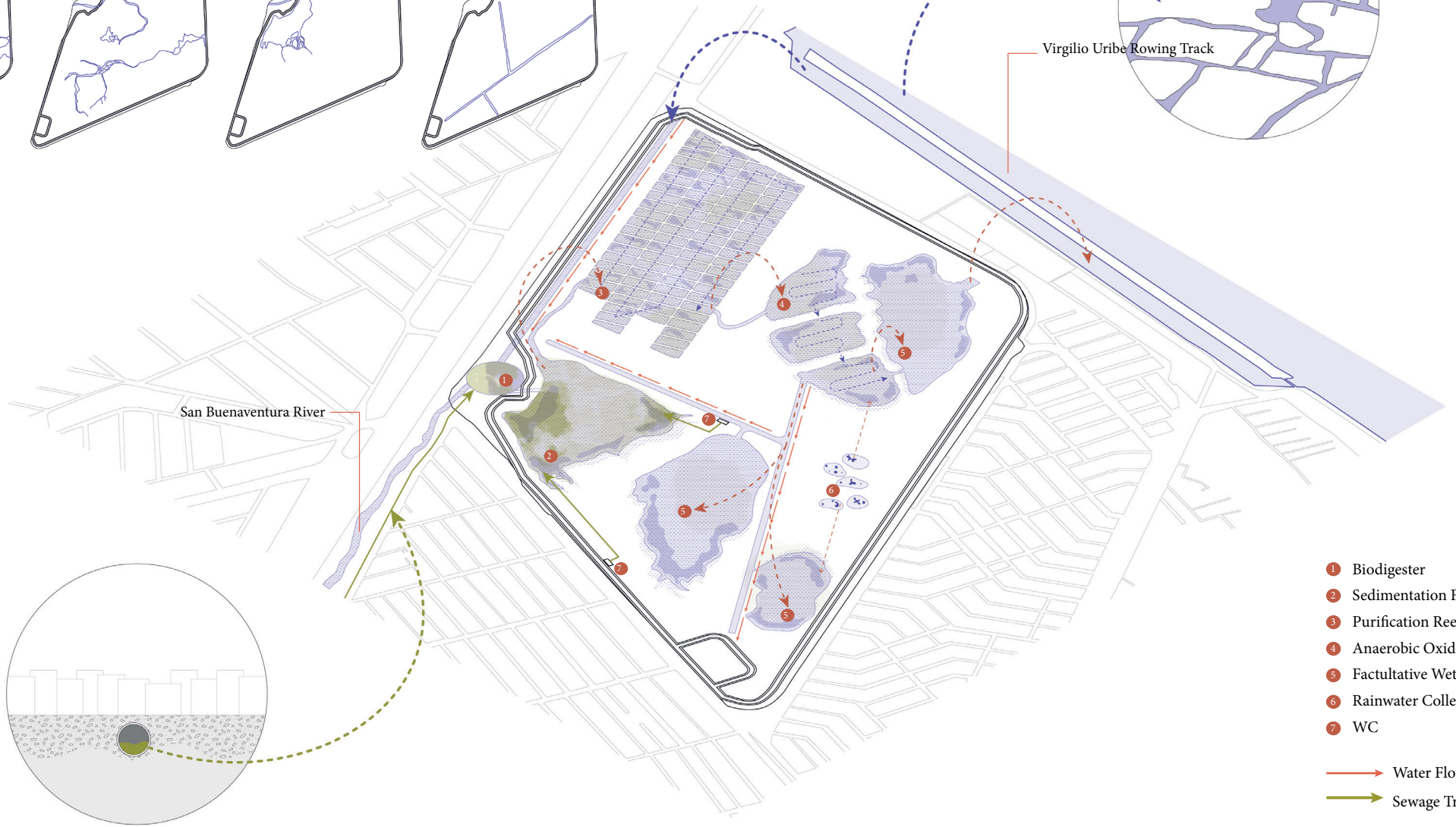




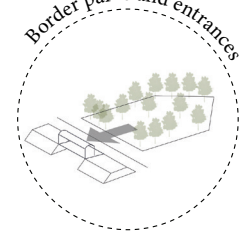


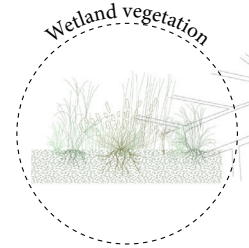
A New Cleaning System

