



FLOWSCAPES:
Harvest Studio

Matthijs Johannes Hollanders
4376676

Design region:
PARKSTAD LIMBURG

MAIN MENTOR:
Nico Tillie - Landscape Architecture

SECOND MENTOR:
Michiel Brouwer - Urbanism



PRODUCTIVE SYMBIOSIS

Design of a productive landscape contributing to recreational value and an ecologically healthy and continuous habitat for people and wildlife

INTRO

**LANDSCAPE
ANALYSIS**

DESIGN

**SUMMARY
&
CONCLUSION**

INTRO

FASCINATION



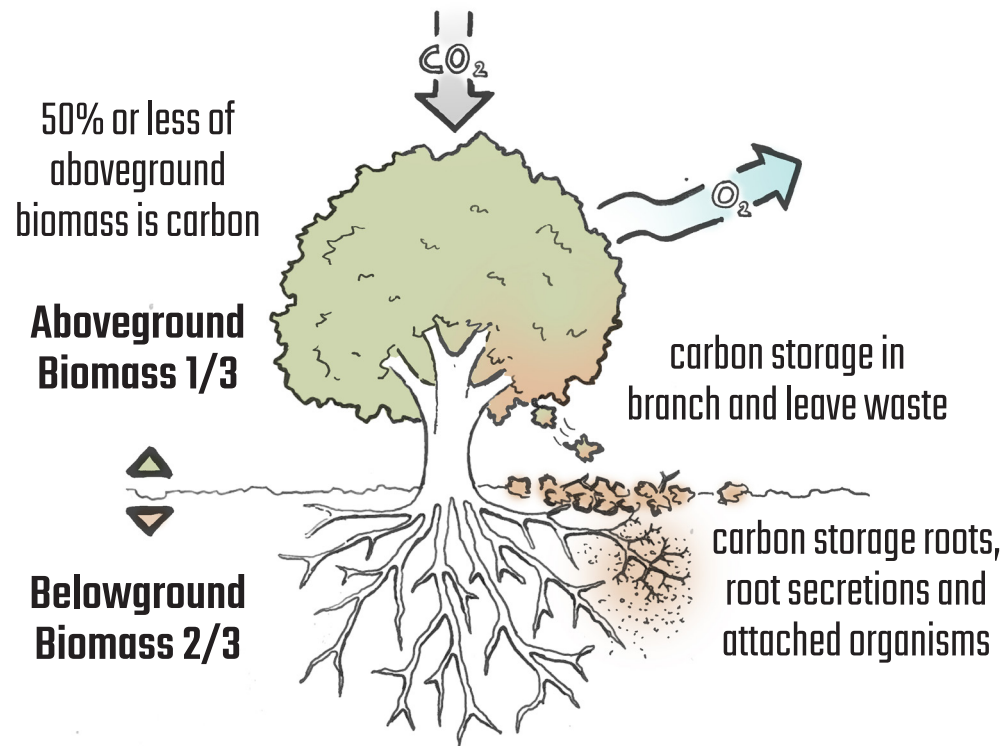
PAST

PRESENT

FUTURE

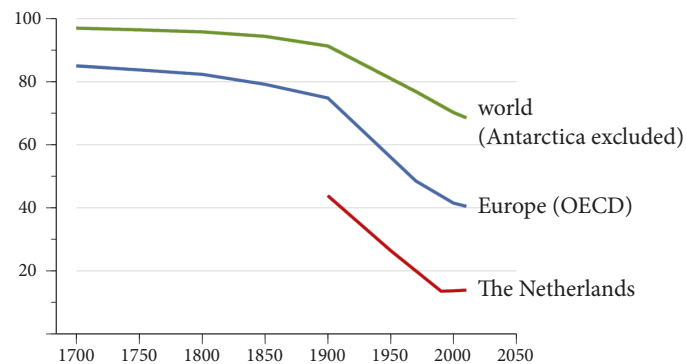


MOTIVATION



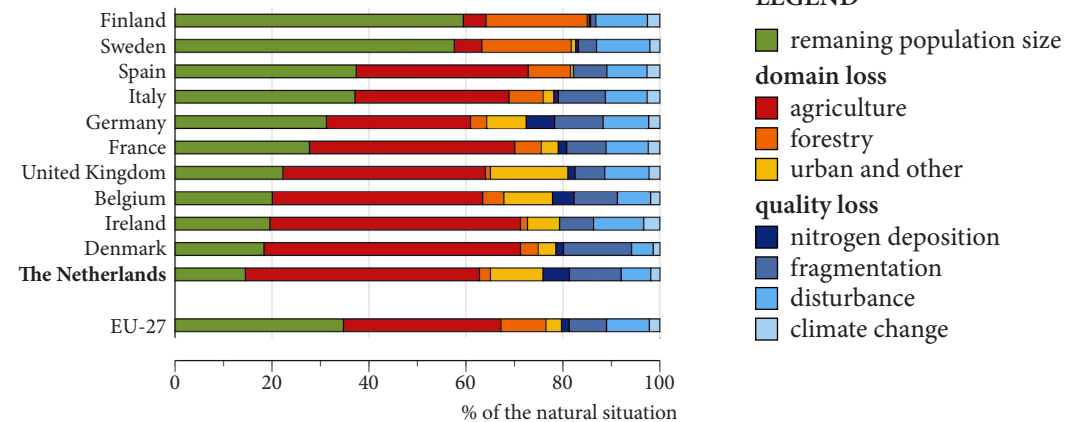
Local food distribution, impression from the EO Wijers submission

MEAN SPECIES ABUNDANCE IN PERCENTAGE OF ORIGINAL POPULATION



Biodiversity, edited from PBL, 2010a

BIODIVERSITY LOSS



Causes for biodiversity loss in Europe, edited from PBL, 2010b

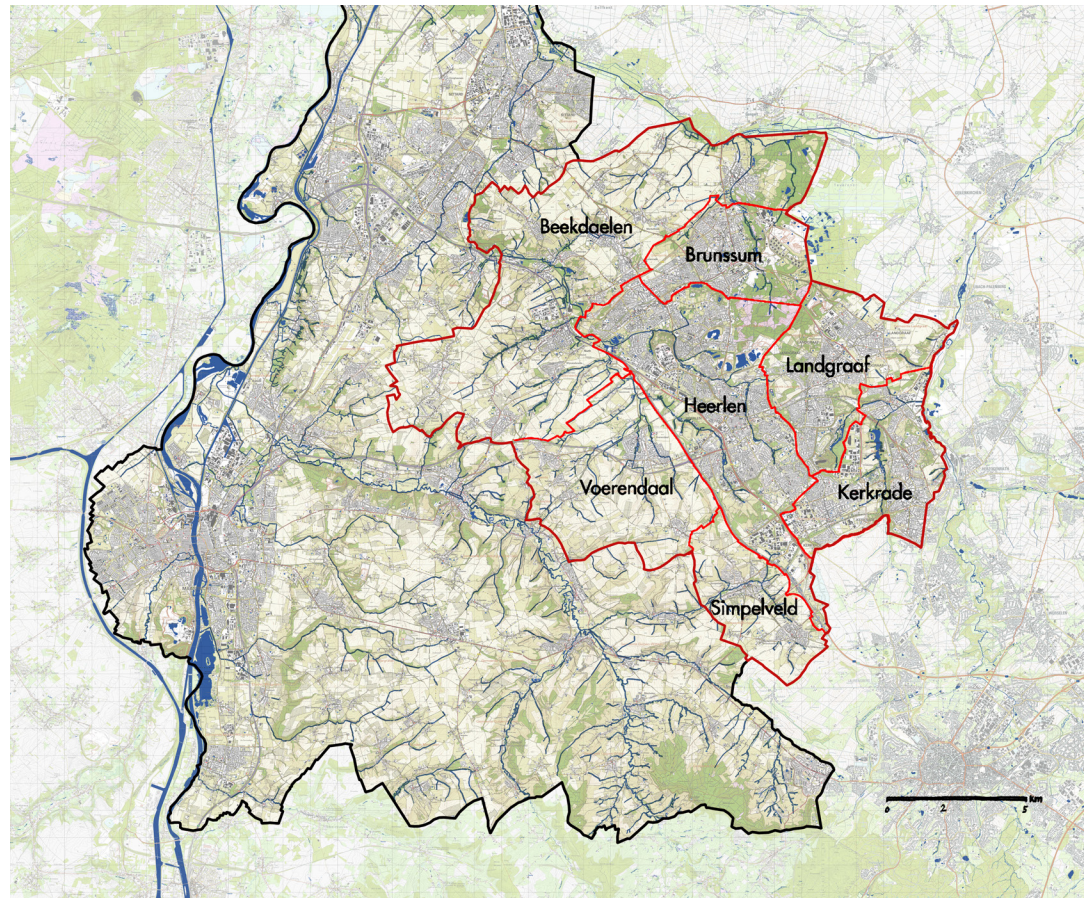
RESEARCH OBJECTIVE



PRODUCTIVE SYMBIOSIS

Design of a productive landscape contributing to recreational value and an ecologically healthy and continuous habitat for people and wildlife

RESEARCH QUESTION



- What is a landscape architectural framework for the Parkstad region which provides conditions for a multi-layer landscape in which the production of agricultural goods, recreation, and ecological development work together and support the growth of biodiversity?

LANDSCAPE ANALYSIS

LIMBURG LANDSCAPES

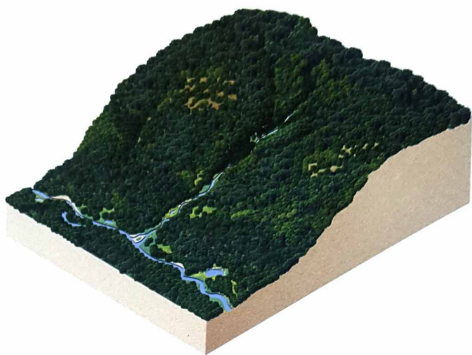


Conceptual section, adjusted from Pinxt et al. (n.d., p.48 and 53)

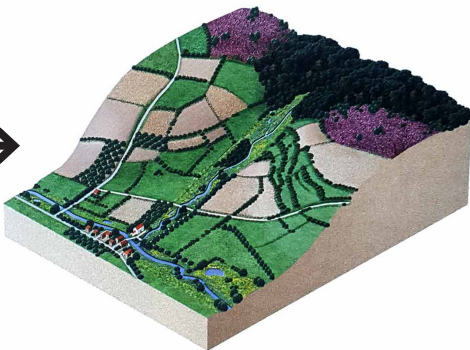
PARKSTAD REGION



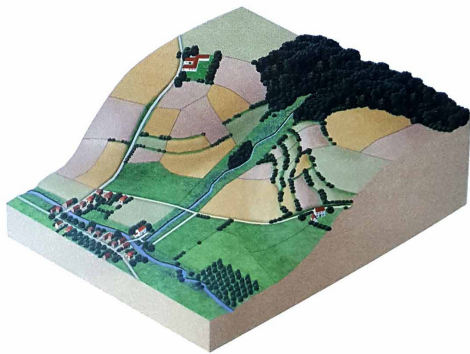
LAND CULTIVATION



PAST



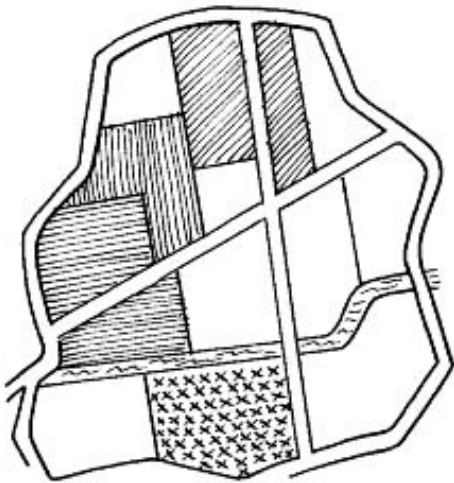
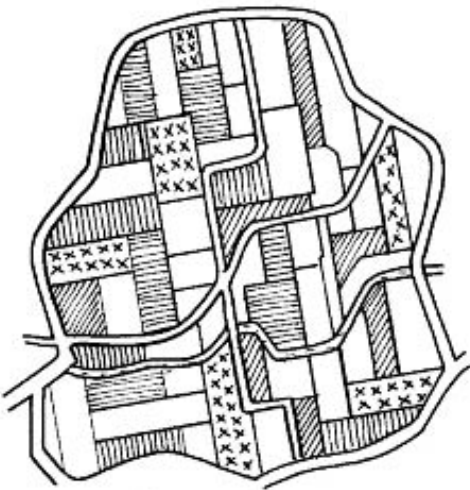
SMALL SCALE FARMS



LARGE SCALE PARCELS

LEGEND

- land-owner 1
- land-owner 2
- land-owner 3
- land-owner 4
- land-owner 5
- water
- road

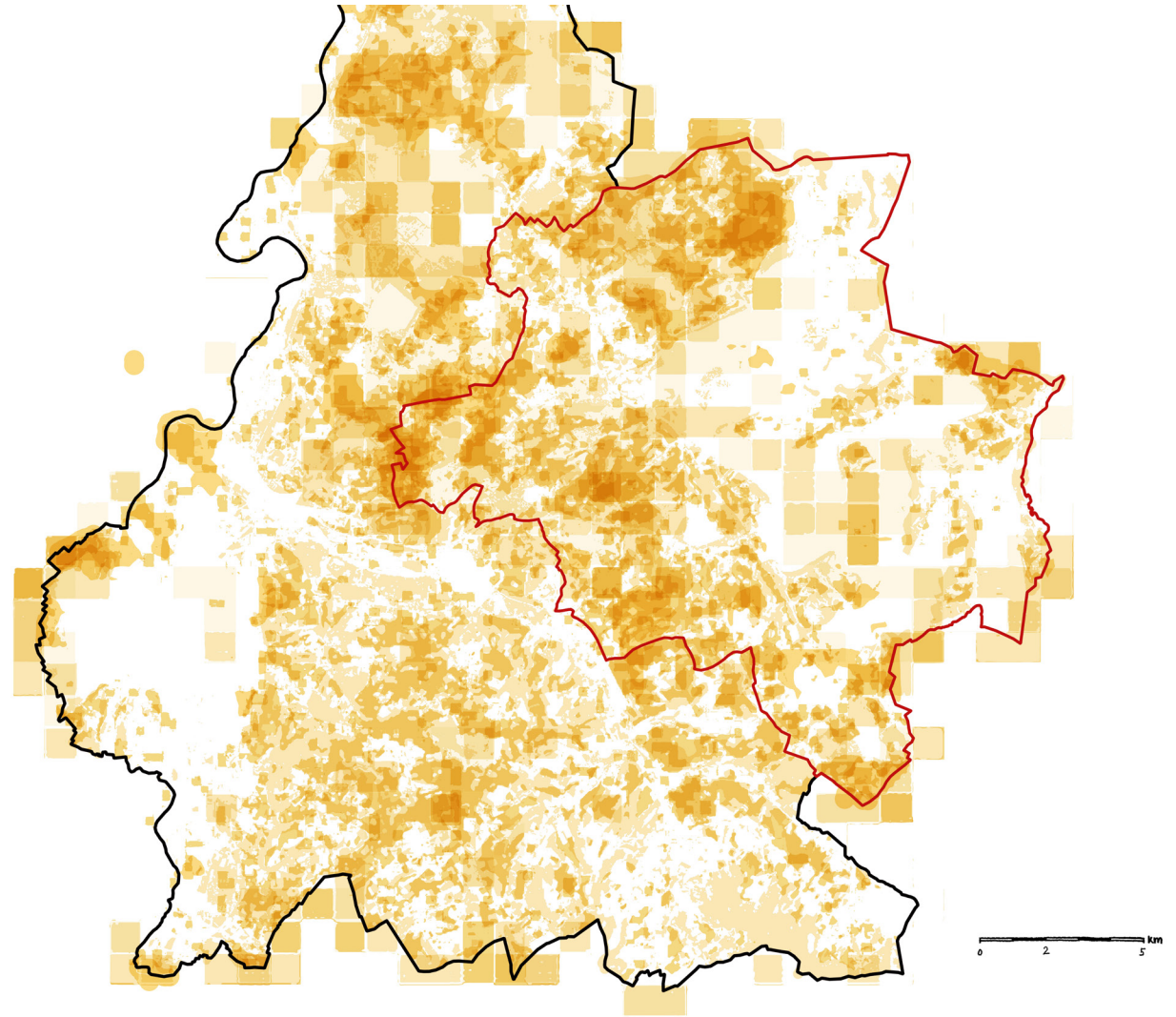
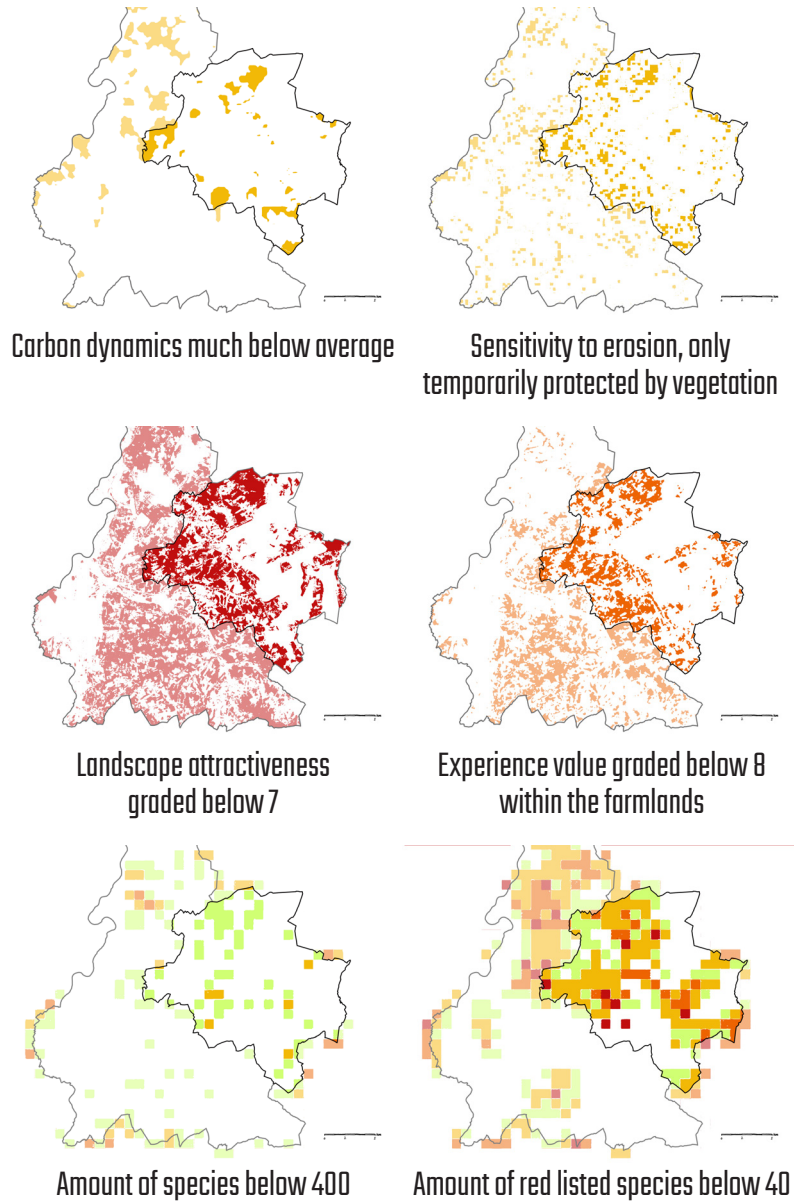


The result of land consolidation, (Van Sabben rentmeesters, n.d.)

PARKSTAD REGION

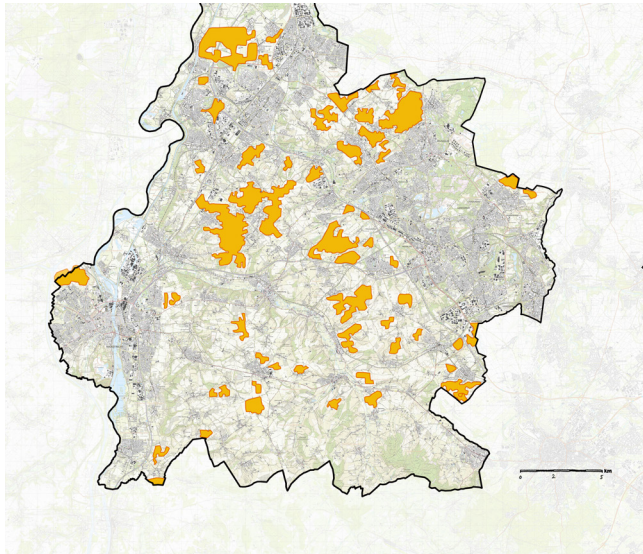


CHALLENGES

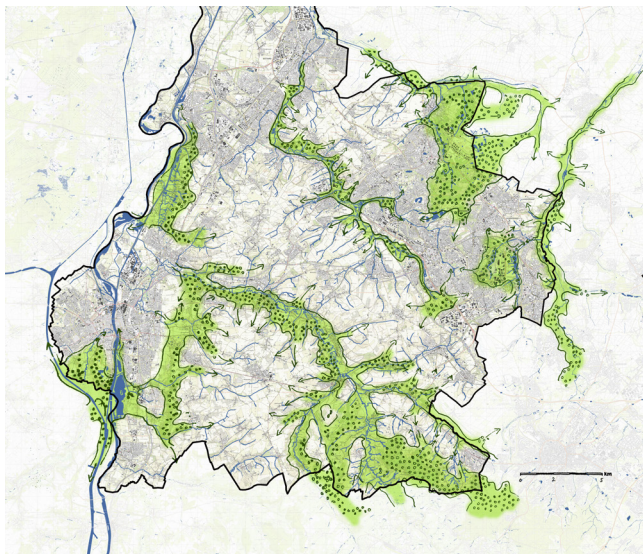


'HEAT-MAP'

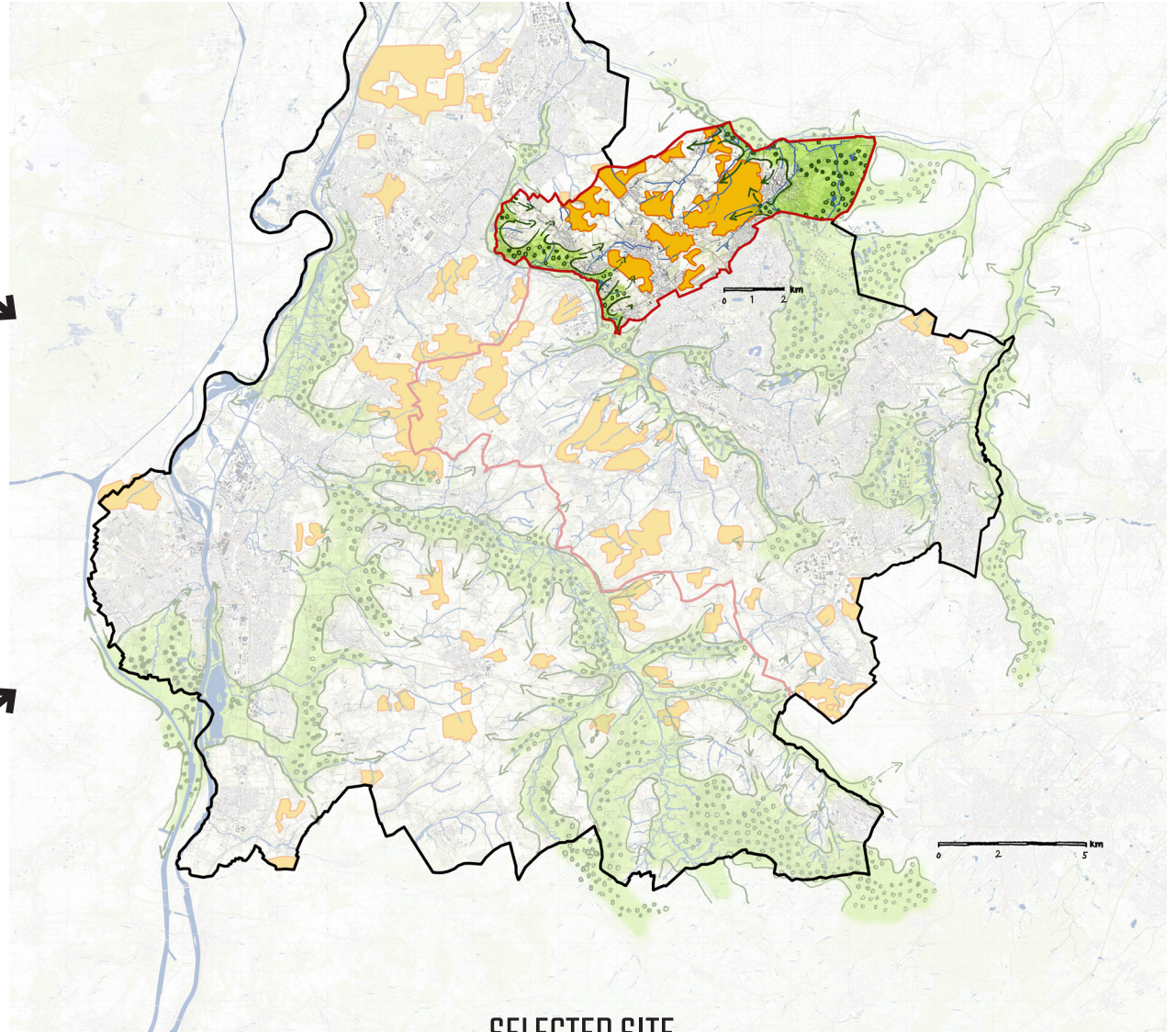
SITE SELECTION



'HEAT-MAP' CLUSTERS



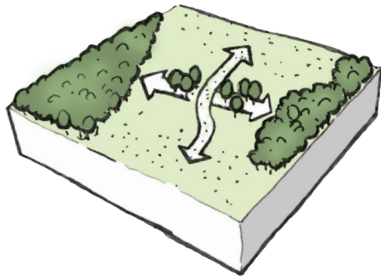
ECOLOGICAL BACKBONES



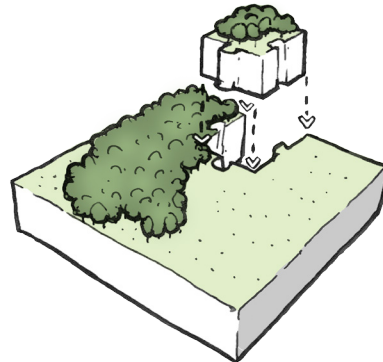
SELECTED SITE

DESIGN

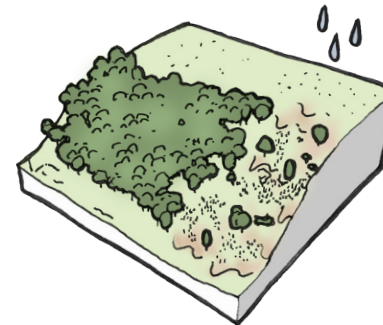
DESIGN OBJECTIVES



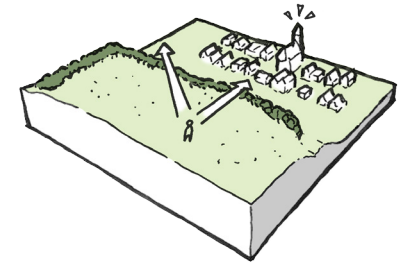
Ecological corridors



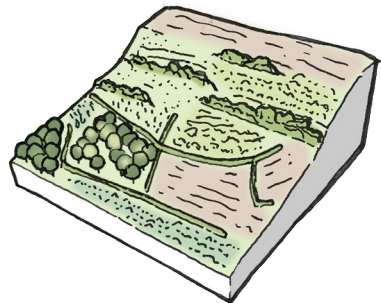
Attach to ecologically valuable areas



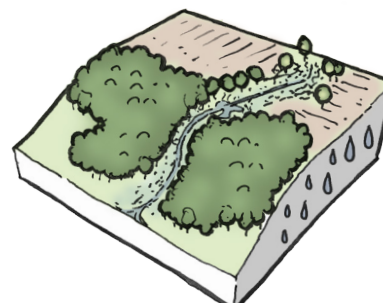
Prevent erosion



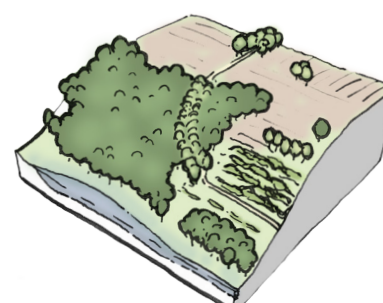
Preserve valuable views



Landscape variety



Retain and use available water

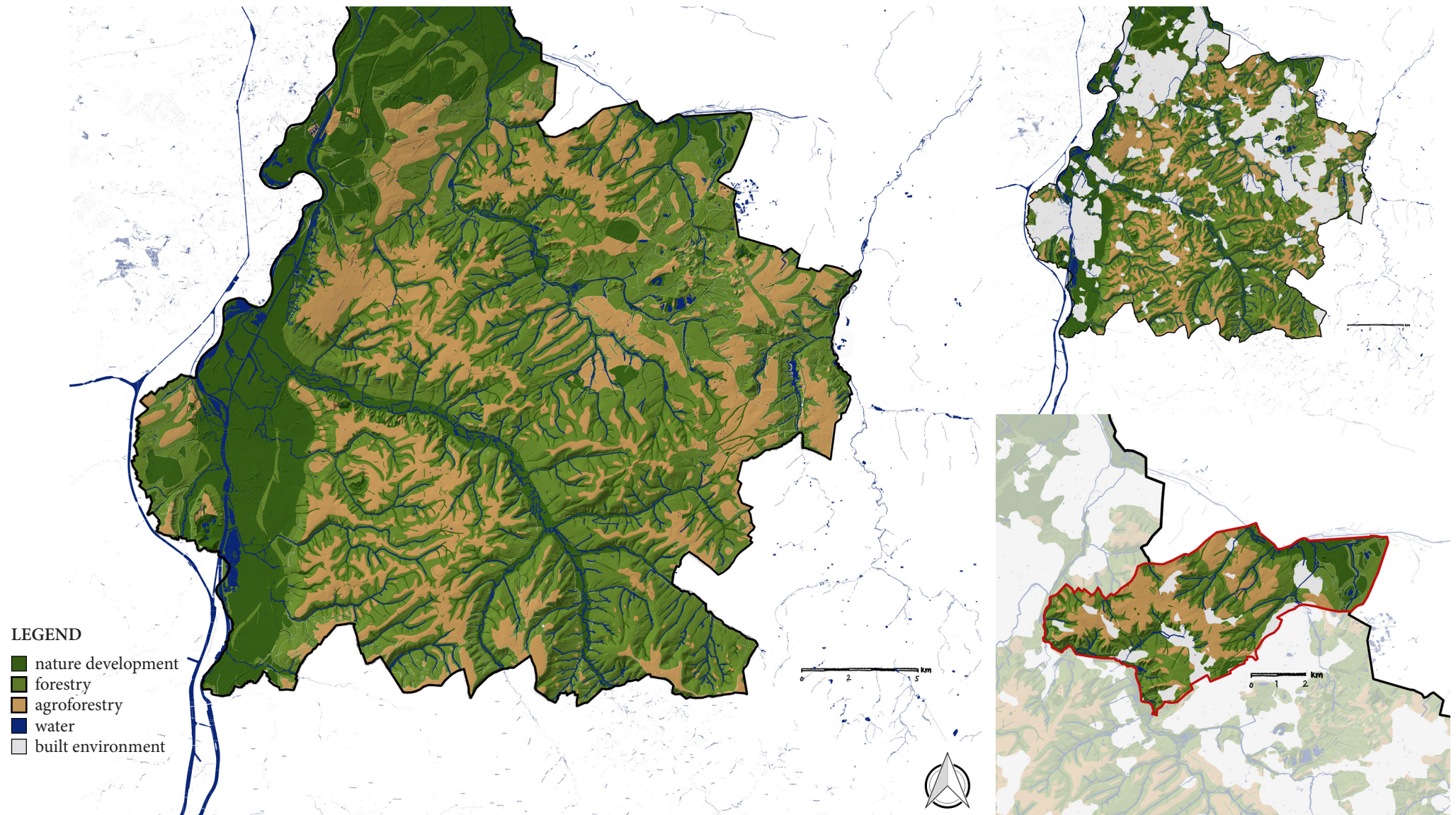


Improve recreational experience level



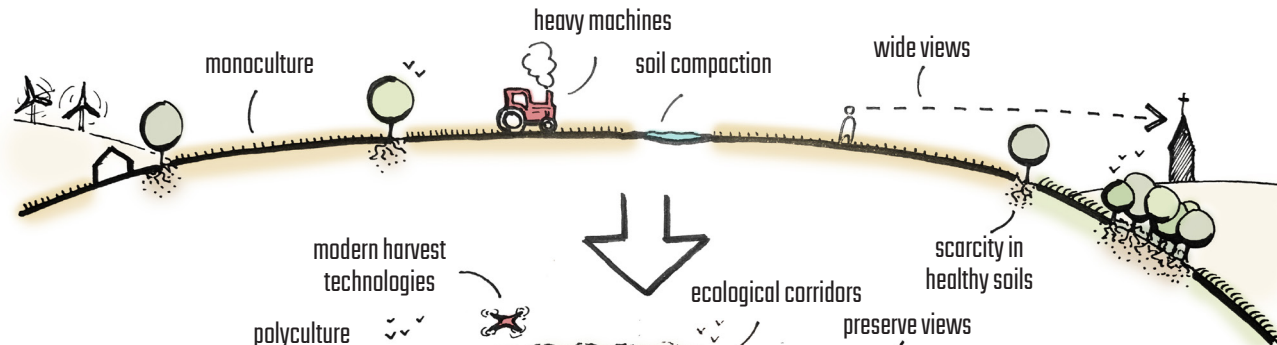
Increase diverse productivity and local distribution