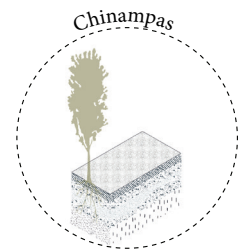


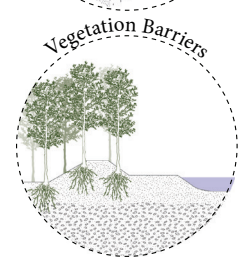


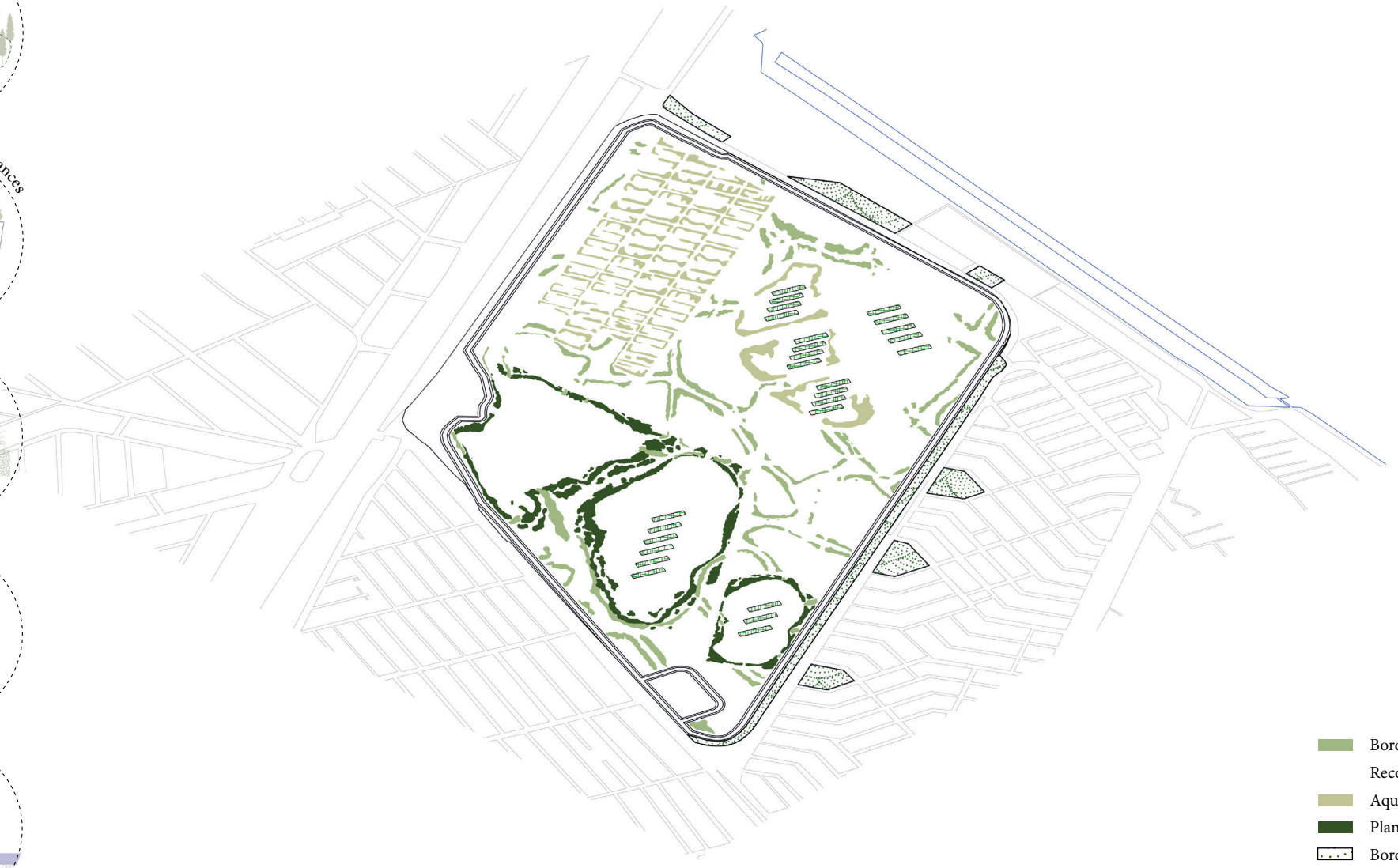
Vegetation Restoration and Phytoremediation