CONCEPTUAL VISION

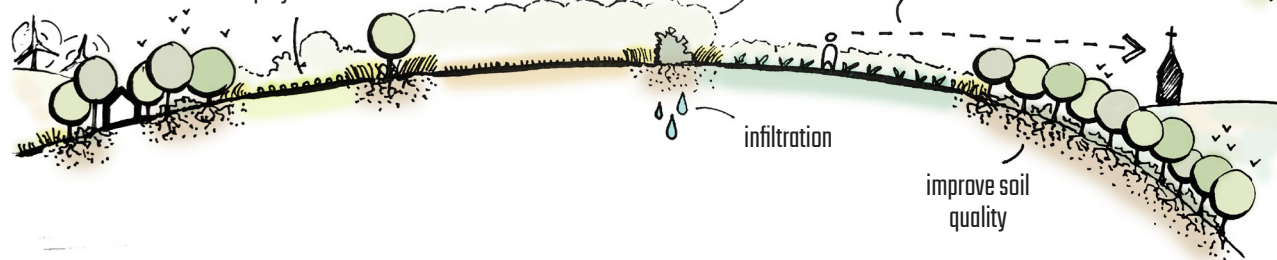


CONCEPTUAL SECTIONS

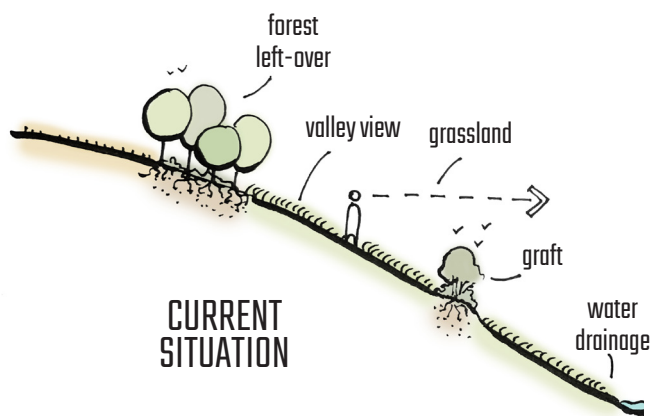
CURRENT
SITUATION



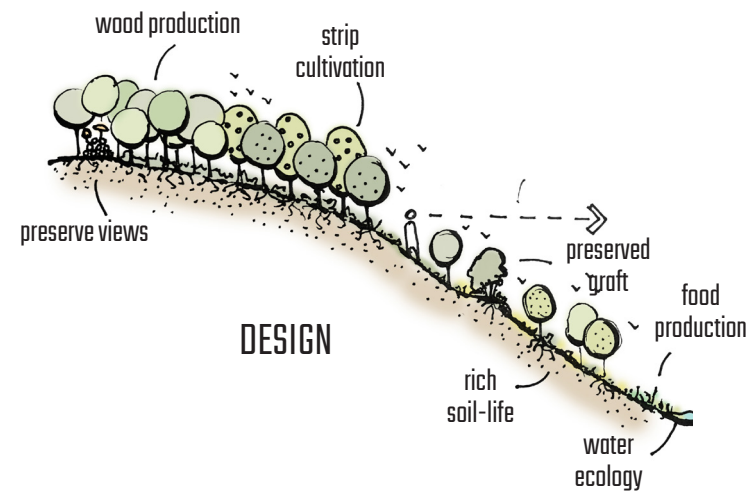
DESIGN



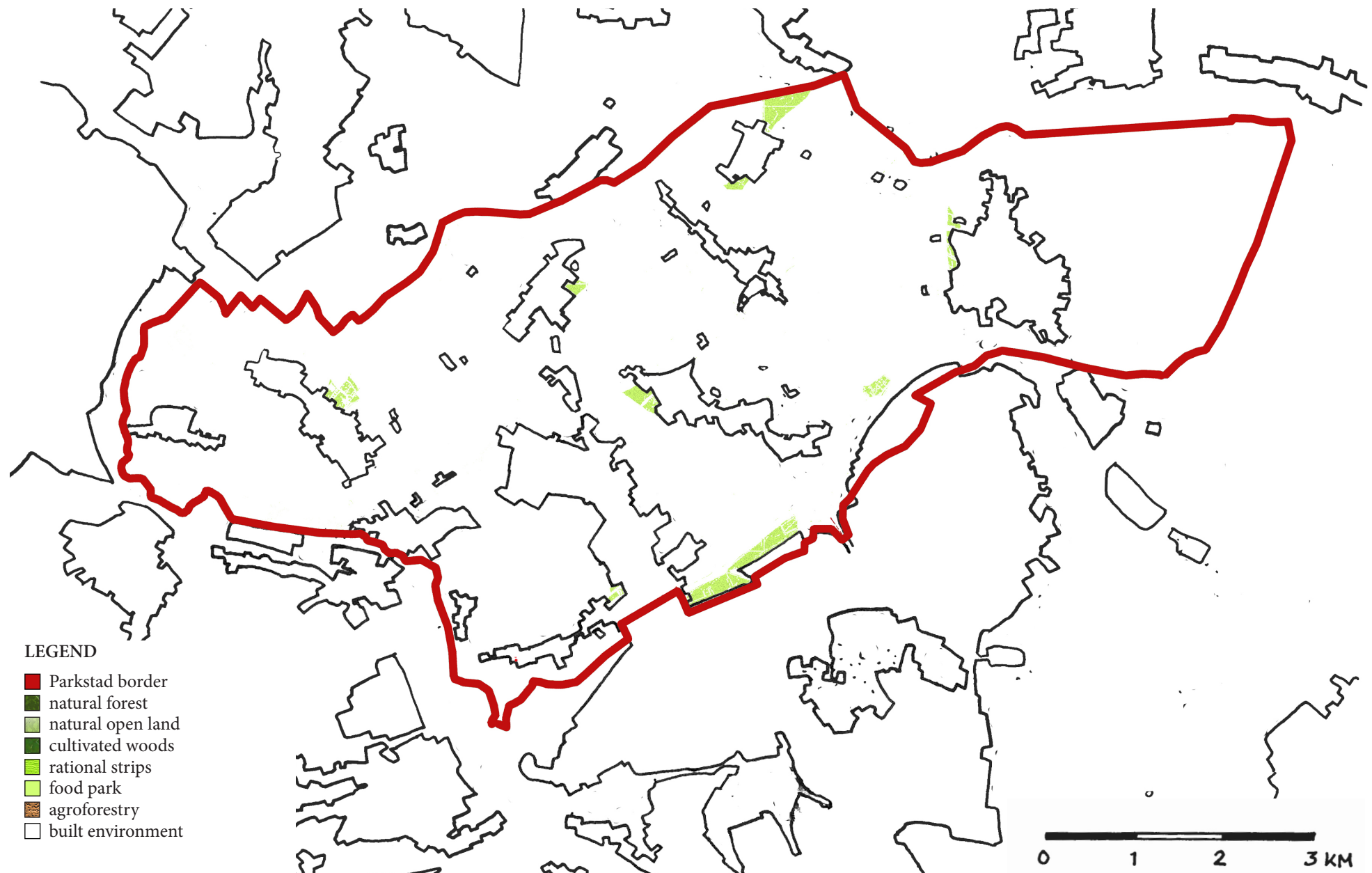
CURRENT
SITUATION



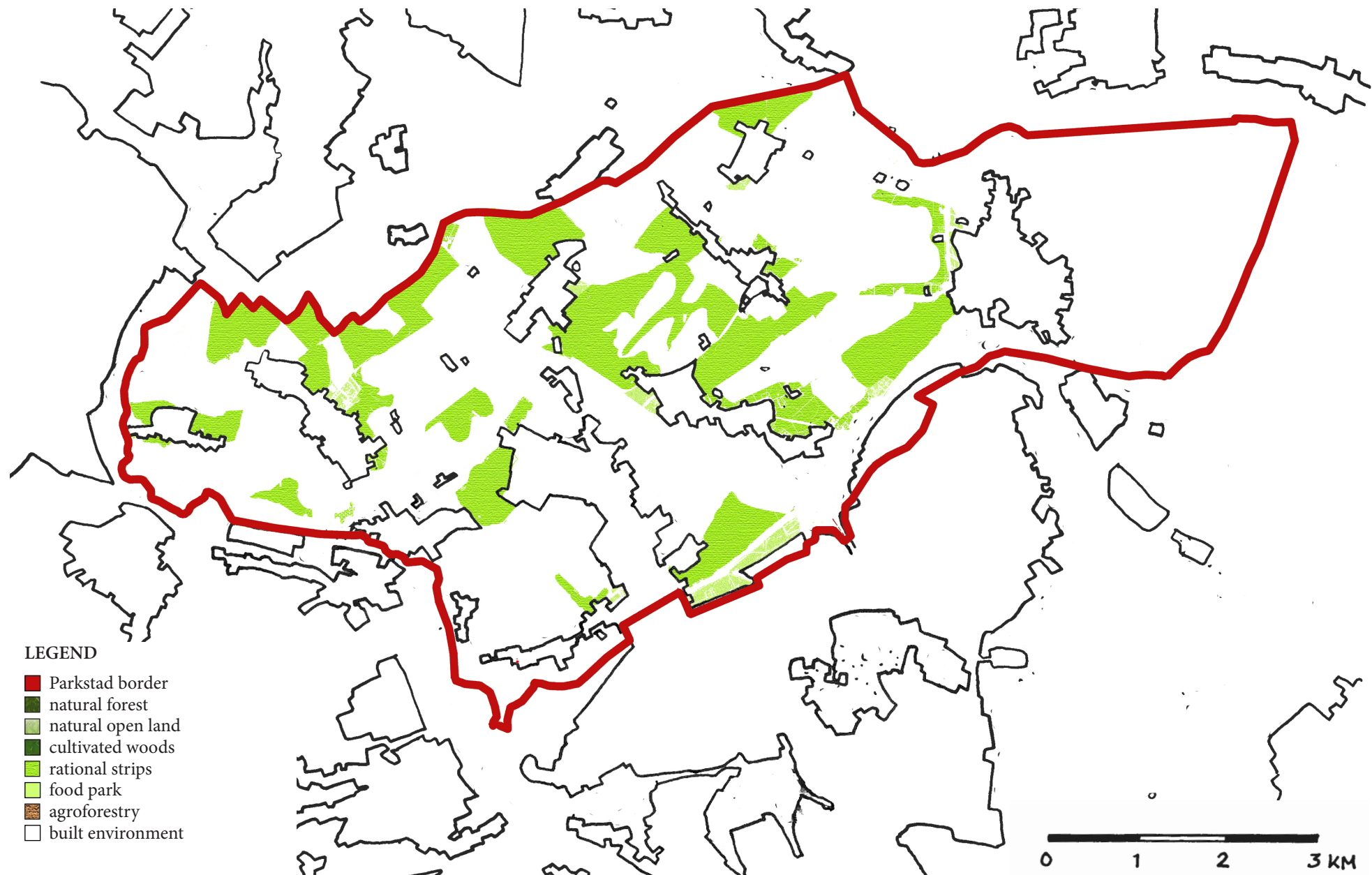
DESIGN



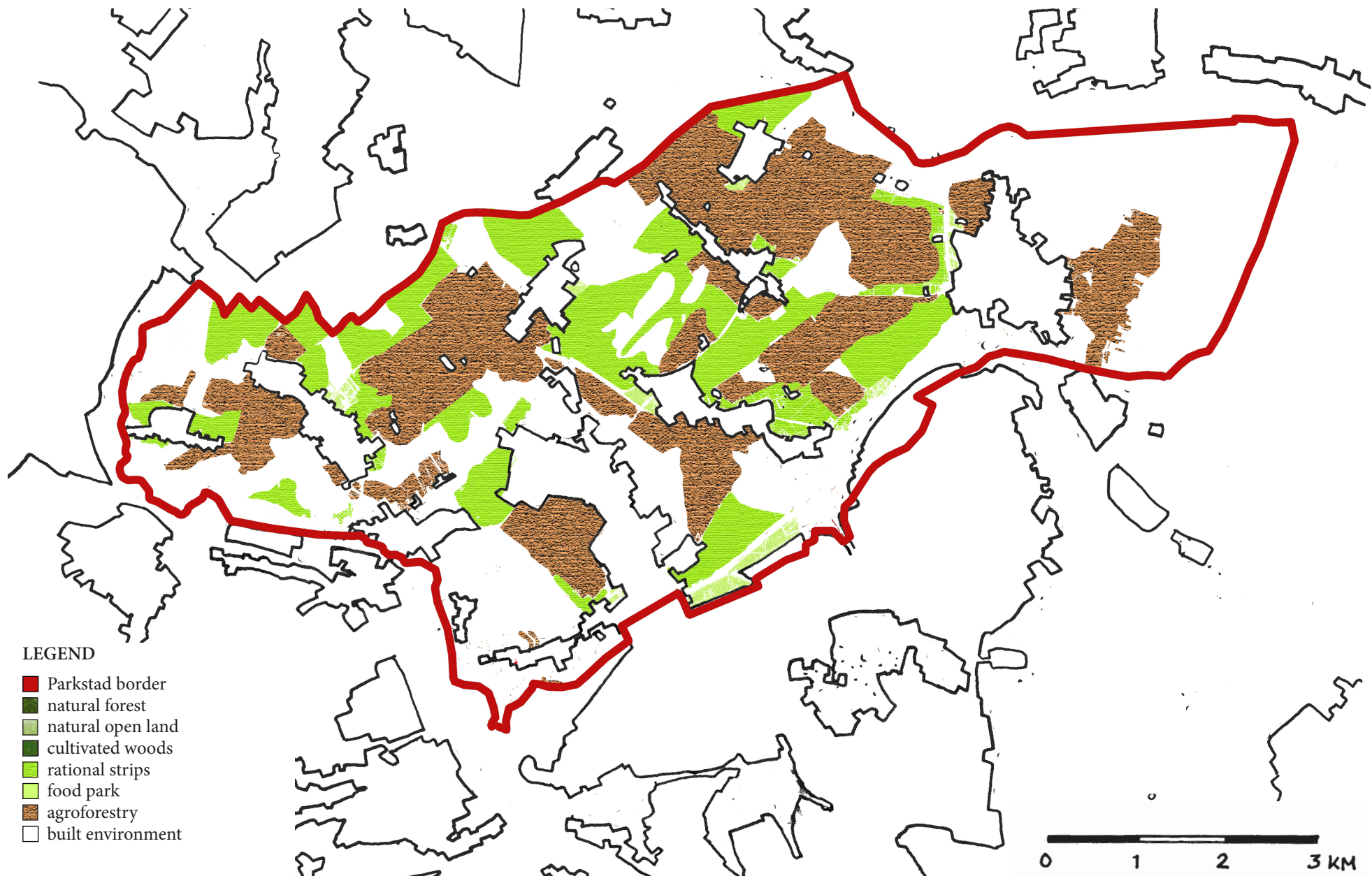
FOOD PARKS



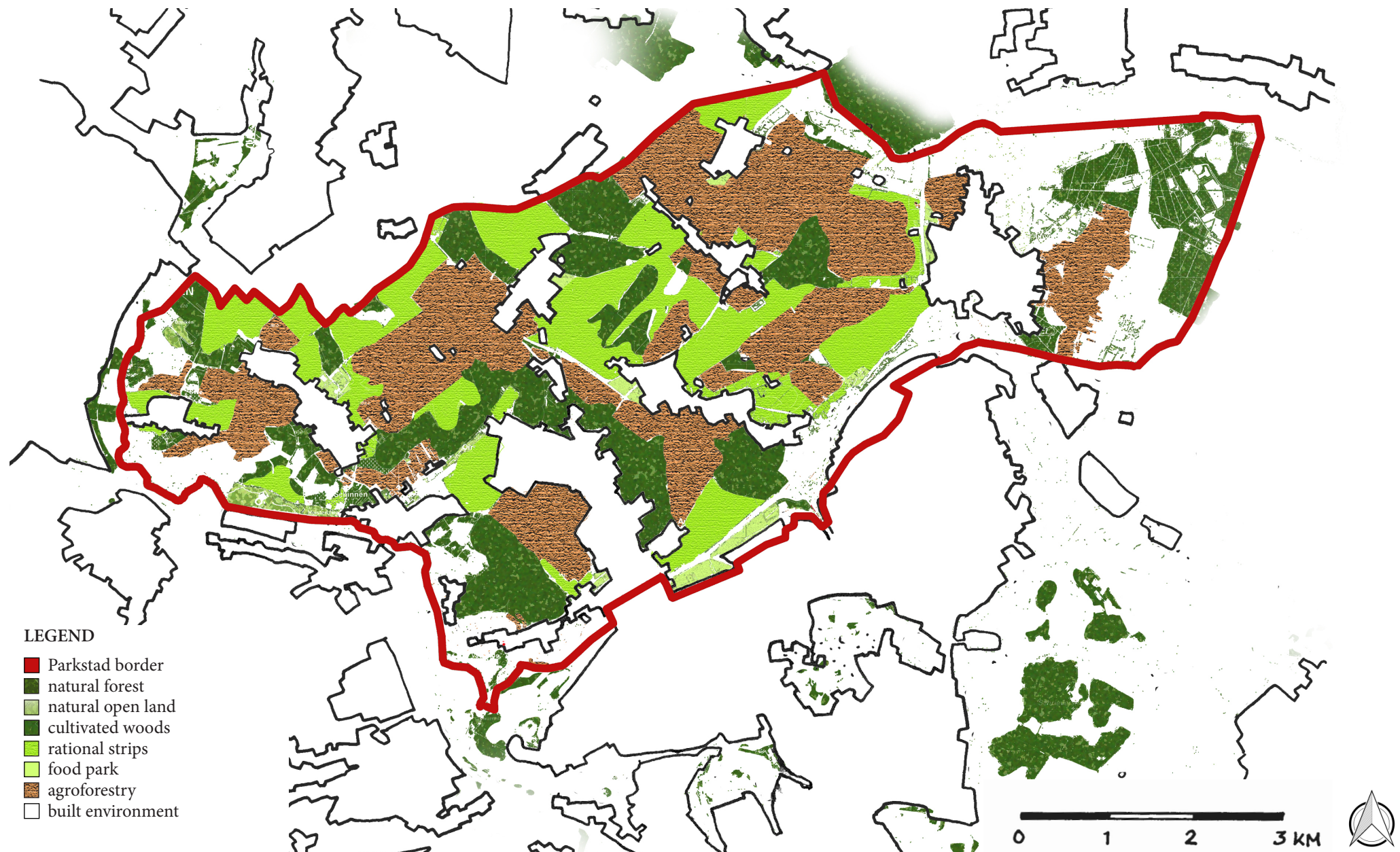
RATIONAL STRIPS



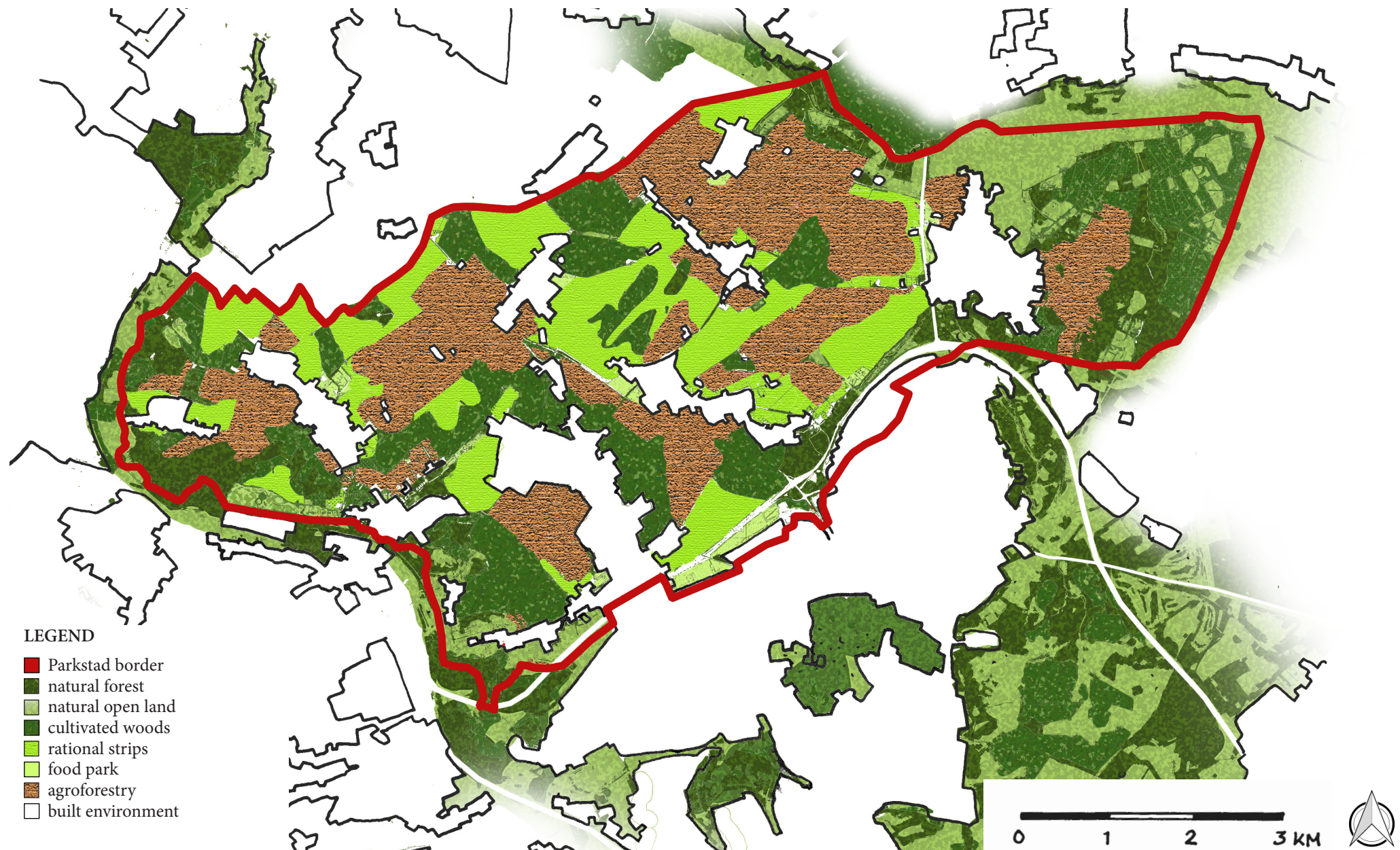
AGROFORESTRY



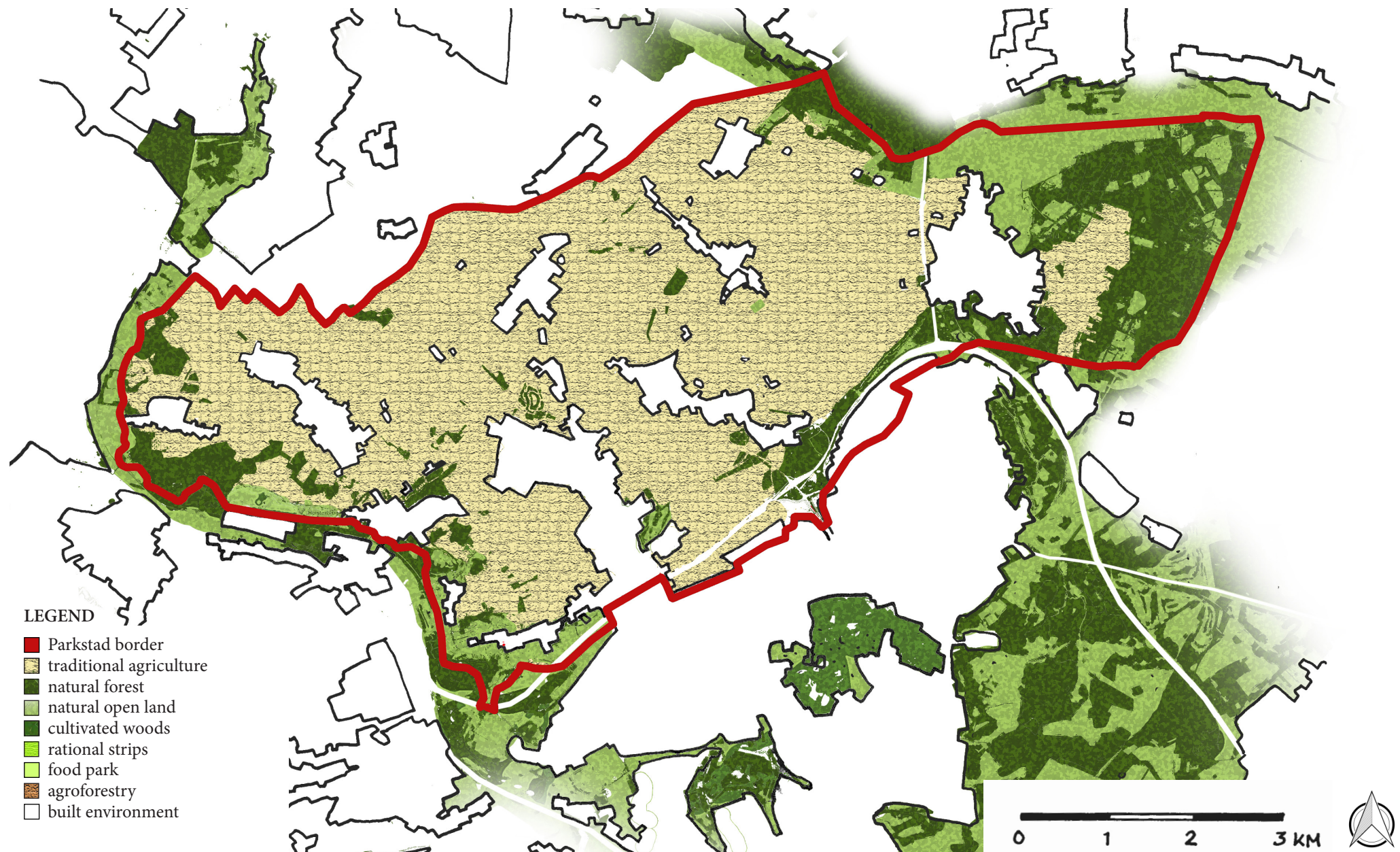
CULTIVATED WOODS



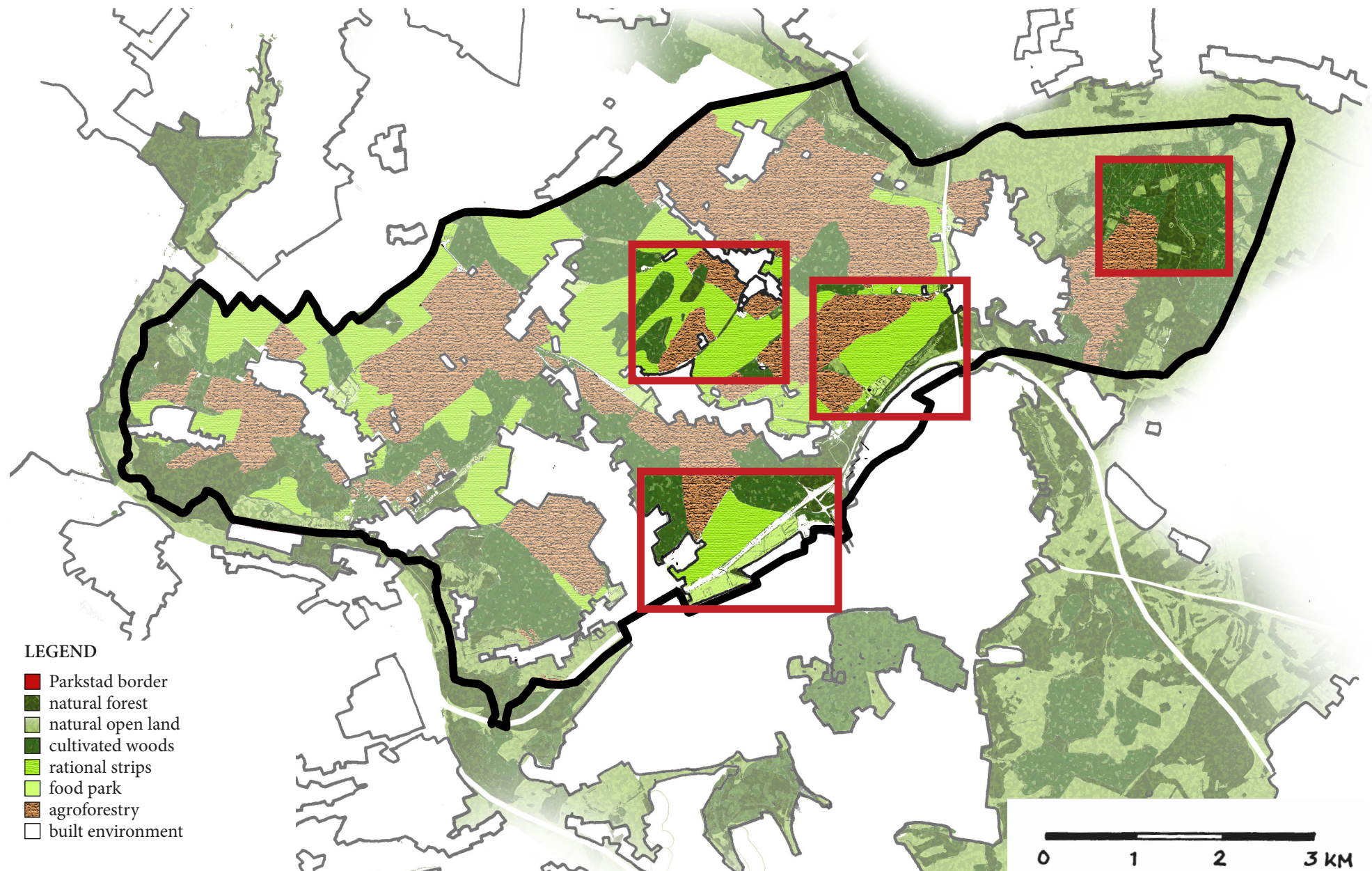
REGIONAL VISION



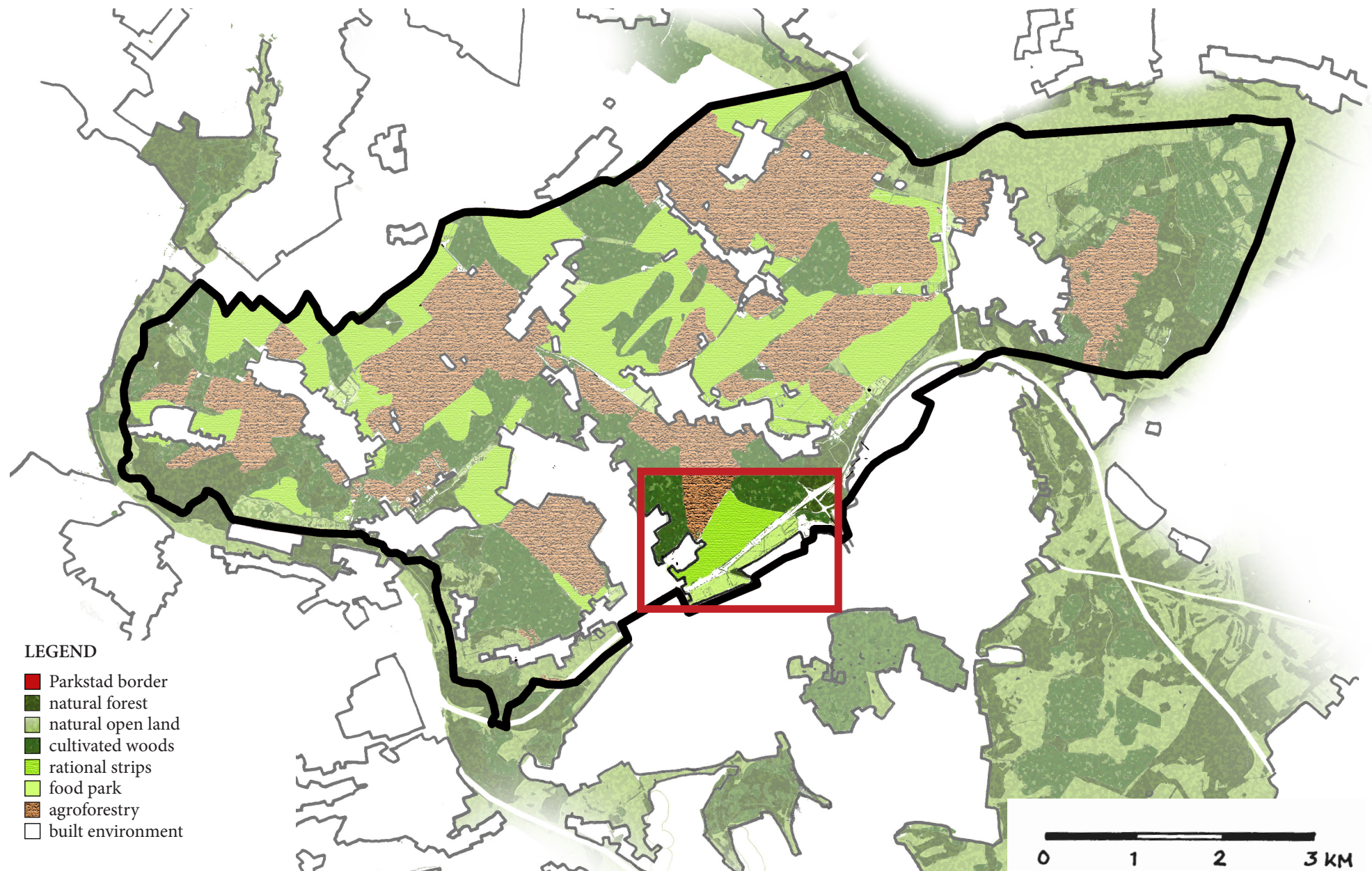
CURRENT SITUATION



ZOOMIN AREAS



SEQUENCE OF TYPOLOGIES



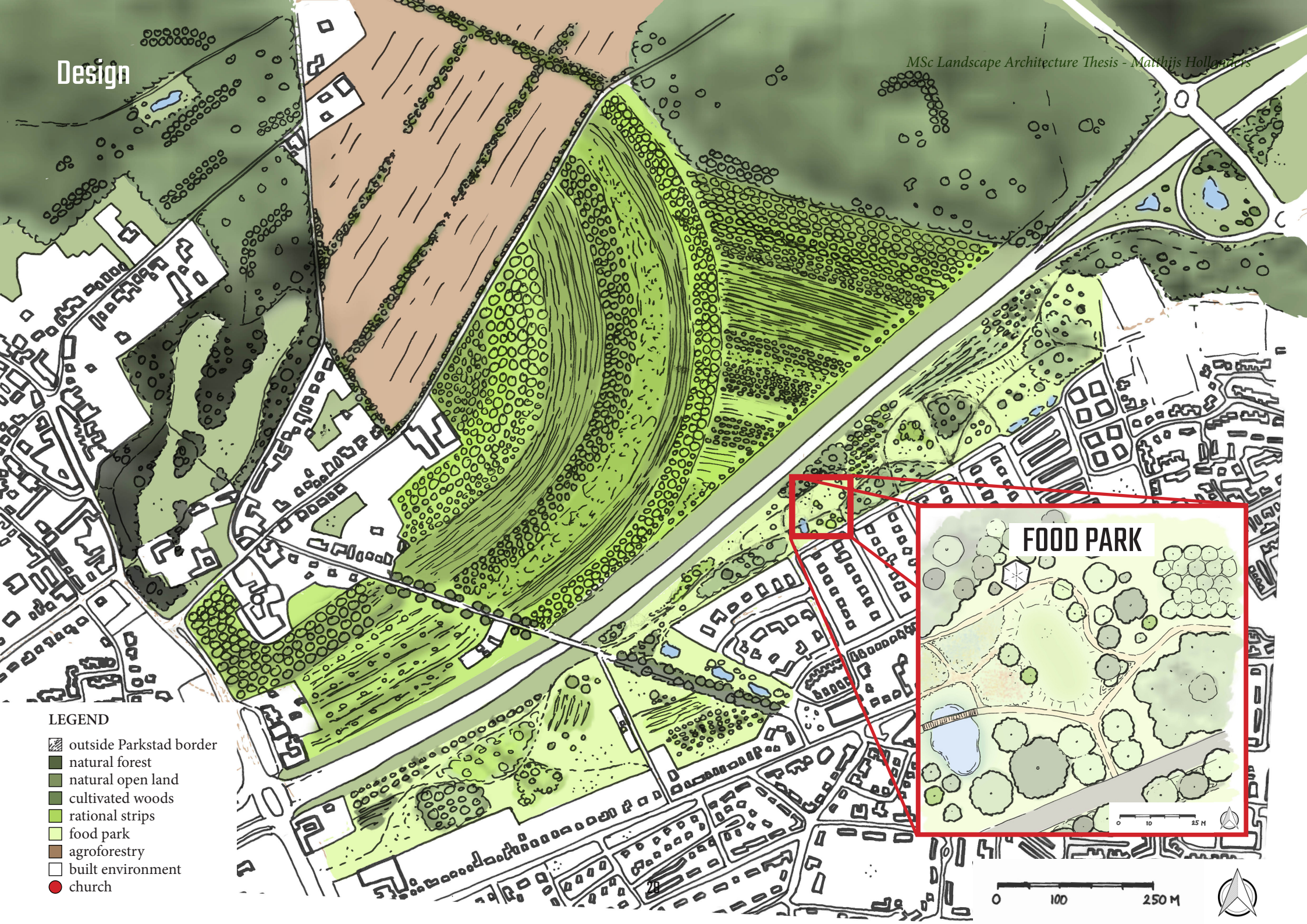


LEGEND










- outside Parkstad border
- natural forest
- natural open land
- cultivated woods
- rational strips
- food park
- agroforestry
- built environment
- church

0 100 250 M





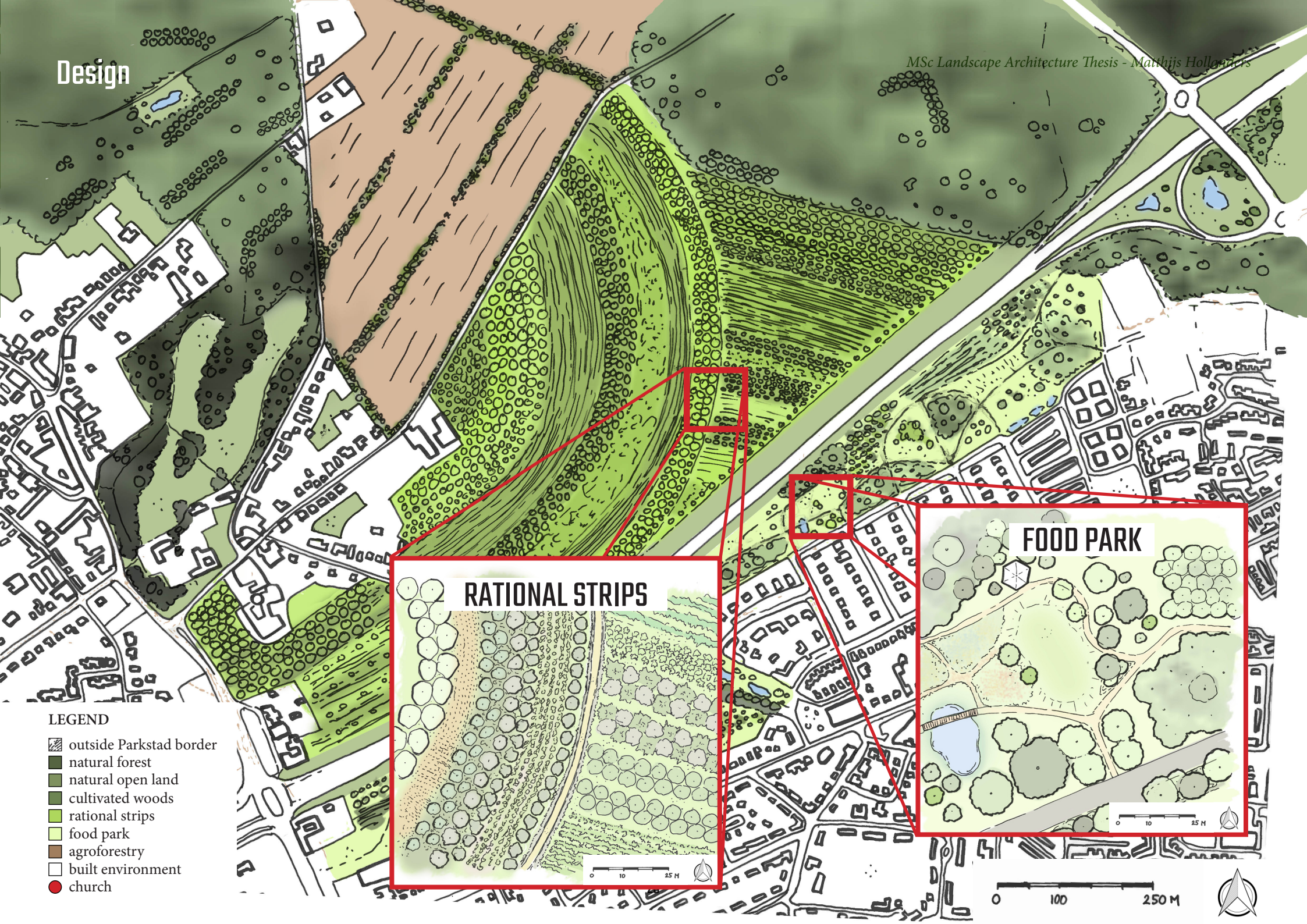
LEGEND

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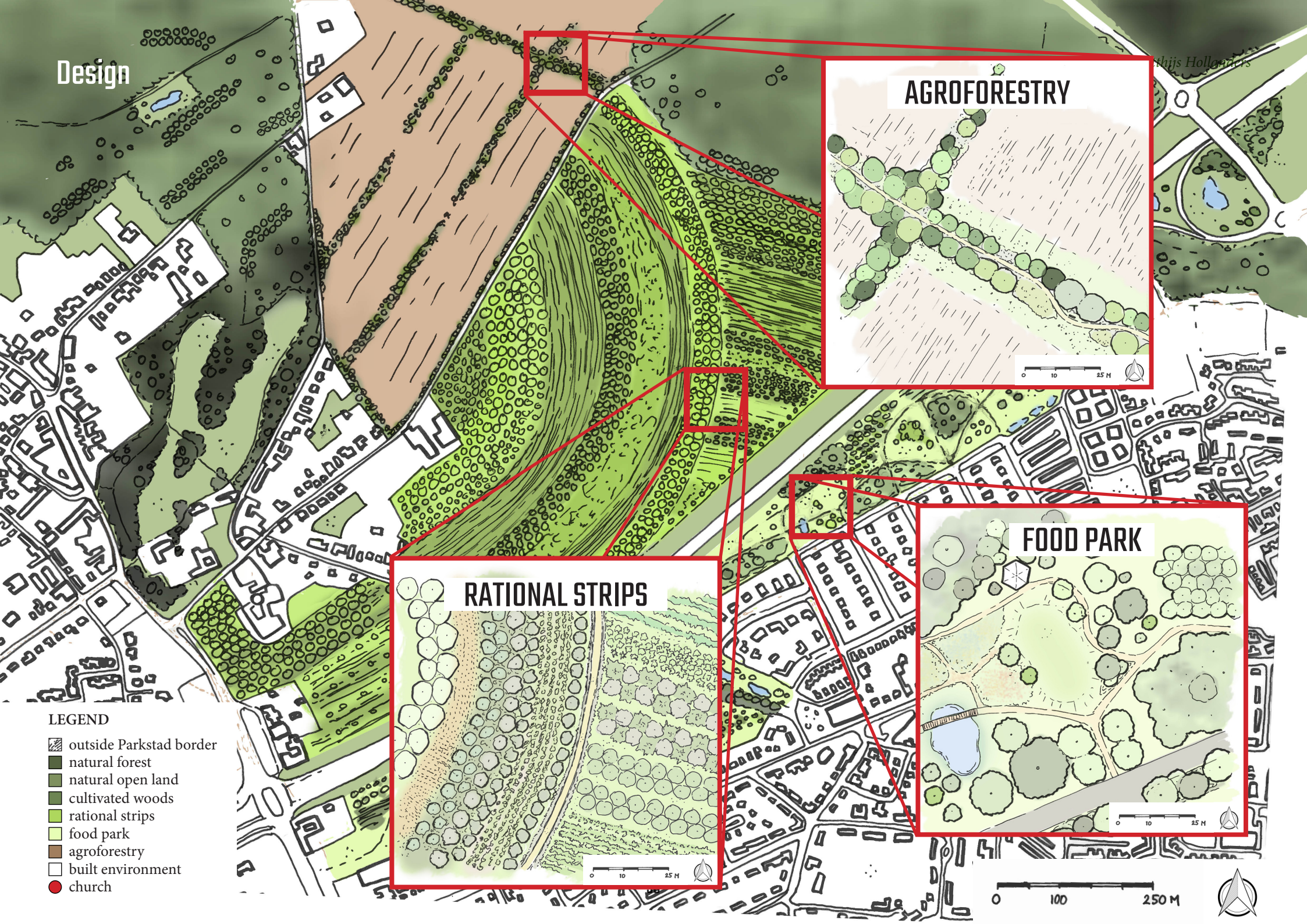
FOOD PARK