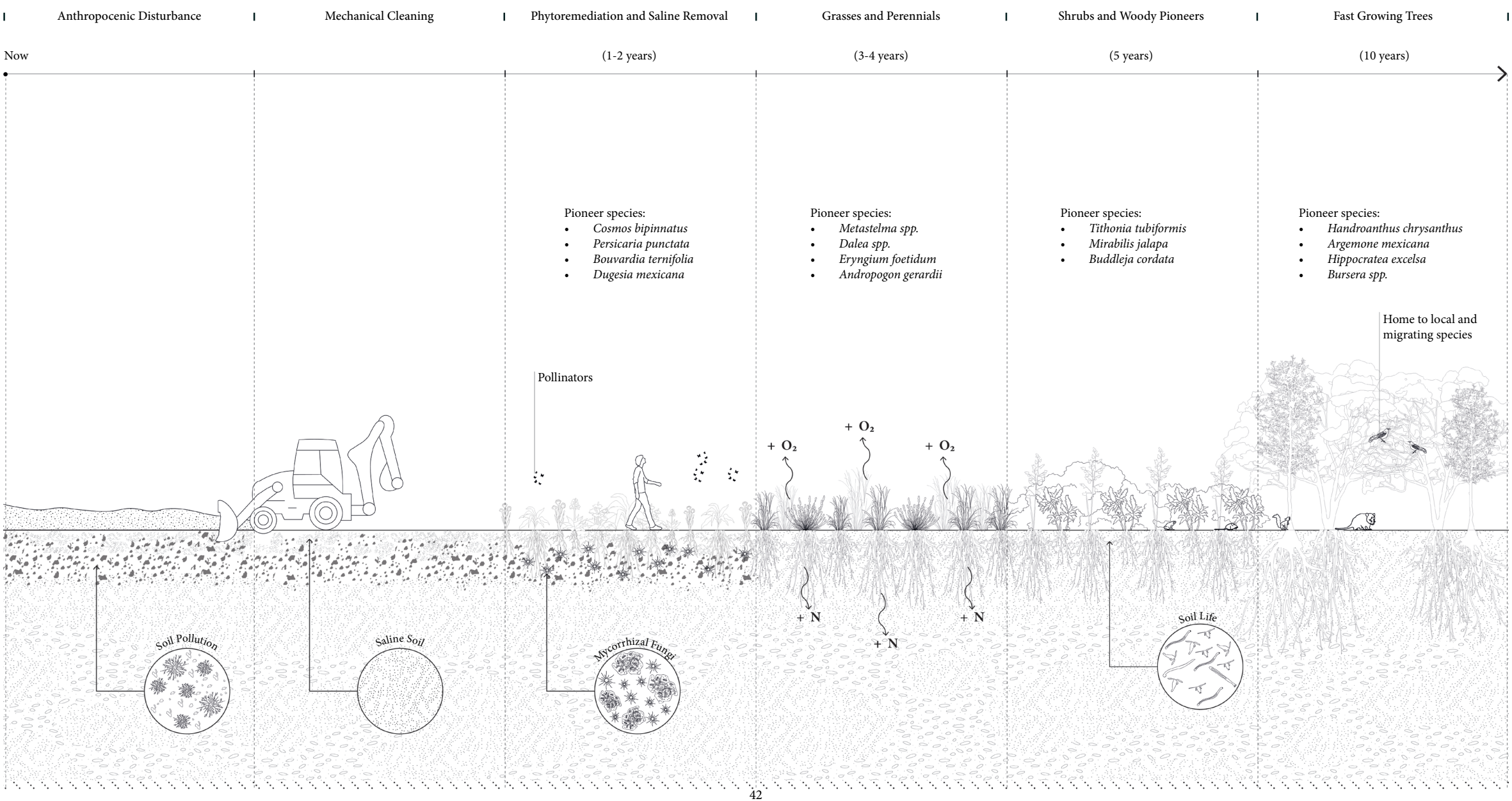




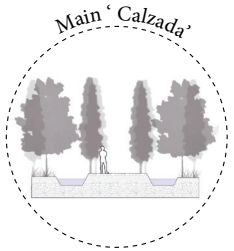


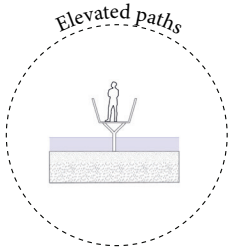
Borders for Flora and Fauna Recovery
Aquatic Filtering Vegetation
Plant Barriers
Border Parks
Chinampas