0 100 250 M





Design



AGROFORESTRY

0 10 25 M

FOOD PARK

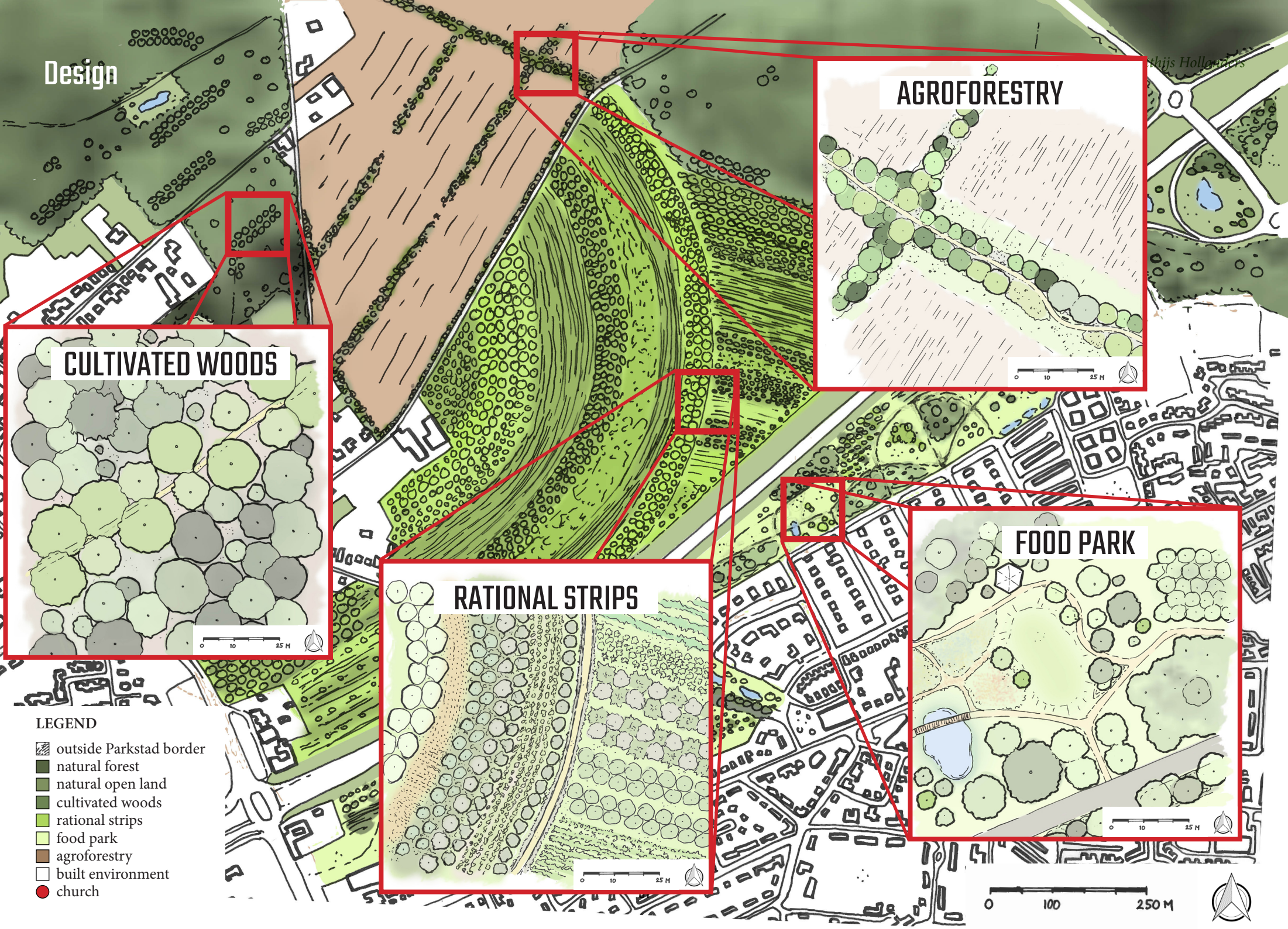
0 10 25 M

RATIONAL STRIPS

0 10 25 M

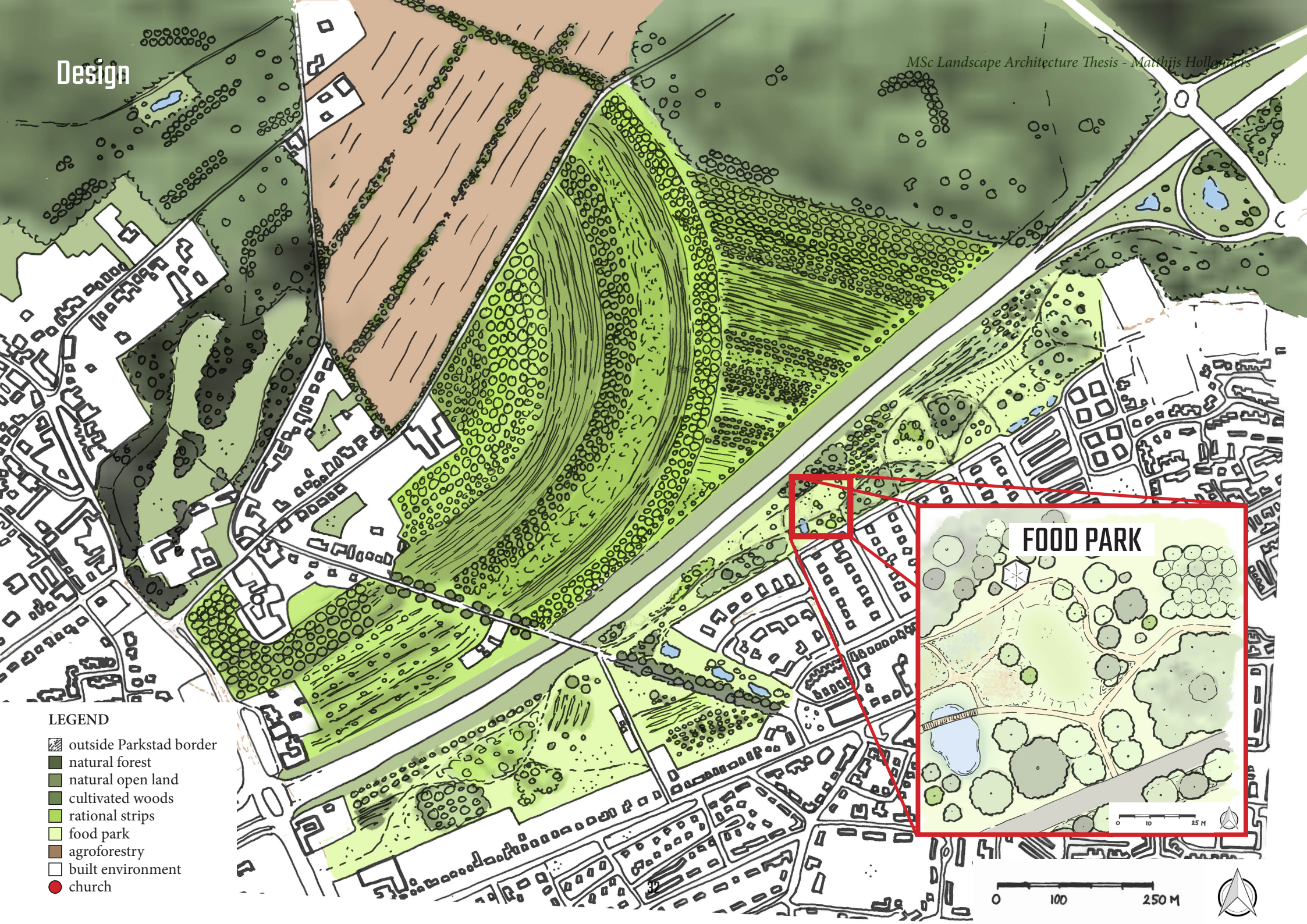
0 100 250 M

Design












LEGEND

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LEGEND

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FOOD PARK

0 100 250 M



FOOD PARK



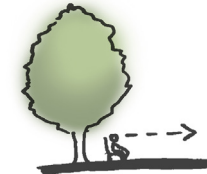
events



species variety



education



park function



community gathering

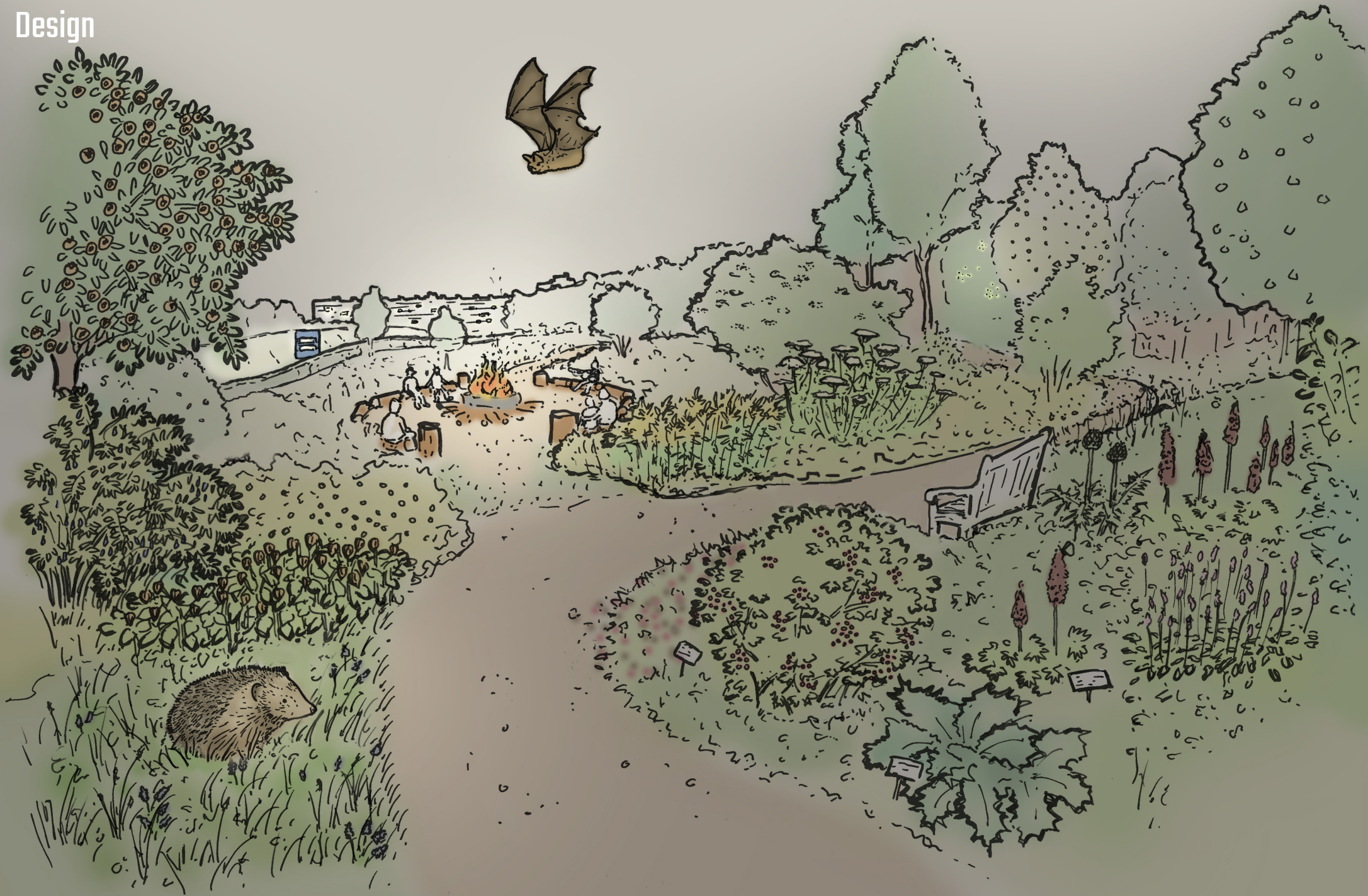
Increase diverse productivity and
local distribution

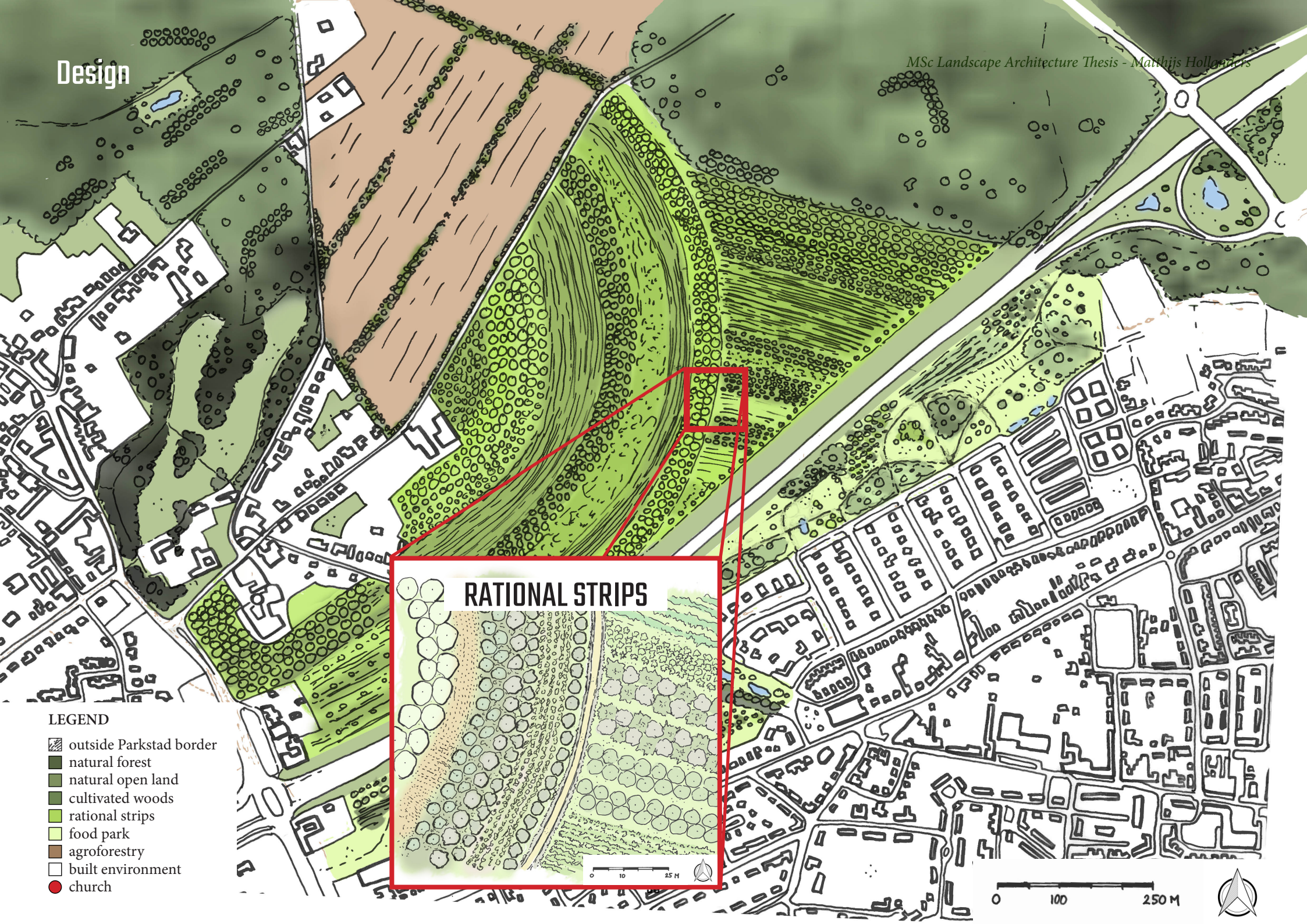


Design



Design





LEGEND

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RATIONAL STRIPS

0 10 25 M

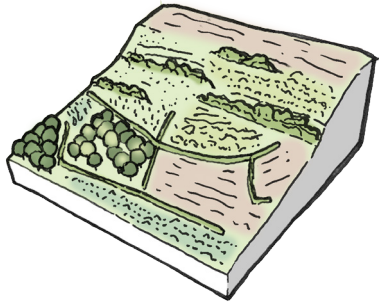
0 100 250 M



CURRENT LANDSCAPE



RATIONAL STRIPS



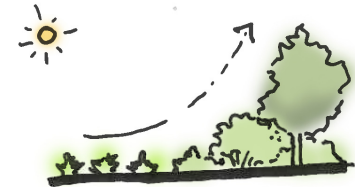
Landscape variety



strips along
contourlines



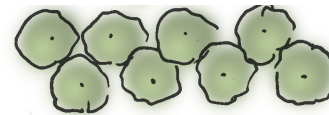
alternating species



orientation
and layering



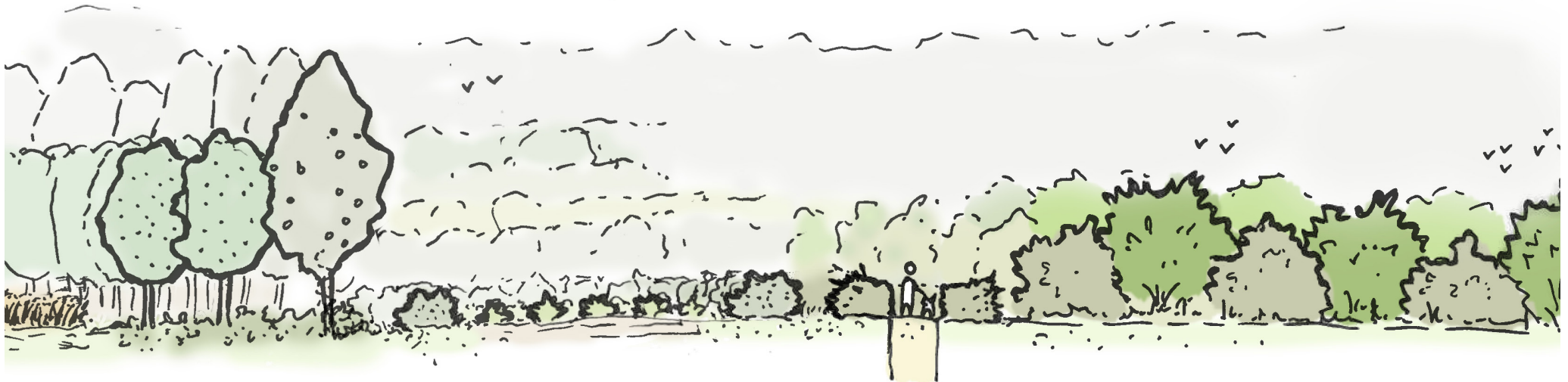
guidance of water



most functional
configuration



emphasize
perspective



LAYERED SYSTEM

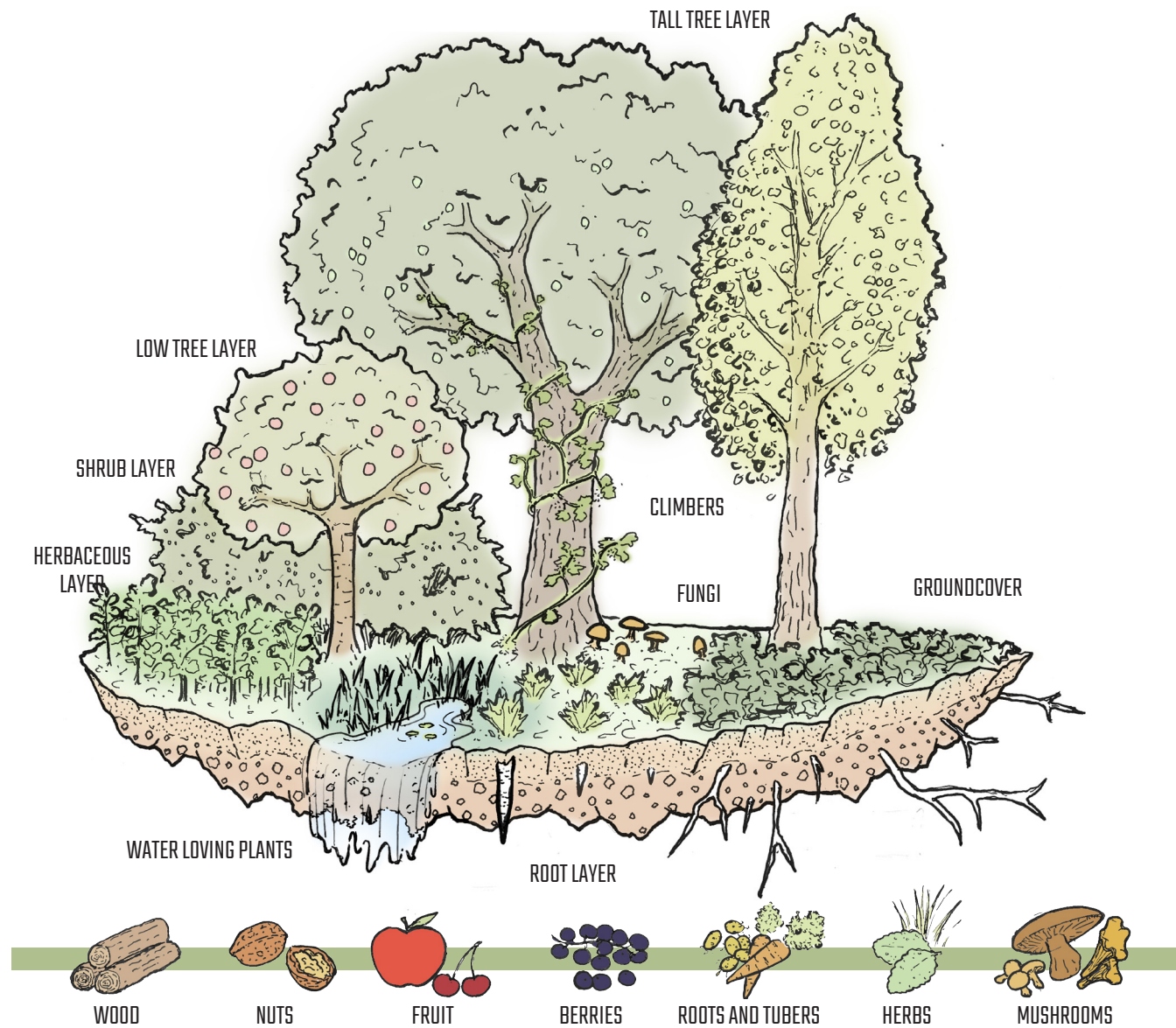
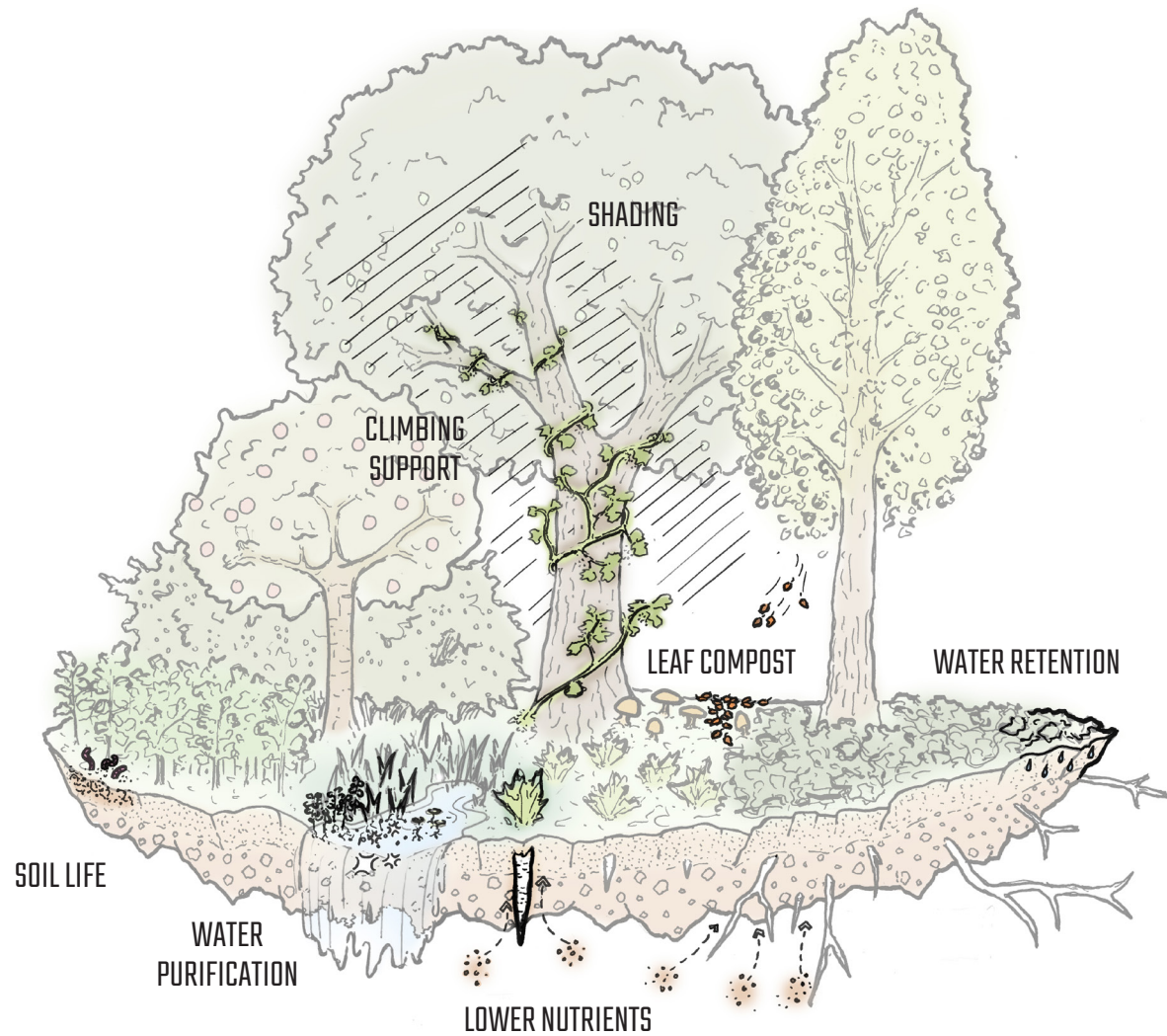
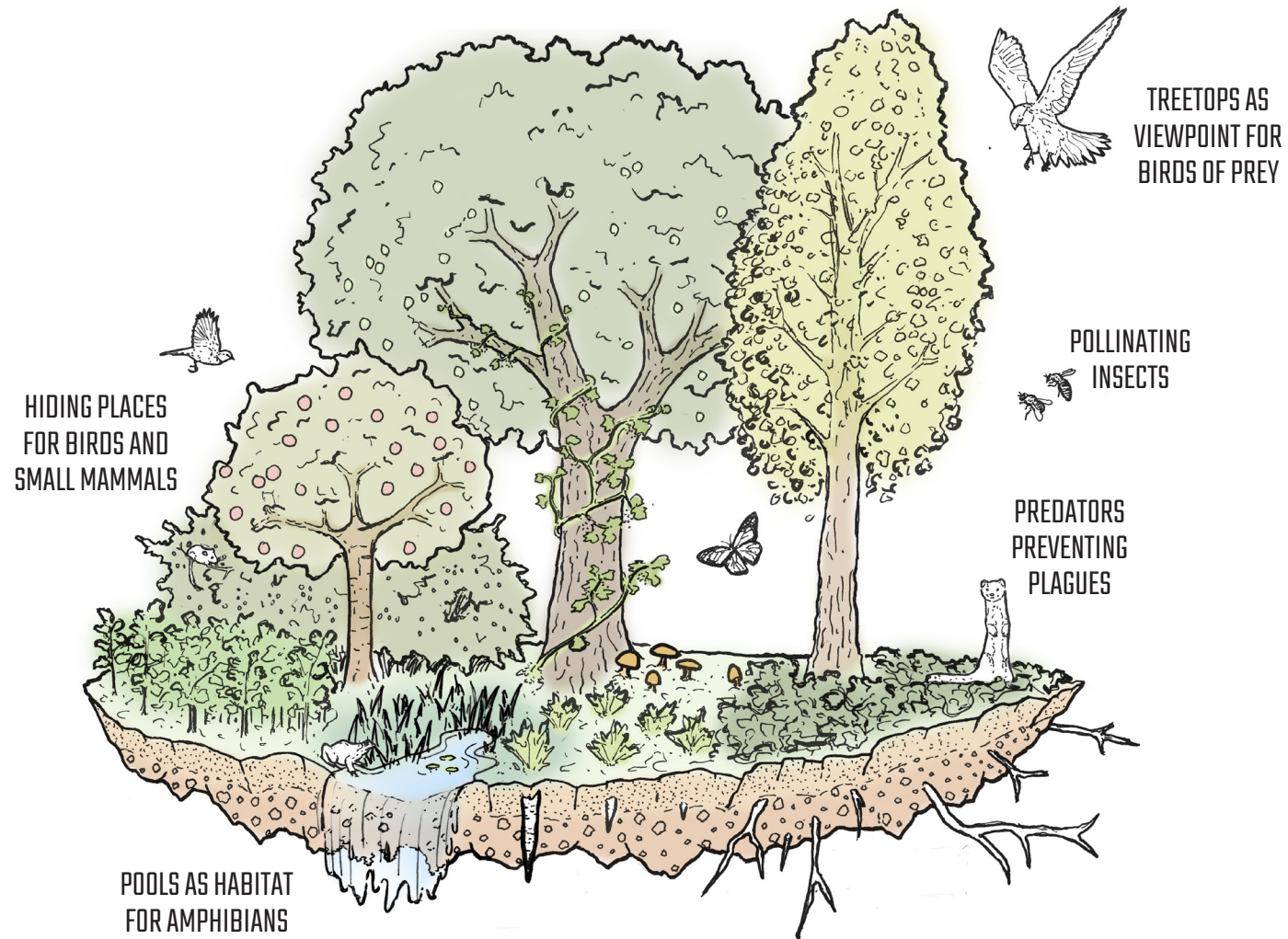