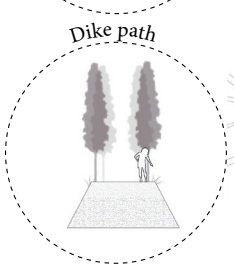
Ecological Succession

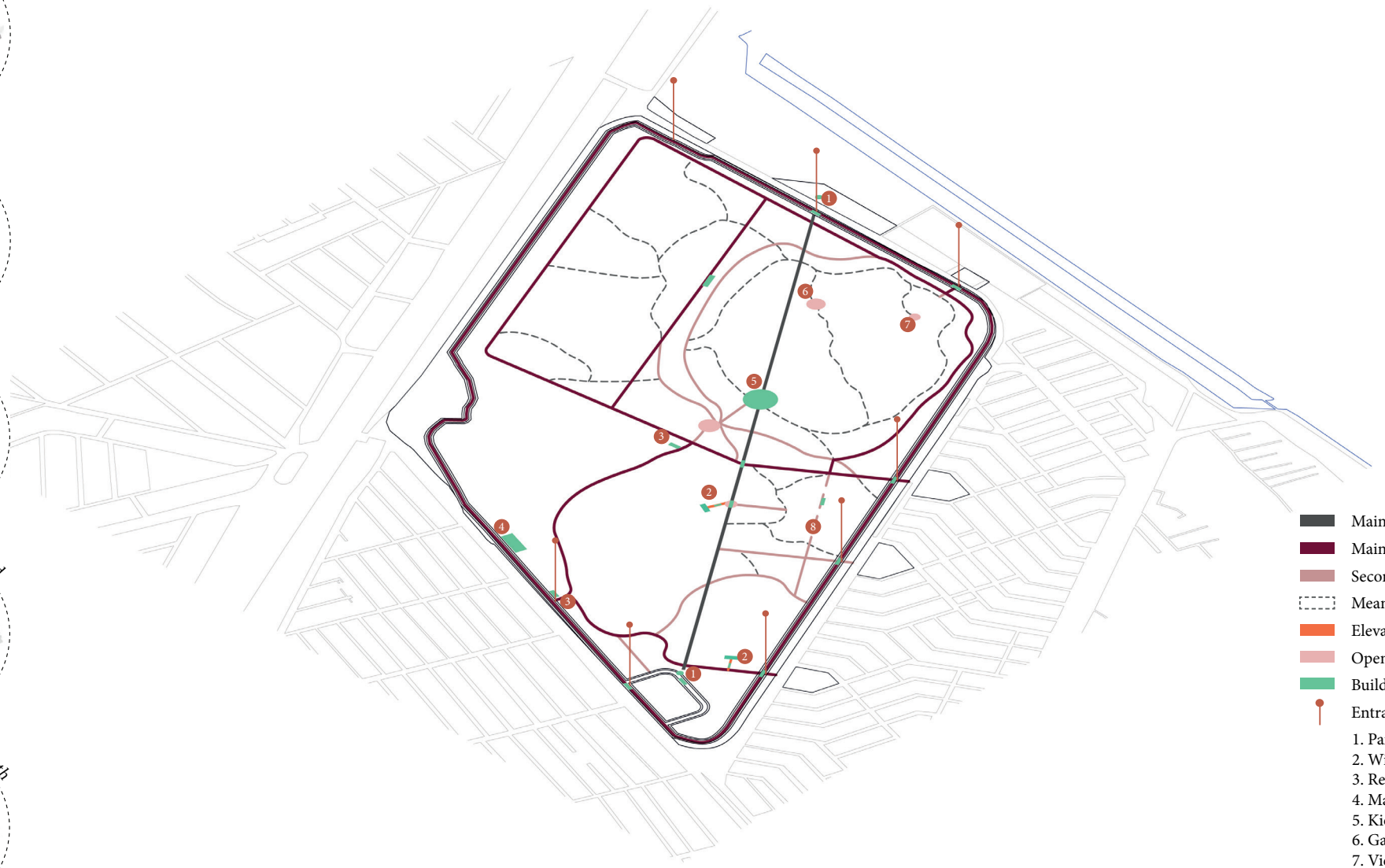


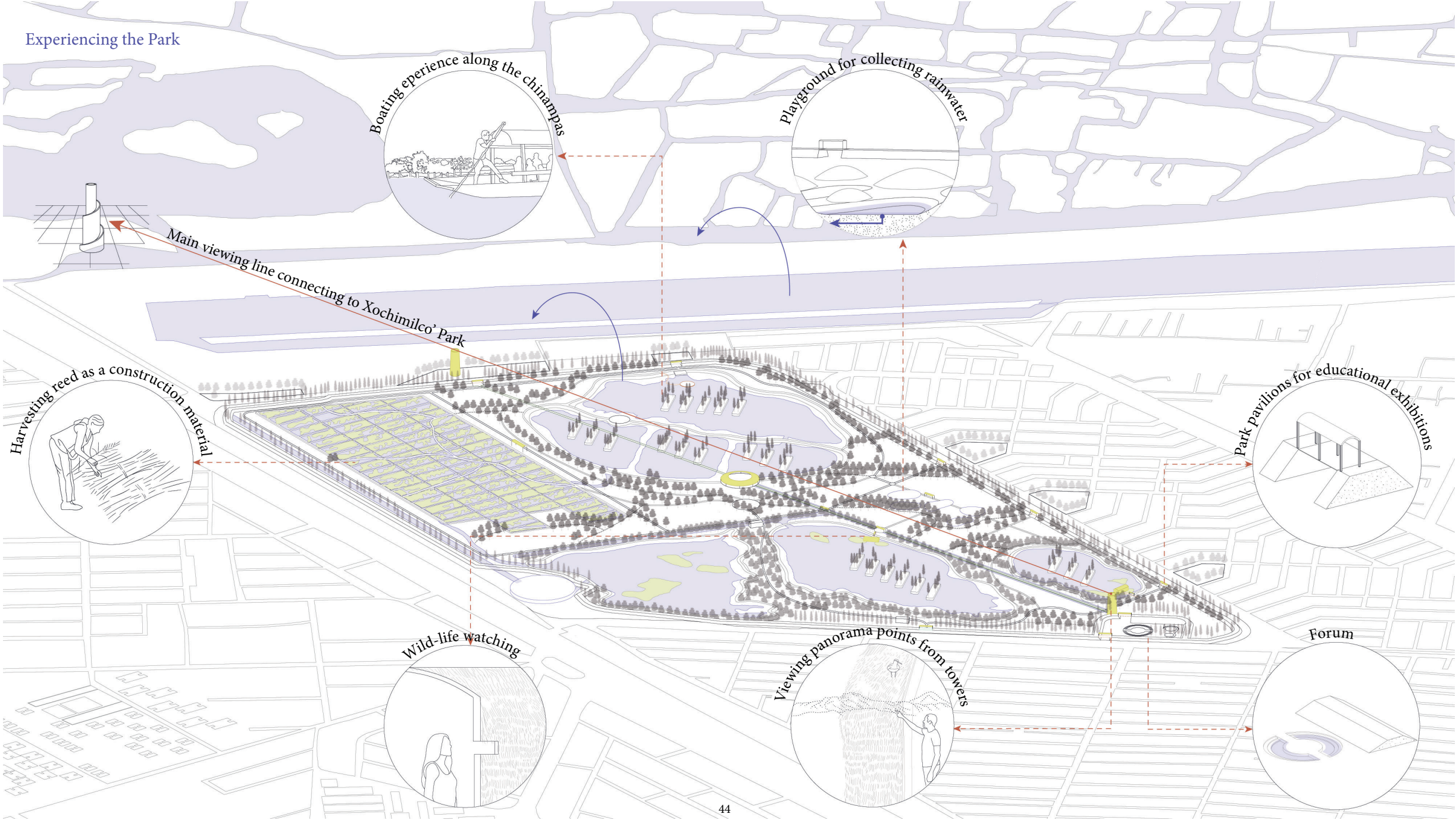
Park Program Integration



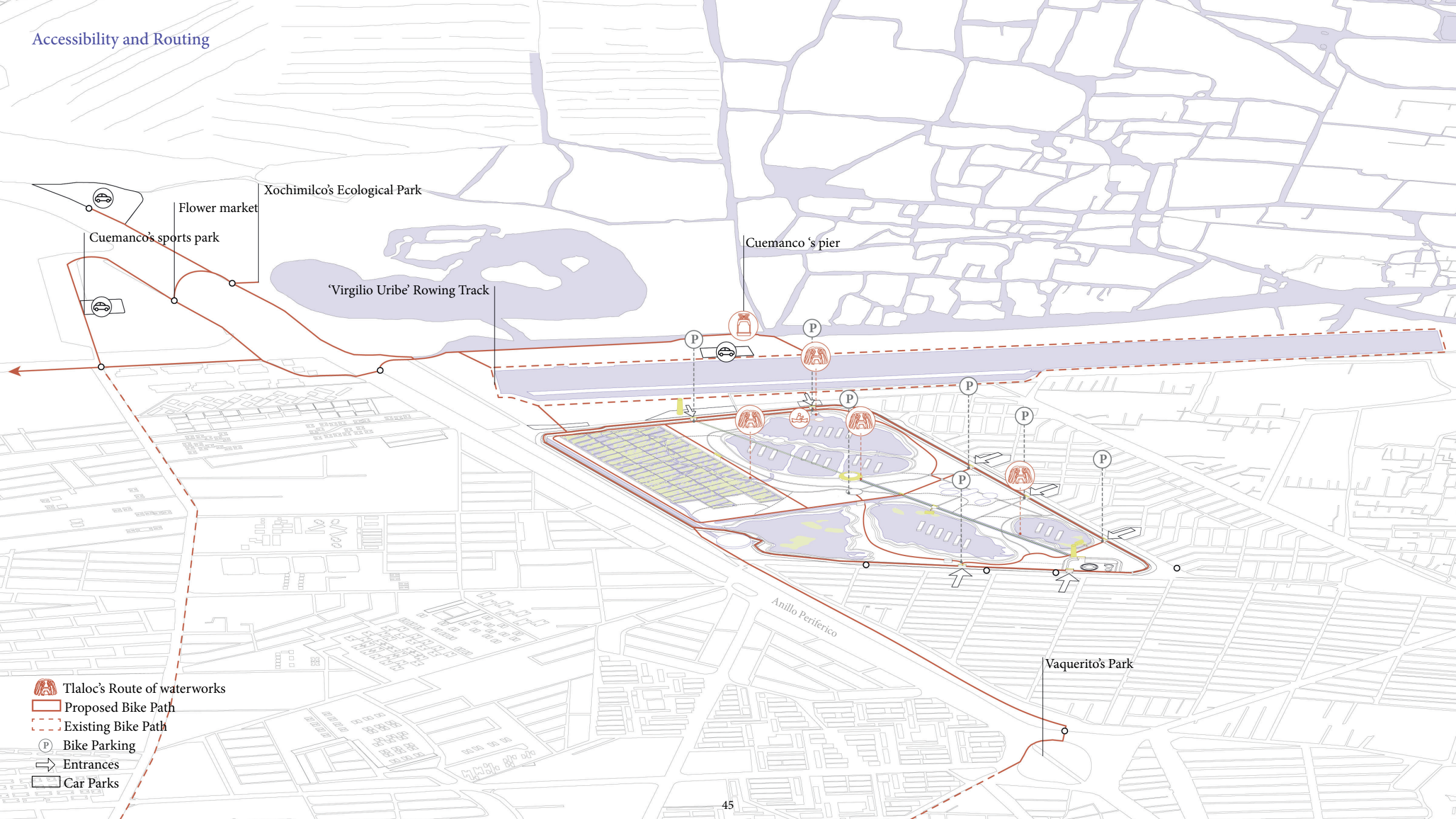






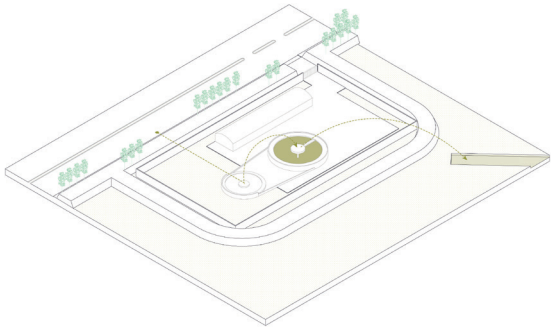

Boating eperience along the chinampas
Playground for collecting rainwater
Main viewing line connecting to Xochimilco' Park
Harvesting reed as a construction material
Park pavilions for educational exhibitions
Wild-life watching
Viewing panorama points from towers
Forum