Figure 1 Layered vegetation and a layered harvest

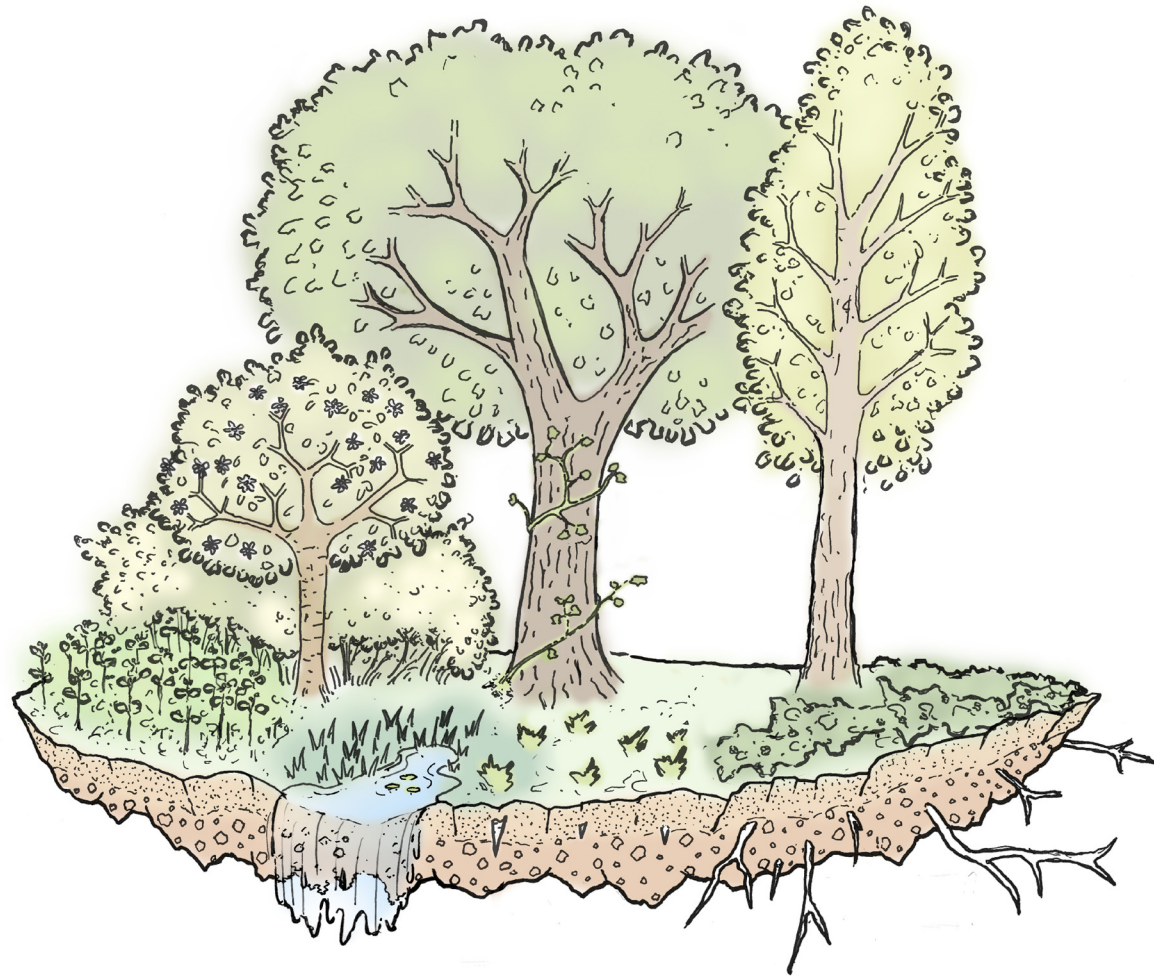
PERFORMANCE SUPPORT



BIODIVERSITY

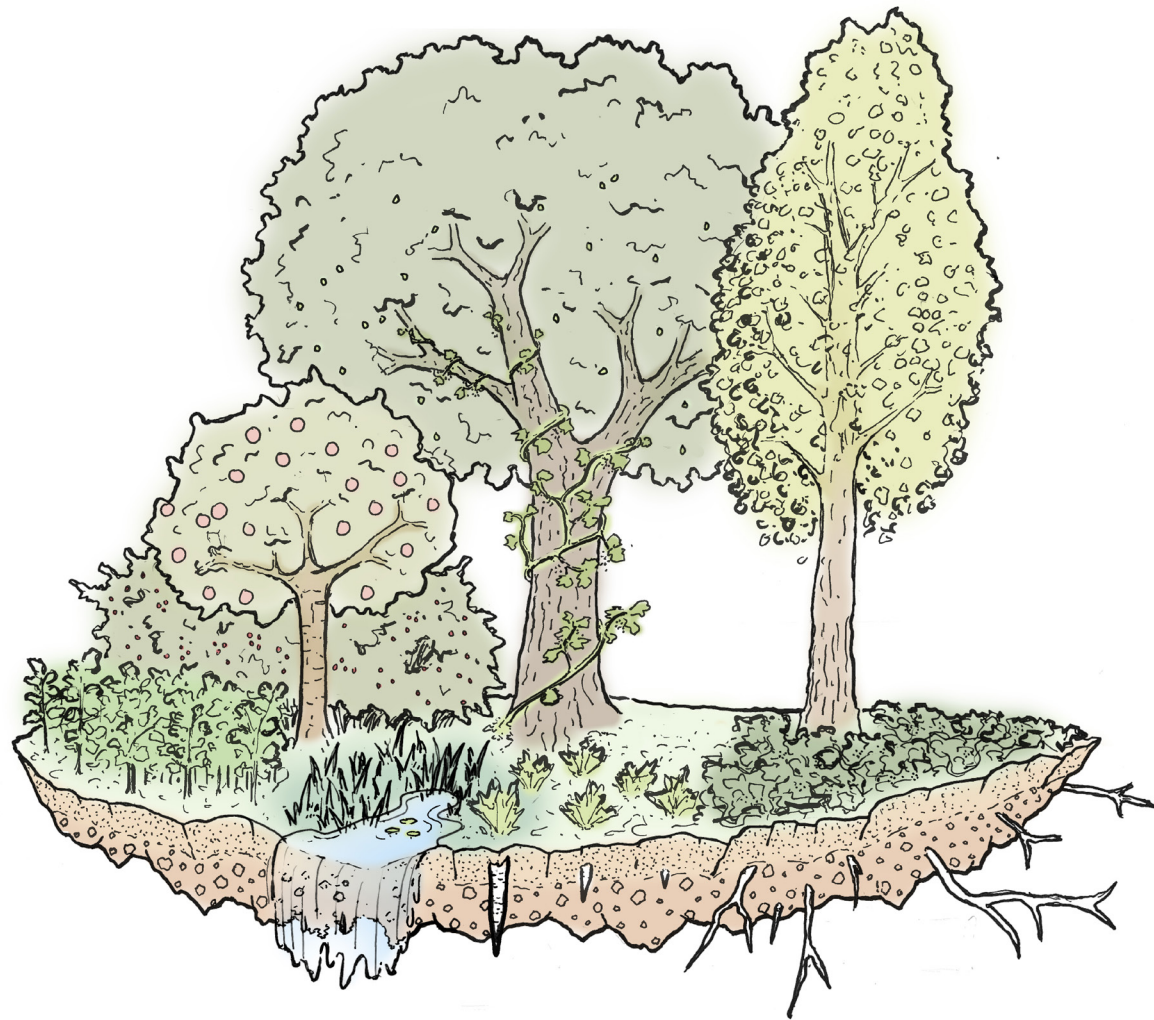


SEASONS



SPRING

SEASONS



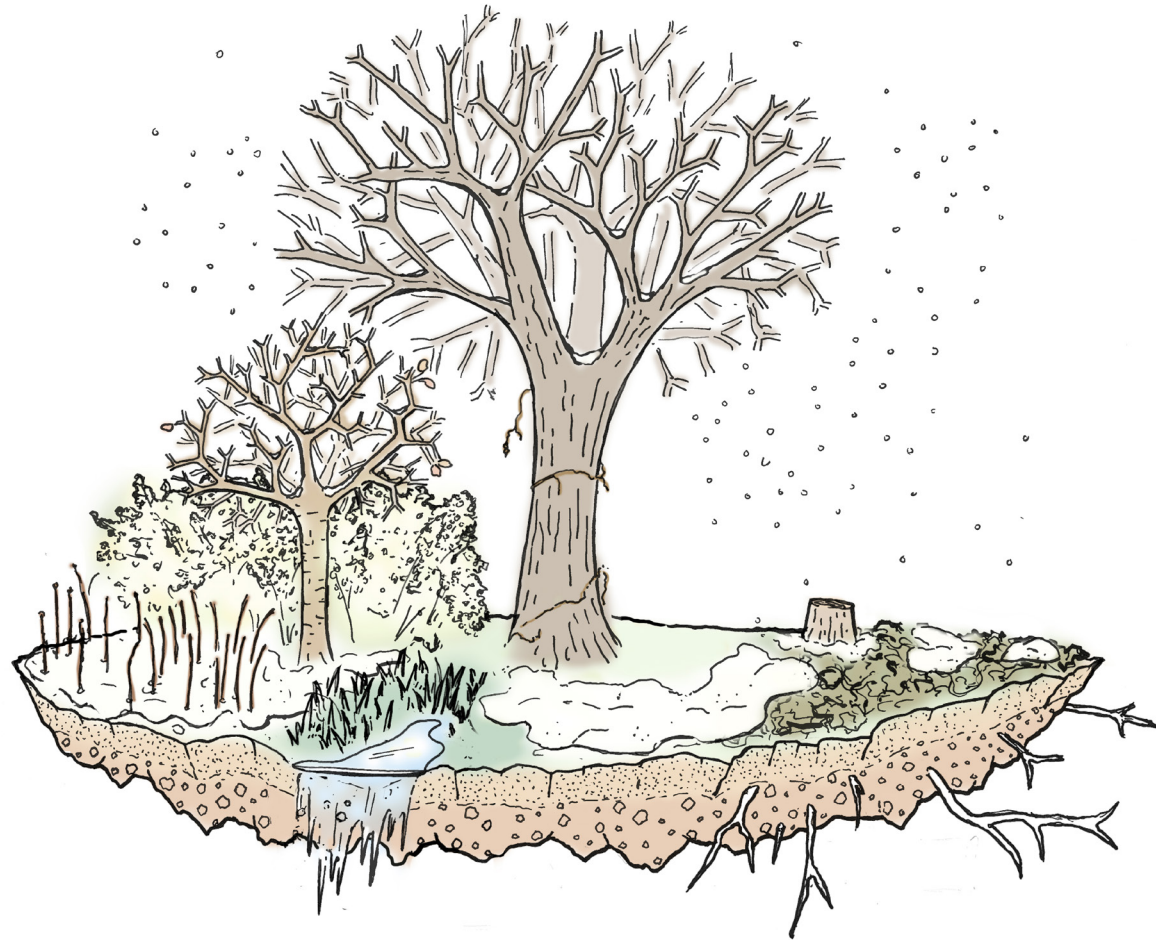
SUMMER

SEASONS



AUTUMN

SEASONS



WINTER

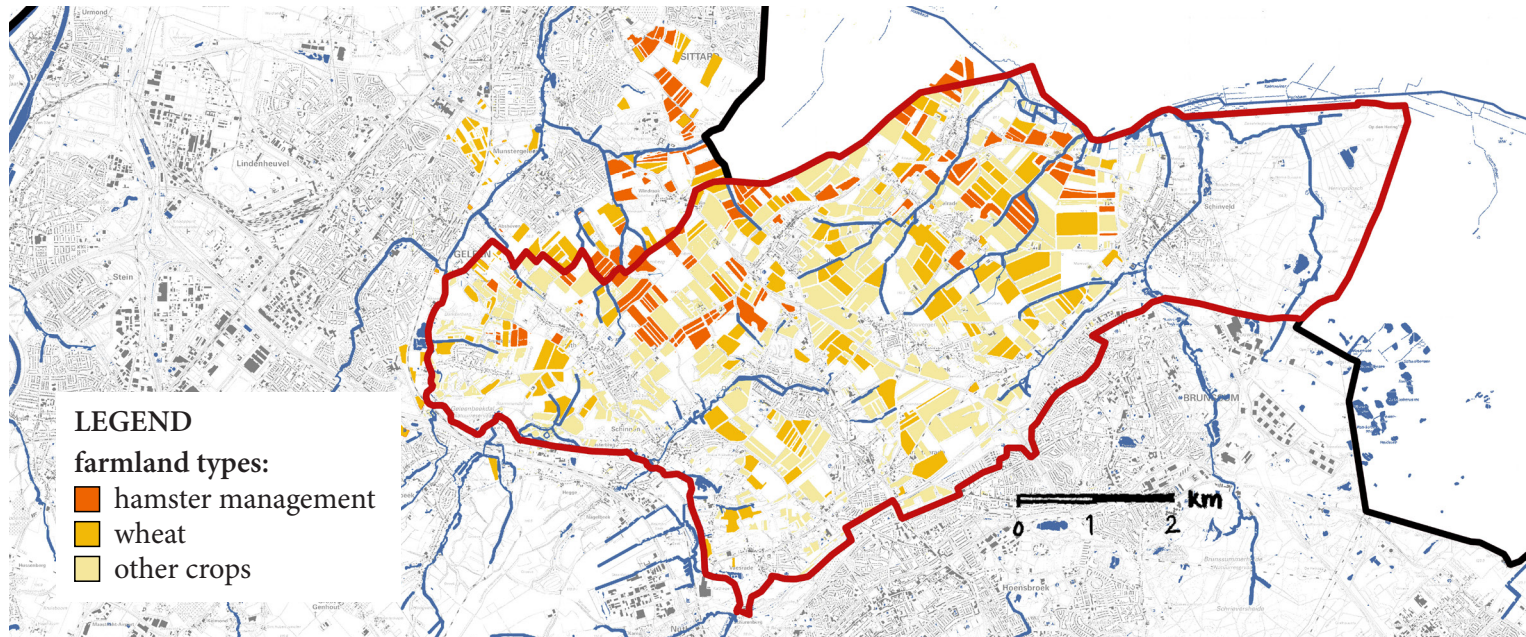
Design



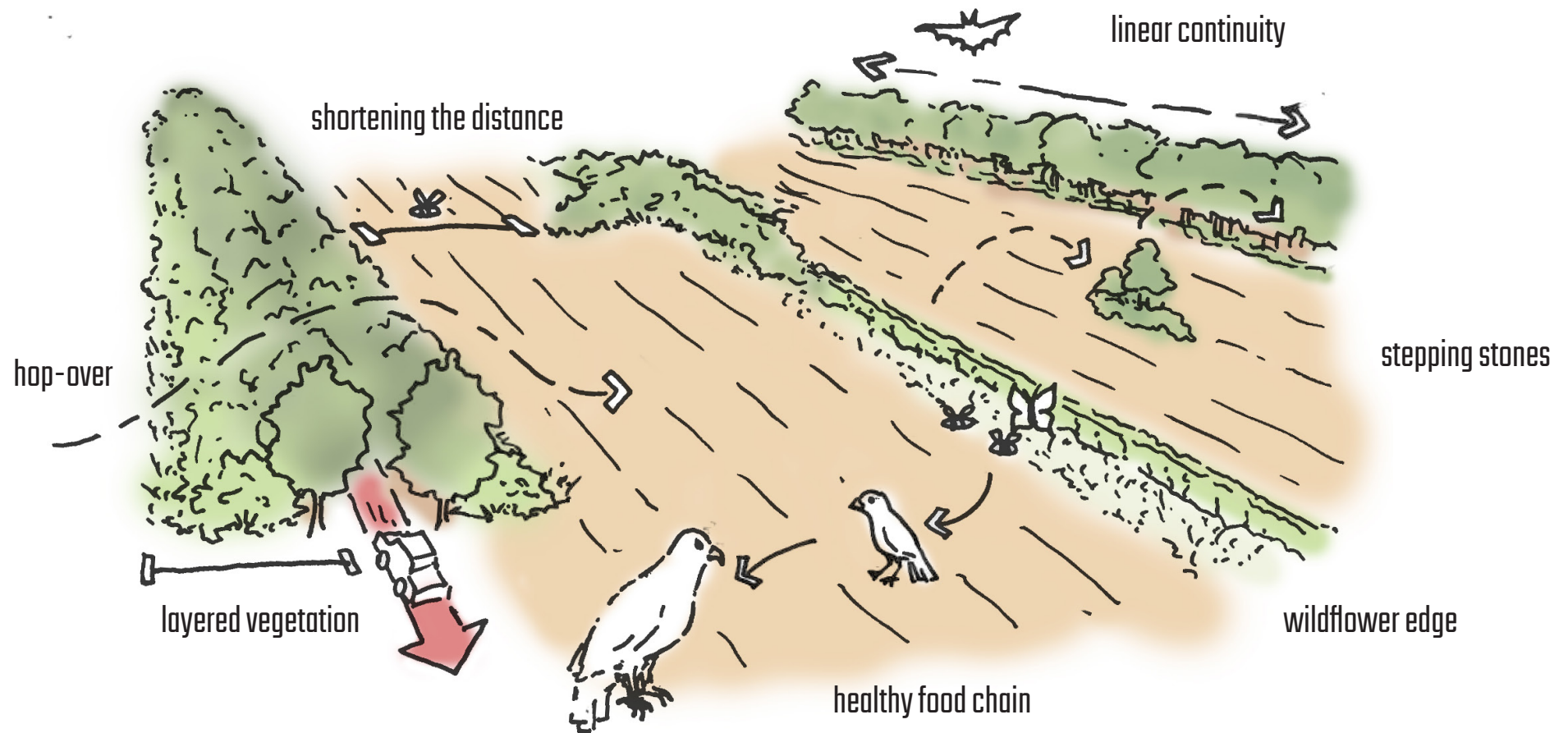
Design



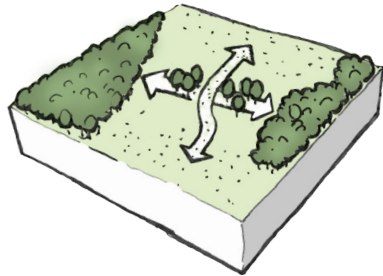
OPEN LANDS



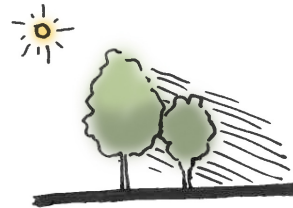
SMALL LANDSCAPE ELEMENTS



AGROFORESTRY



Ecological corridors



limiting loss
due to shade



harvestable edge



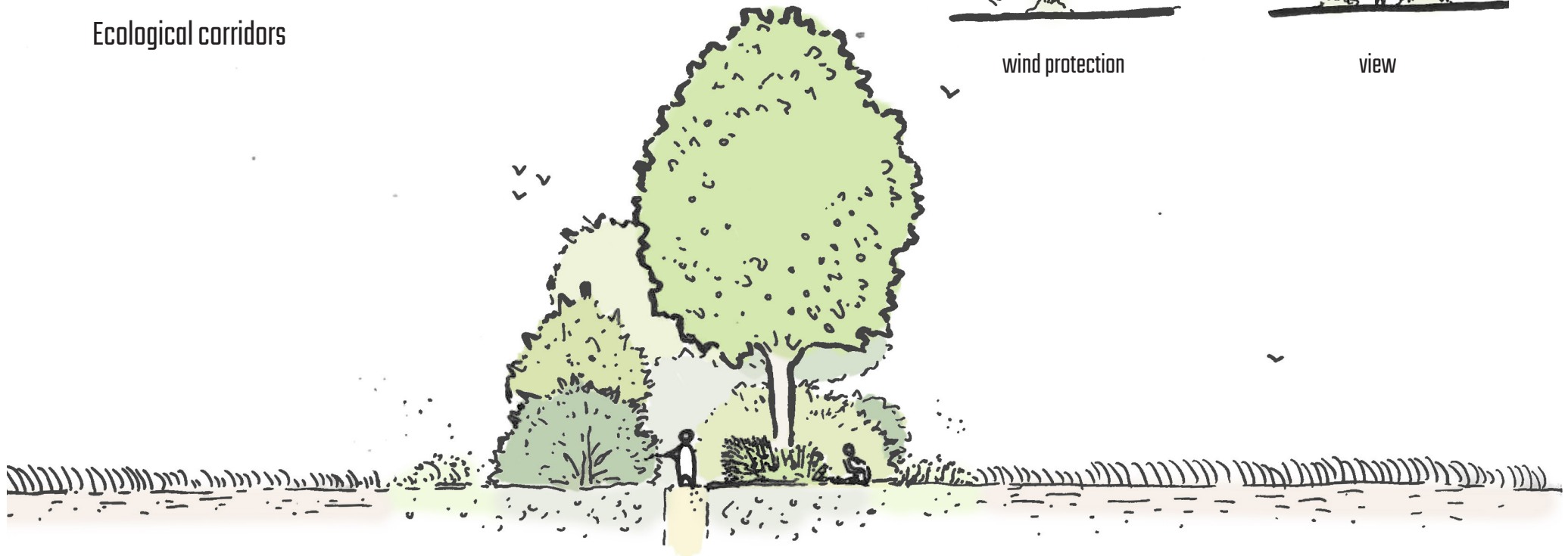
layers



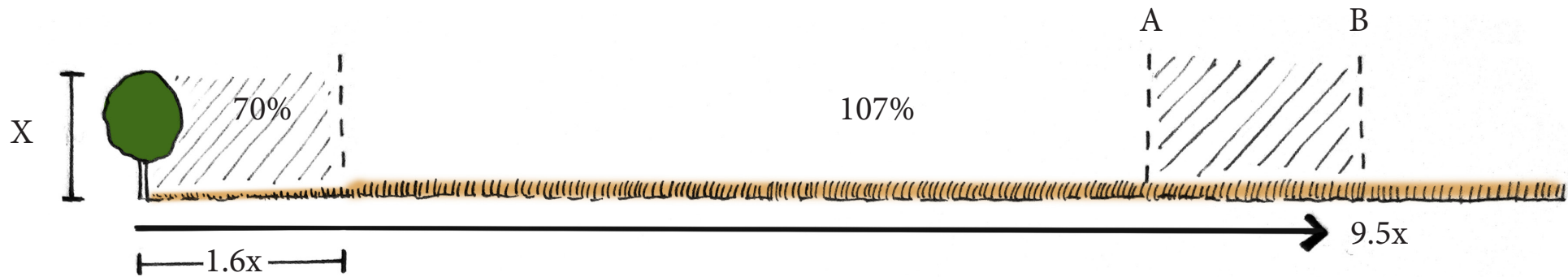
wind protection



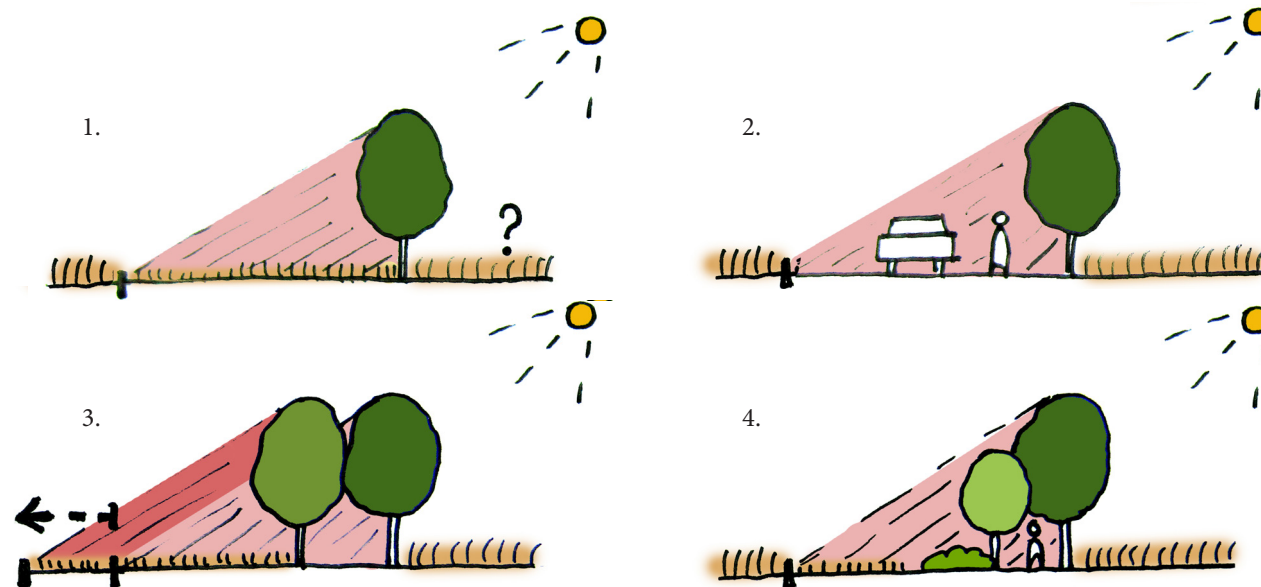
view



YIELDS



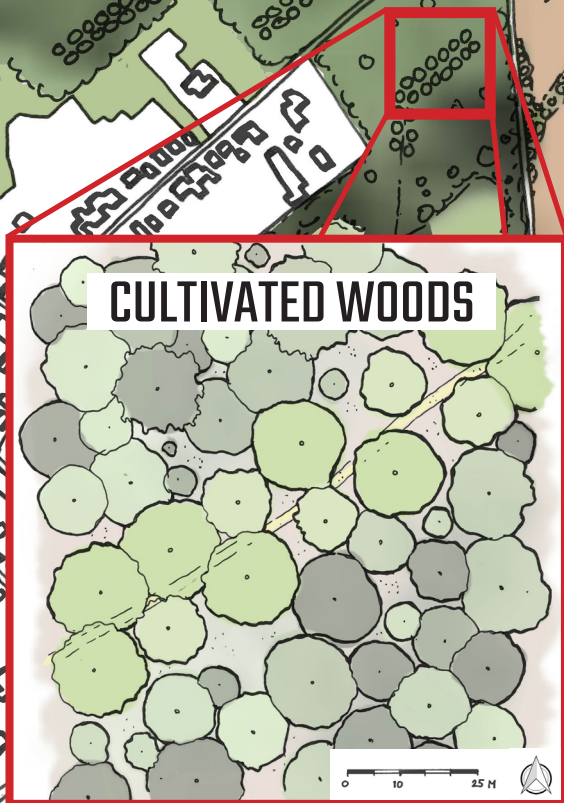
how to make maximum use of the trees influence on productivity, according to Selin Norén, Cuperus, Dawson, et al., 2019, p.7



Shadow effects; 1. basic reduced yield range, 2. include infrastructure with areas with already reduced yield, 3. double row of trees enlarges the loss of productive land and 4. arrange vegetation layers according to the sun if possible