Accessibility and Routing

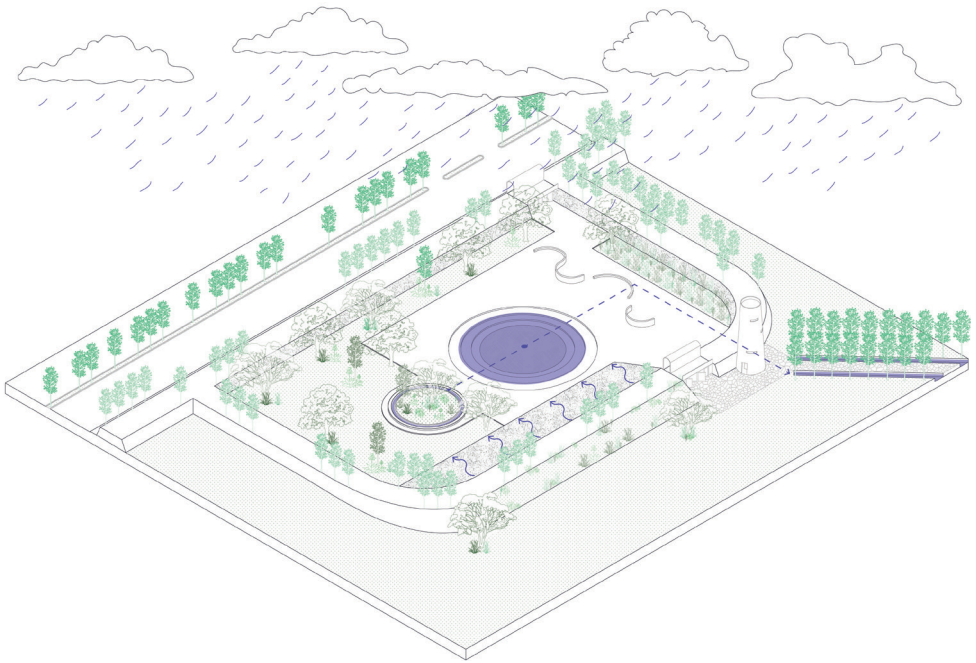


Transforming a once dysfunctional infrastructure into an entrance point

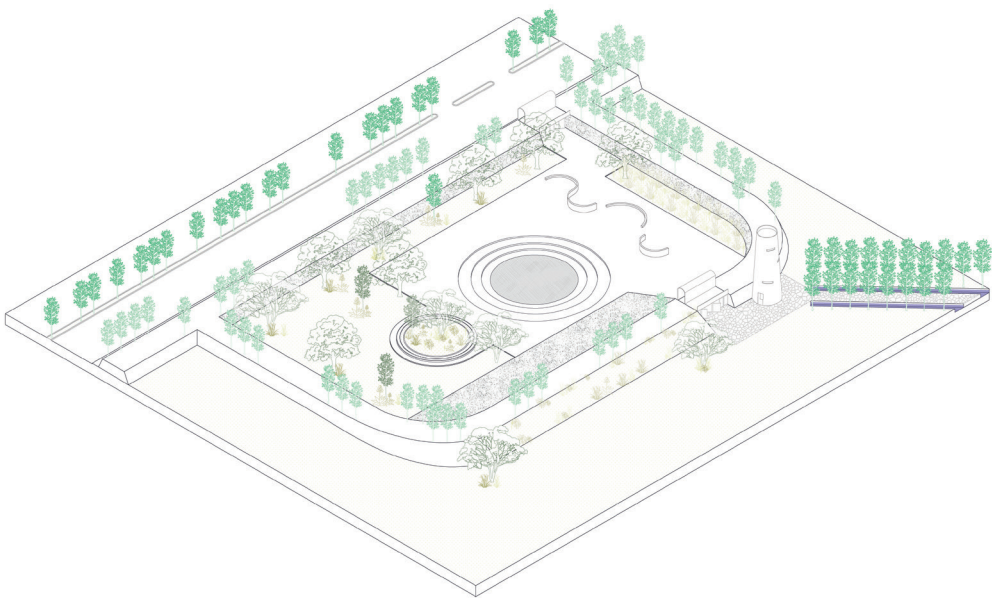
Before

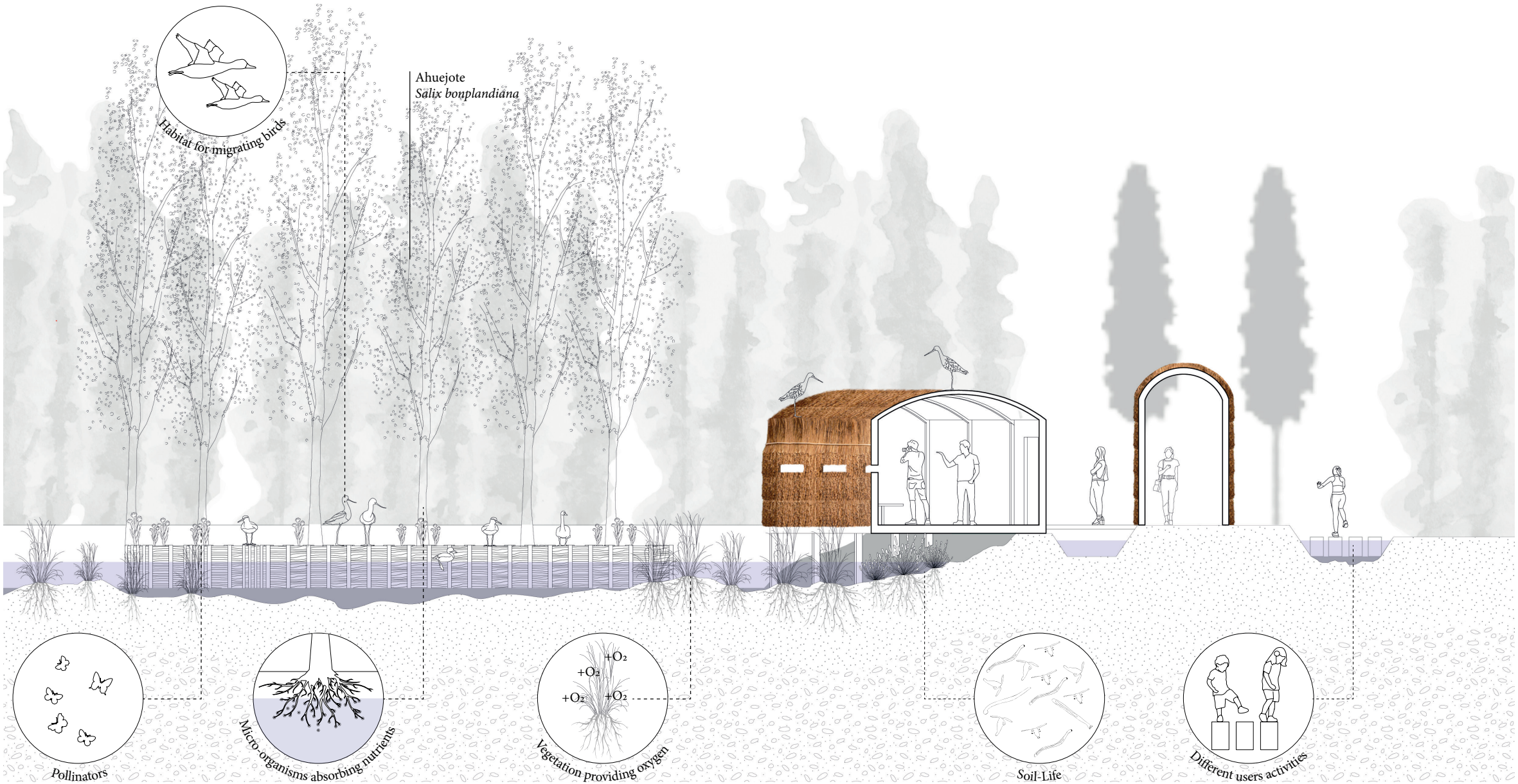


Wet Season



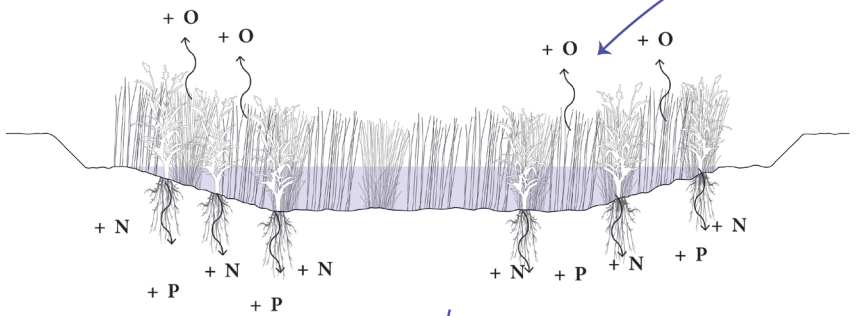
Dry Season



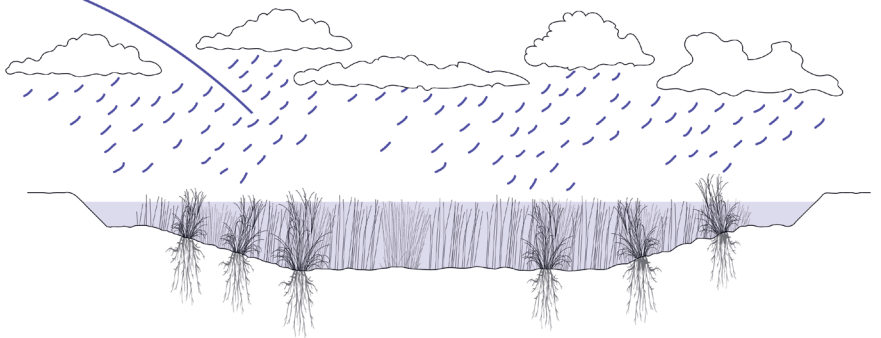