Design





LEGEND

- outside Parkstad border
- natural forest
- natural open land
- cultivated woods
- rational strips
- food park
- agroforestry
- built environment
- church



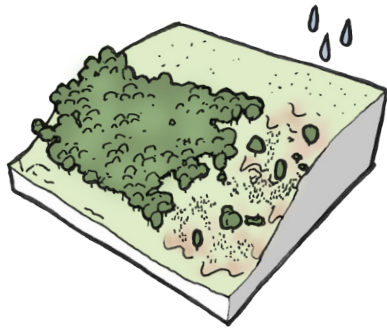
EXISTING FORESTS

**“... it is clear that a substantial part of the plants and animals living
in the Netherlands are more or less bound to forests.”**

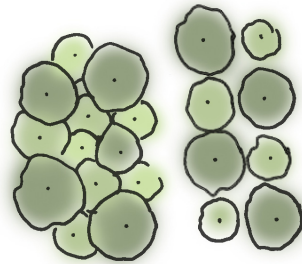
(Nabuurs, Schelhaas, Oldenburger, et al., 2016)



CULTIVATED WOODS



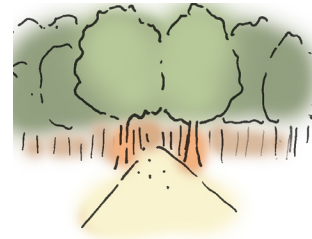
Prevent erosion



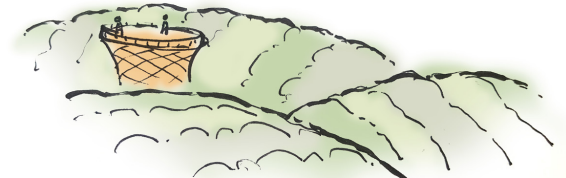
wild woodproduction
and
rational food strips



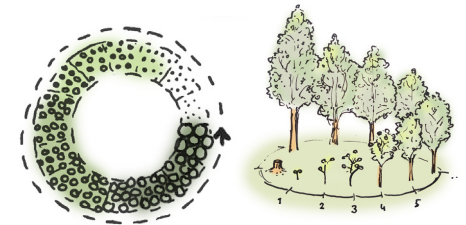
axis



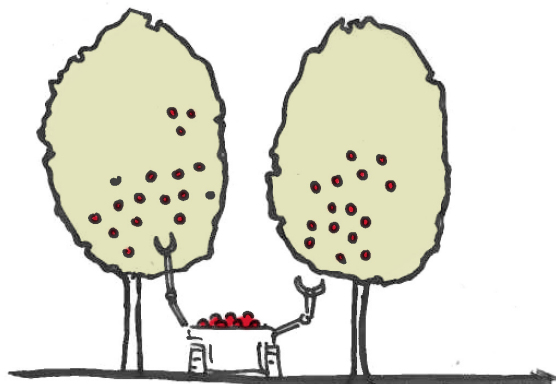
forest entrance



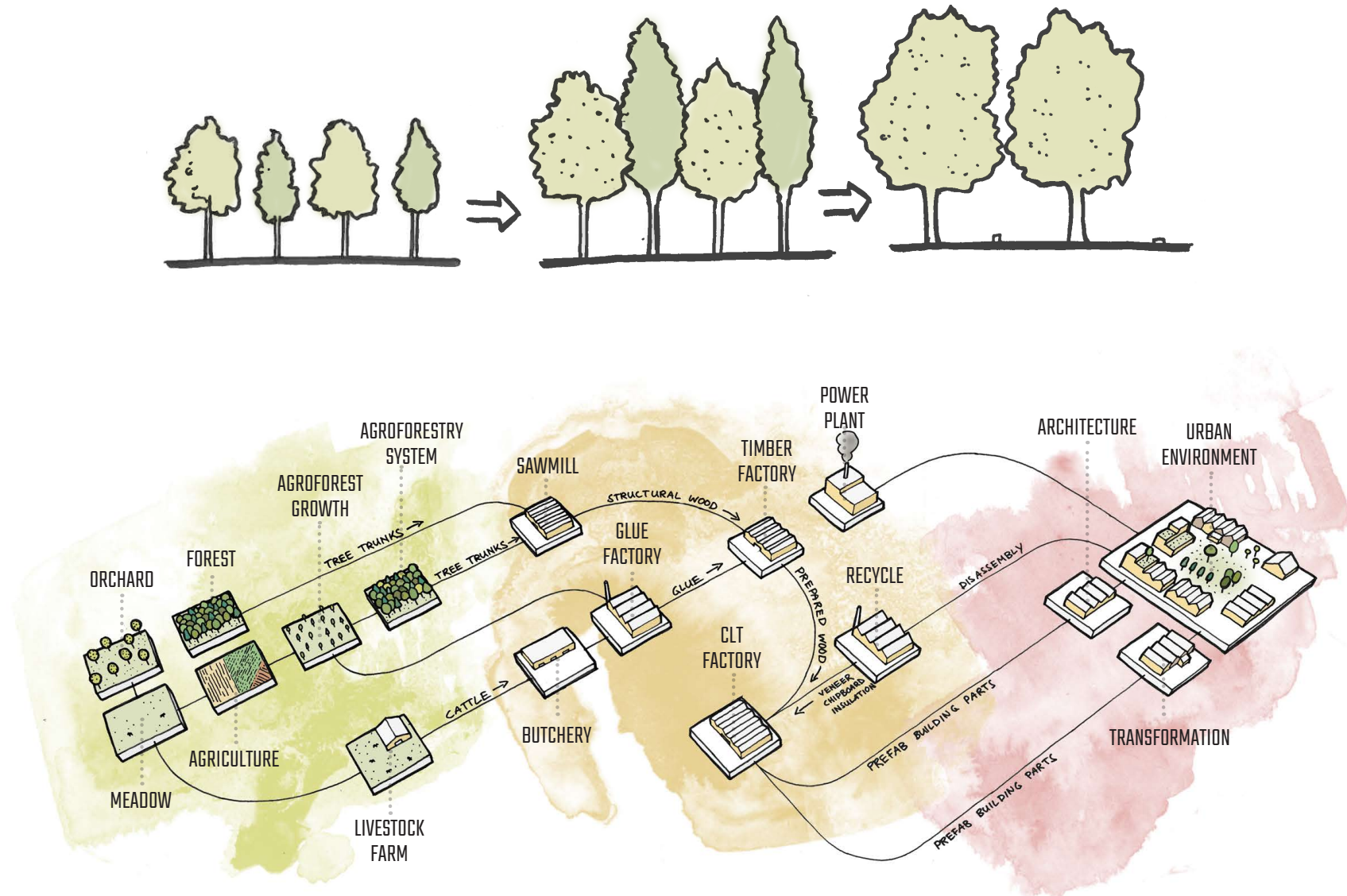
tree-tops landscape



growth showcase



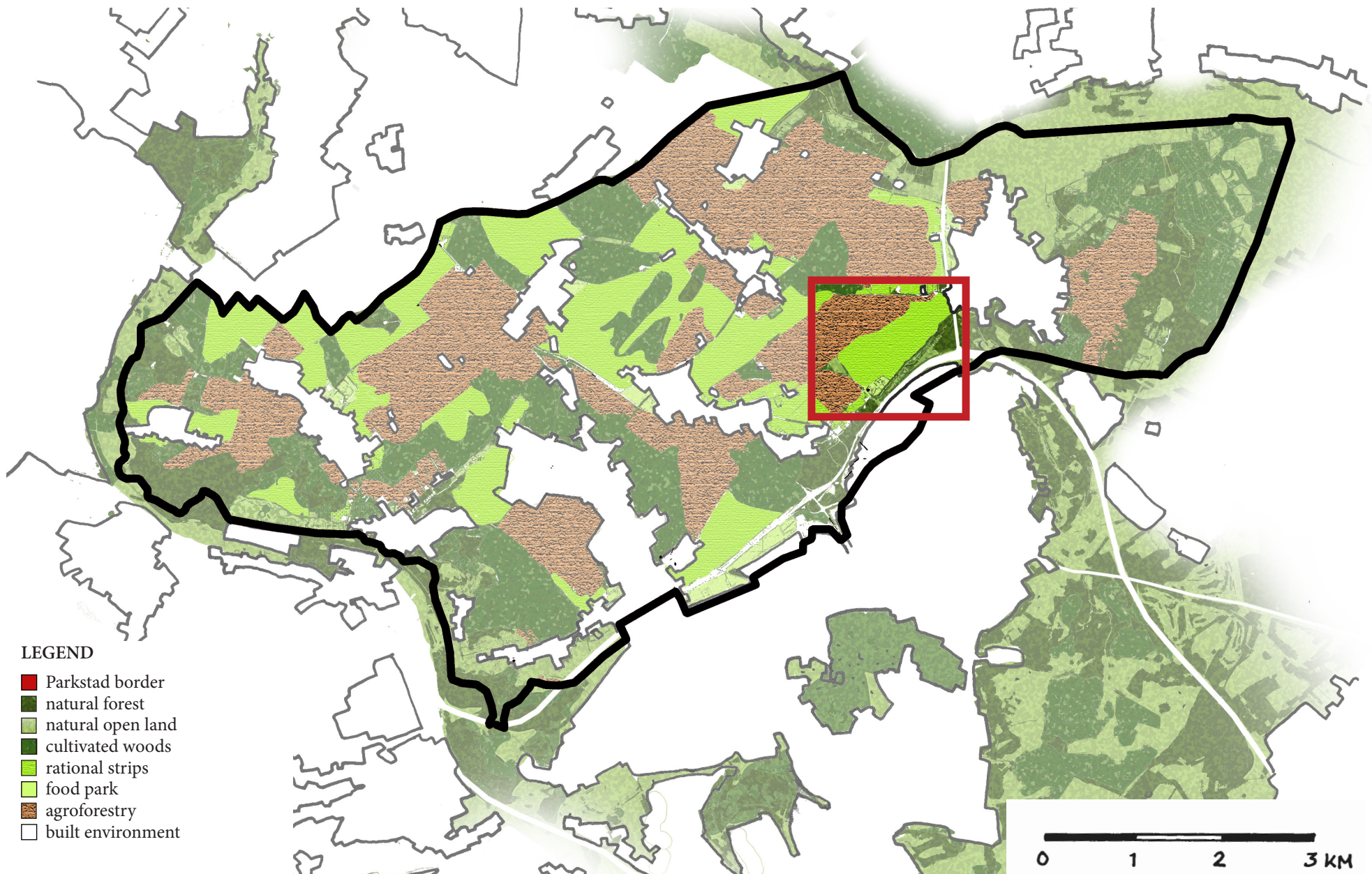
WOOD INDUSTRY

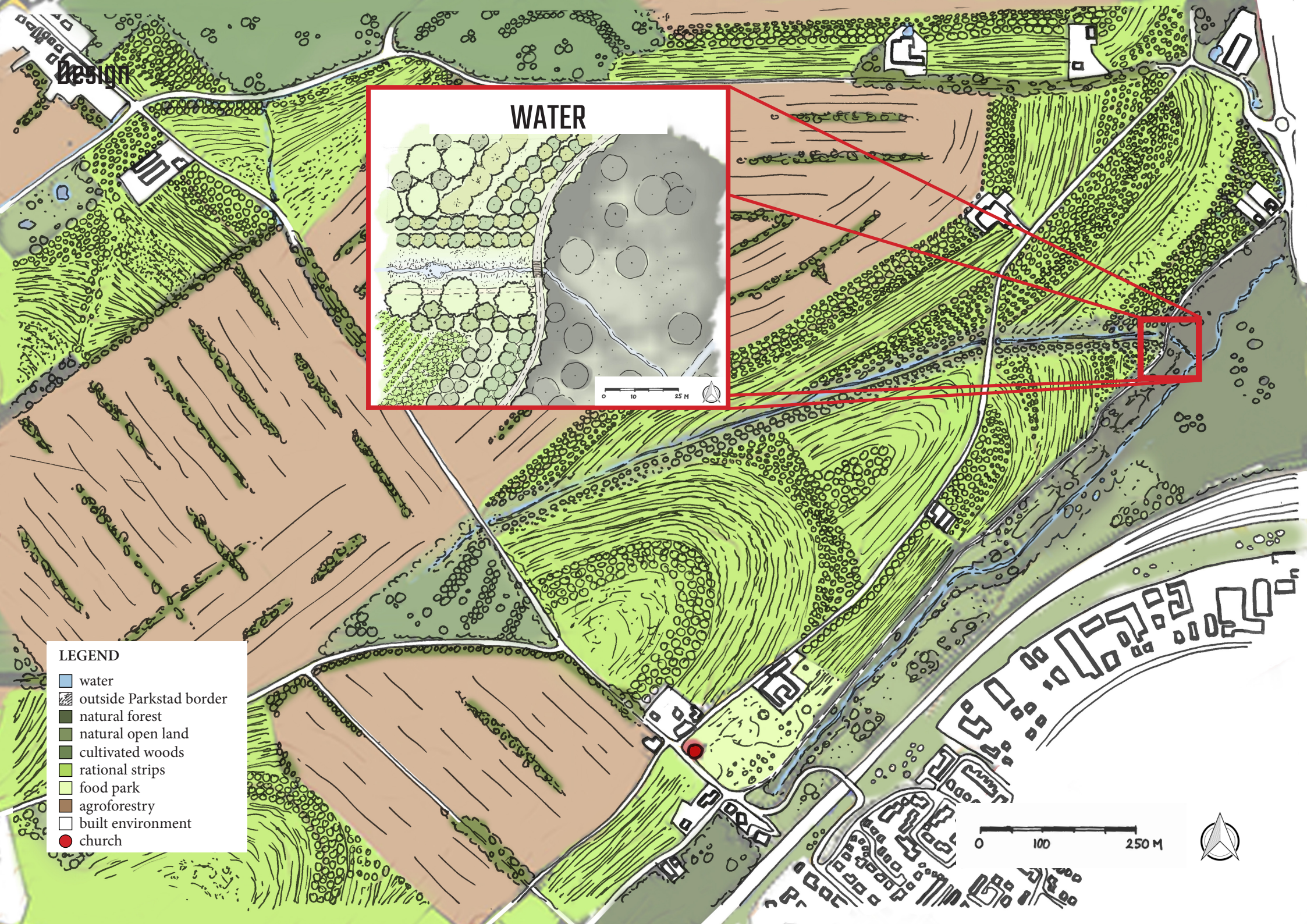


Design



THE ROLE OF WATER





Design

WATER

0 10 25 M

- LEGEND
- water
 - outside Parkstad border
 - natural forest
 - natural open land
 - cultivated woods
 - rational strips
 - food park
 - agroforestry
 - built environment
 - church