Habitat for migrating birds
Ahuejote
Salix bonplandiana
Pollinators
Micro-organisms absorbing nutrients
+O2
+O2
+O2
+O2
Vegetation providing oxygen
Soil-Life
Different users activities

Reed Life-Cycle

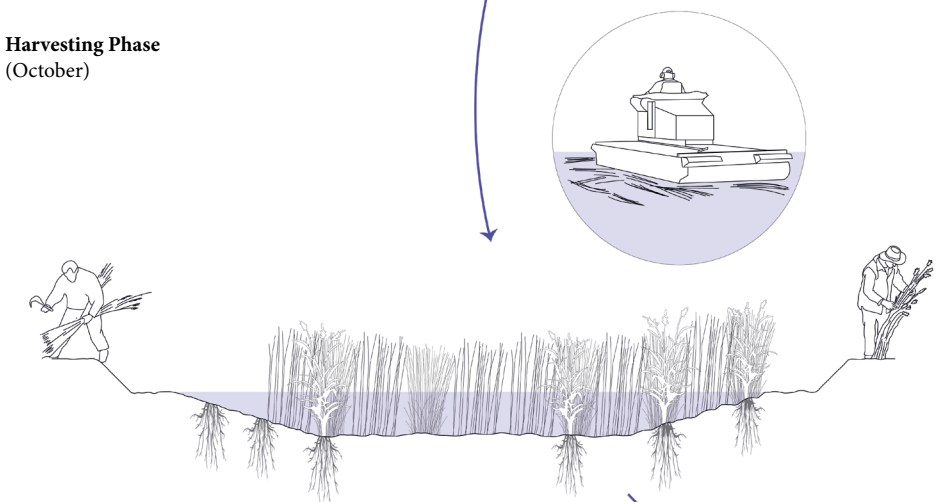
Translocating Phase
(August – October)



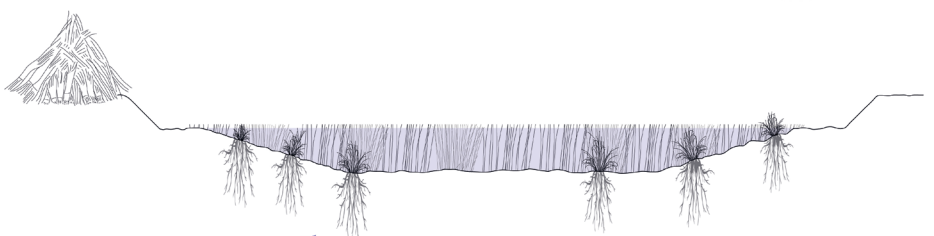
Growing Phase
(April – June)

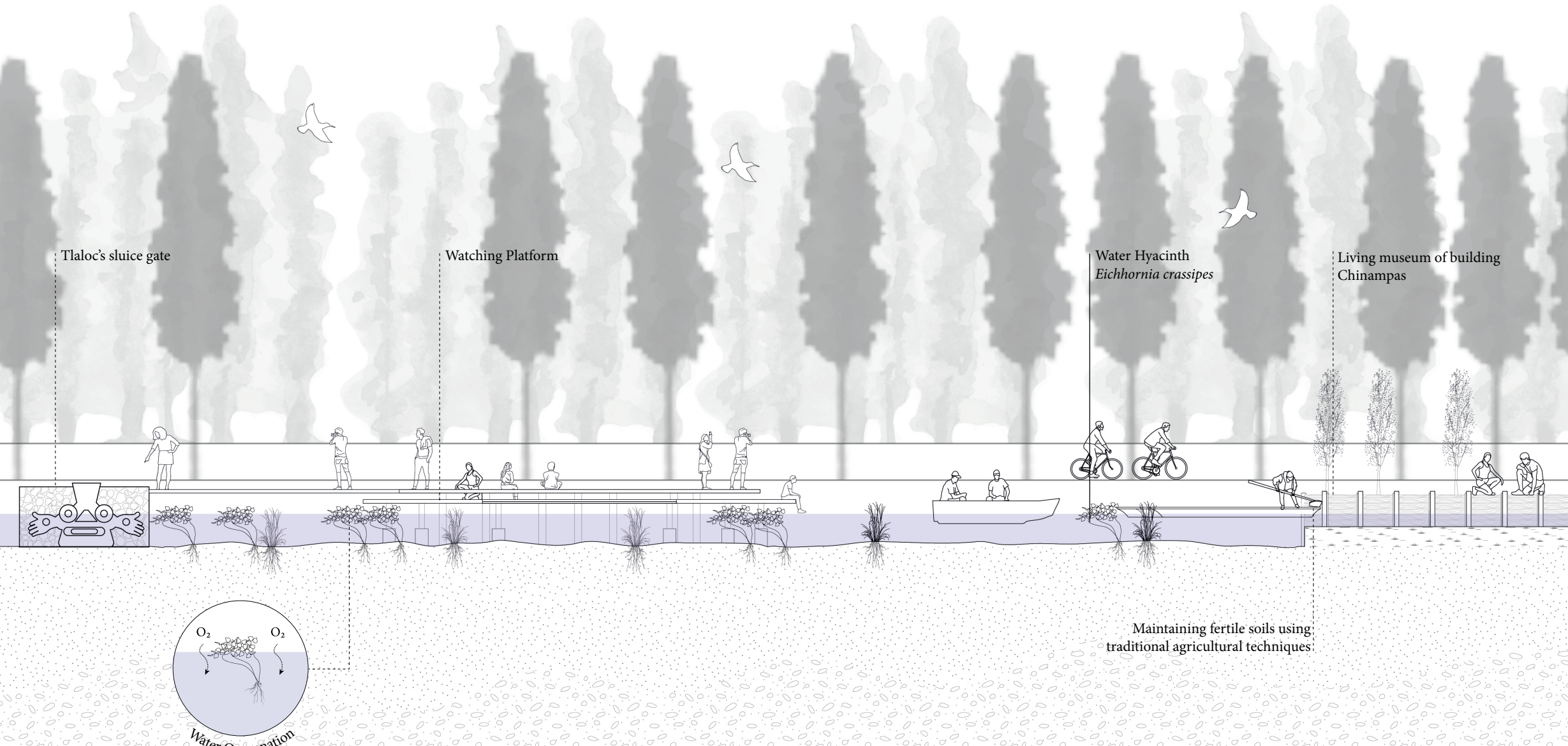


Harvesting Phase
(October)

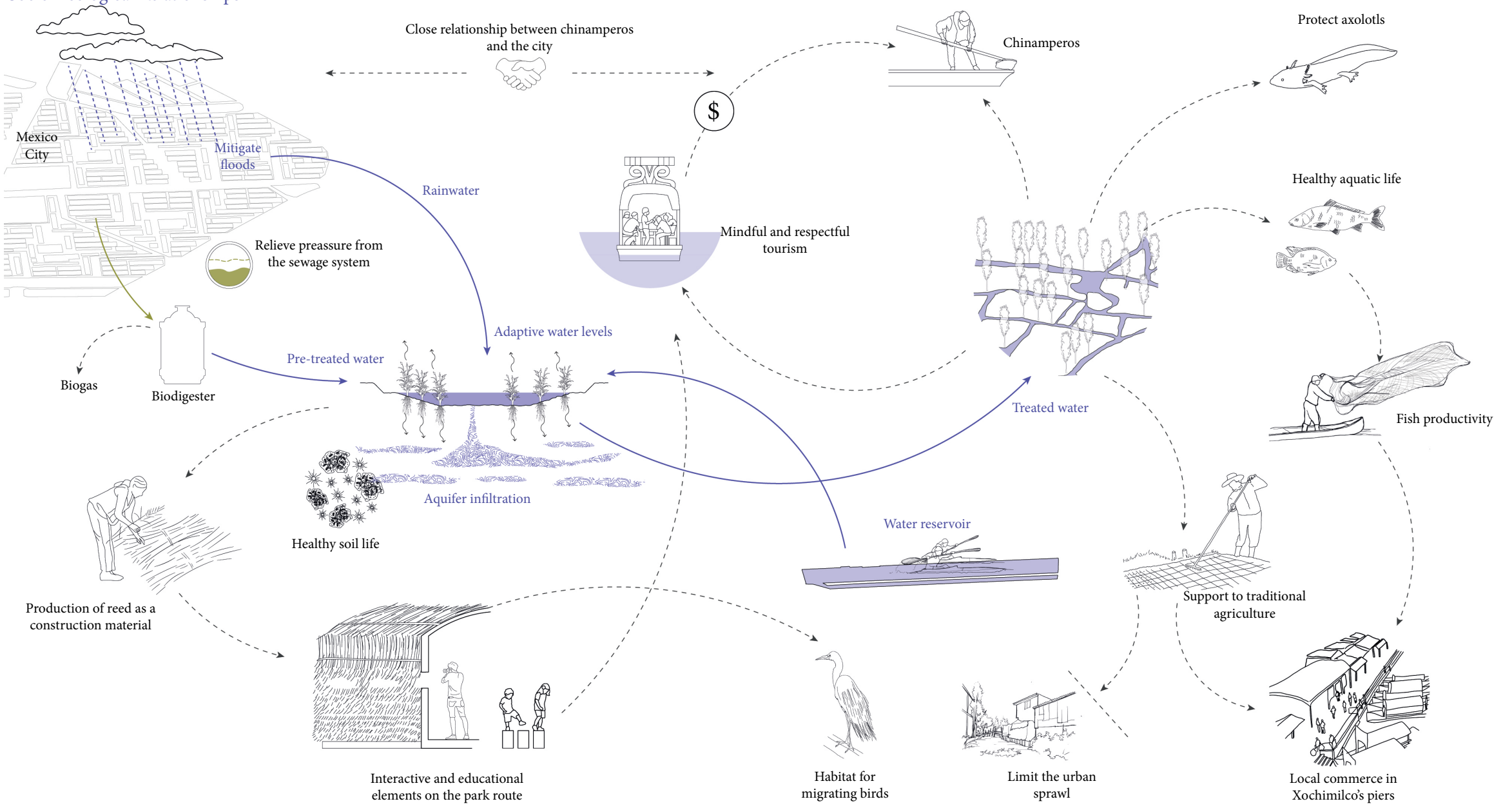


Dormant Phase
(November – March)




Tlaloc's sluice gate
Watching Platform
Water Hyacinth
Eichhornia crassipes
Living museum of building
Chinampas
O_2
O_2
Water Oxygenation
Maintaining fertile soils using
traditional agricultural techniques

Socio-Ecological Relationships



Thank you.