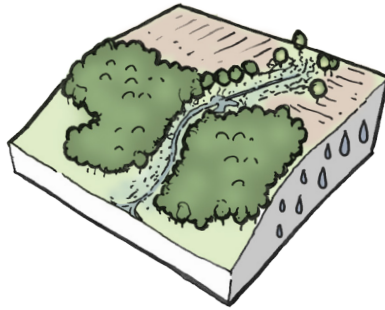
0 100 250 M



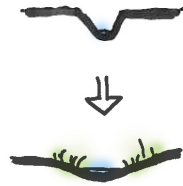
WATER ECOLOGY



THE ROLE OF WATER



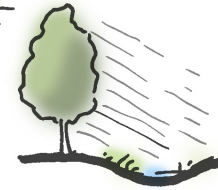
Retain and use available water



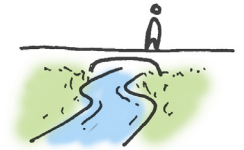
ecological edges



amphibian pools



prevent
evaporation

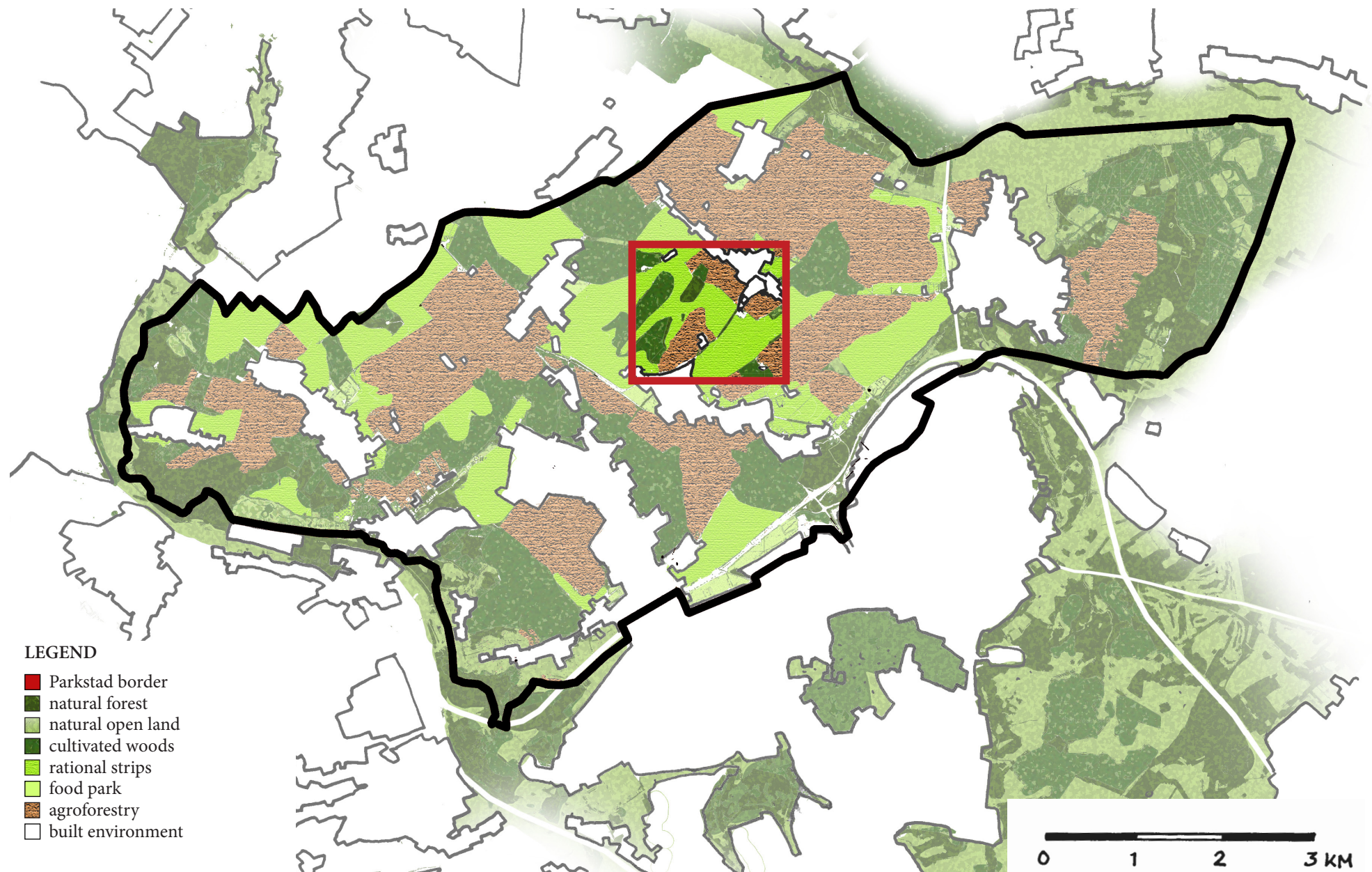


ongoing waterstructure





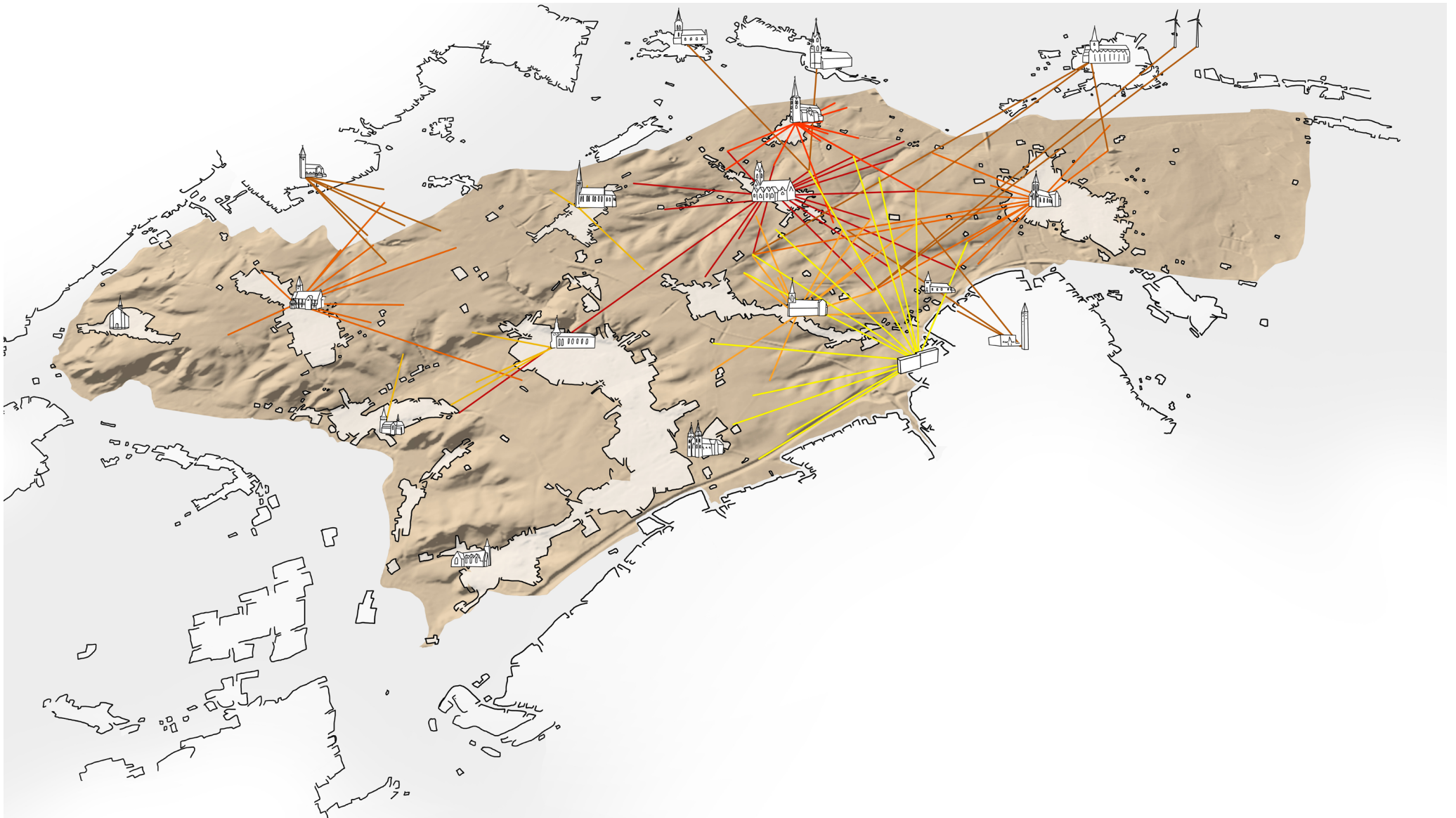
CHURCH VIEW



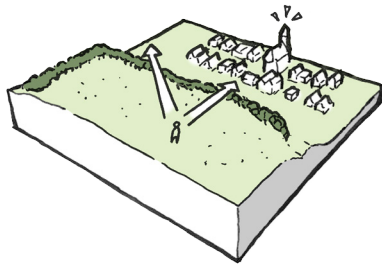
CHURCH VIEWS



CHURCH VIEWS



CHURCH VIEW

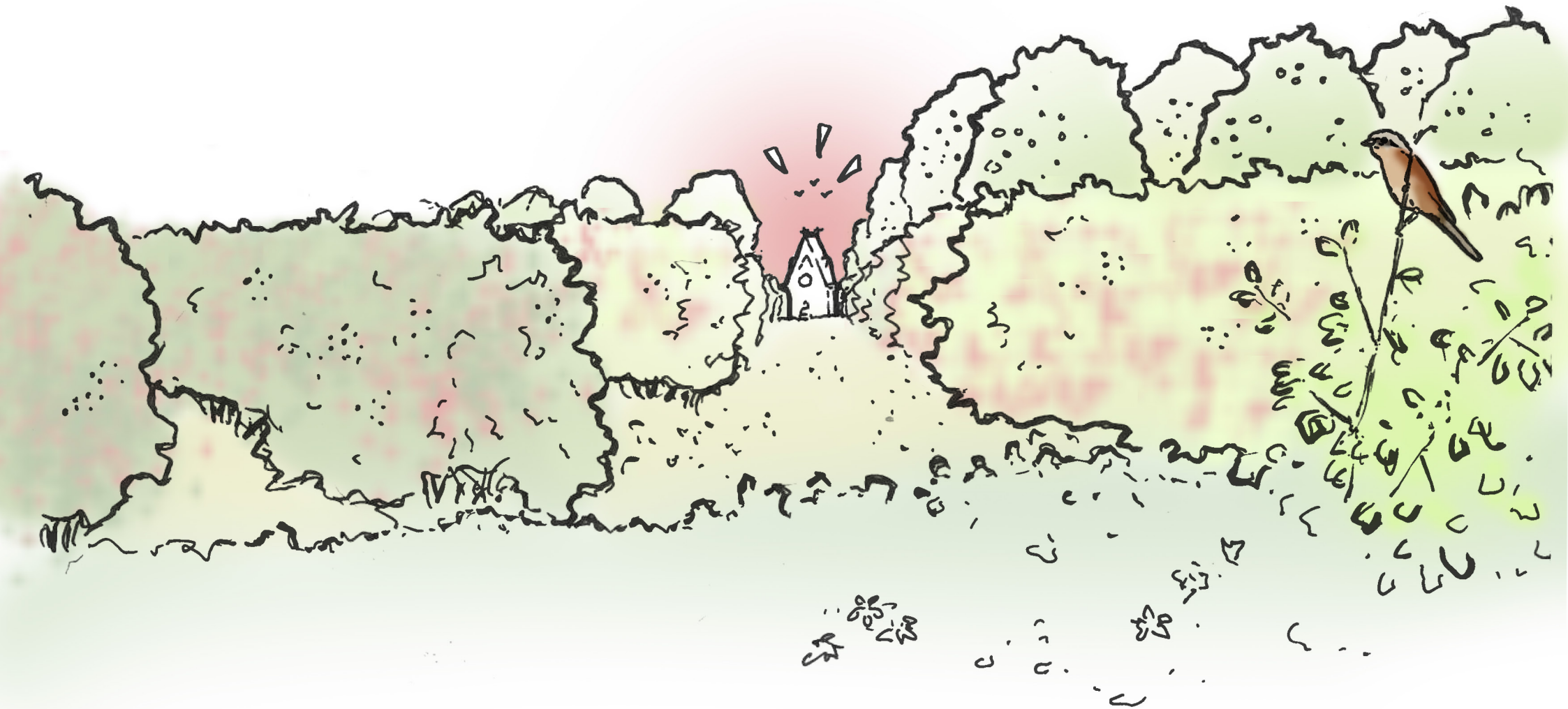


Preserve valuable views

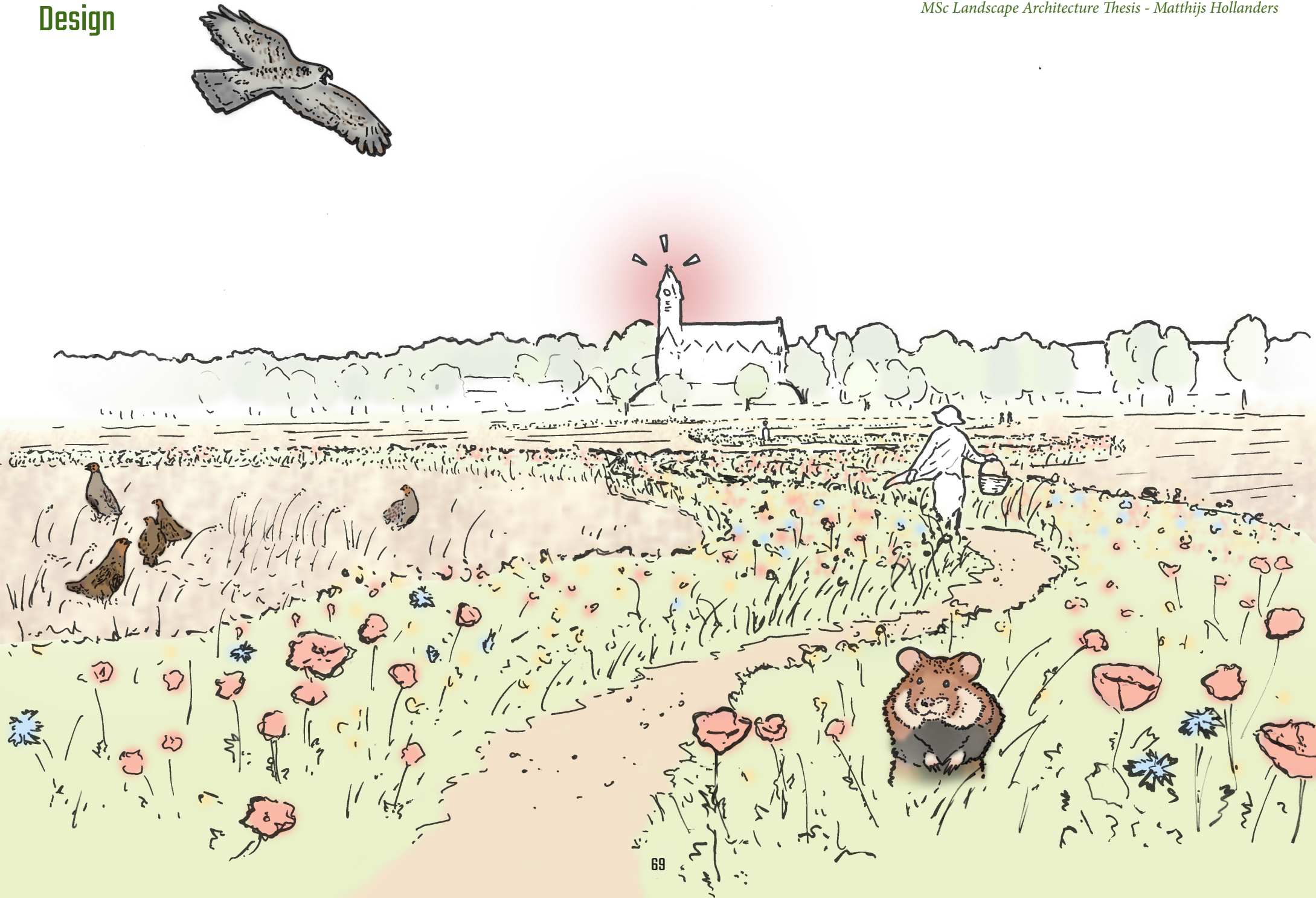


emphasize
view

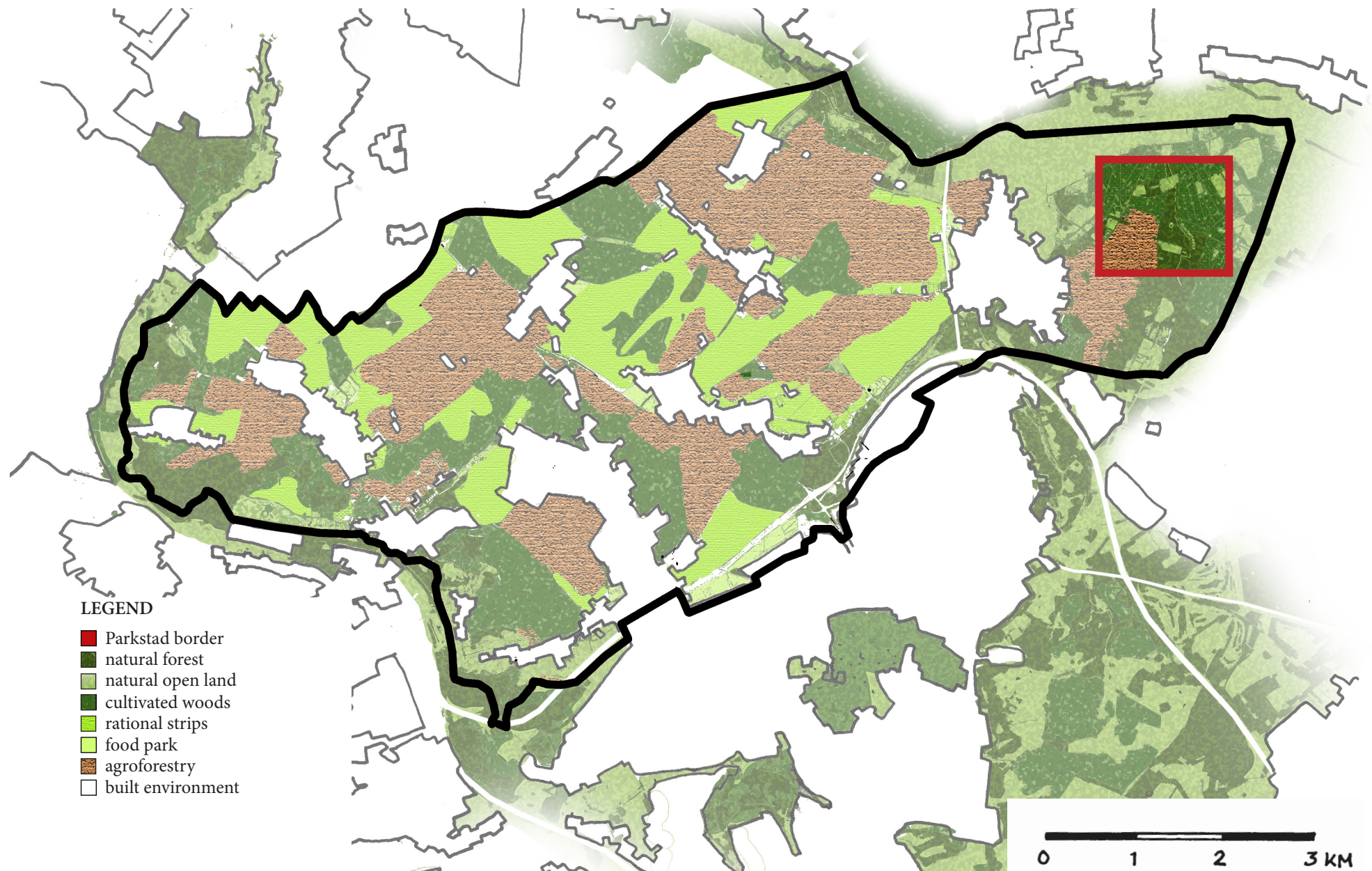




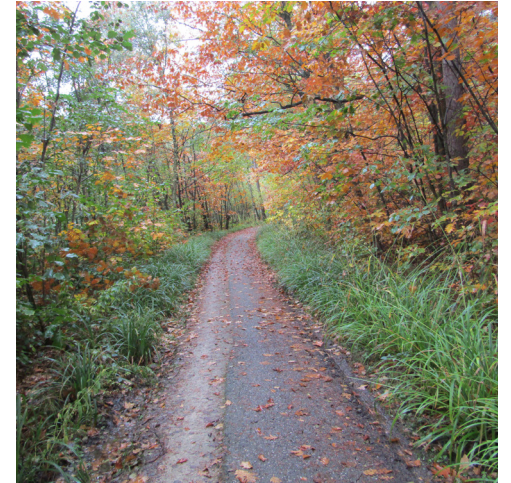




CONIFEROUS FORESTS



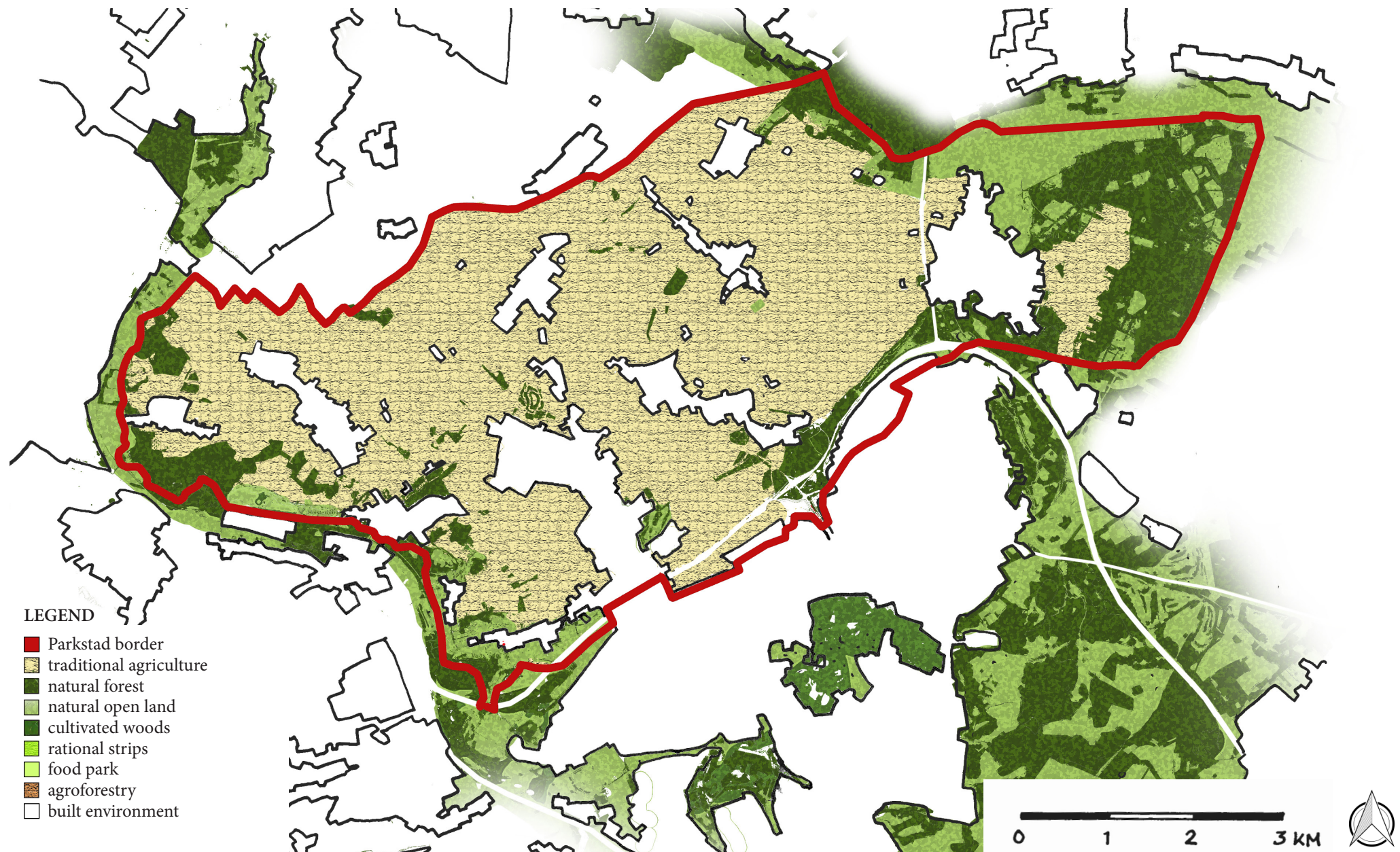
NON-NATIVE



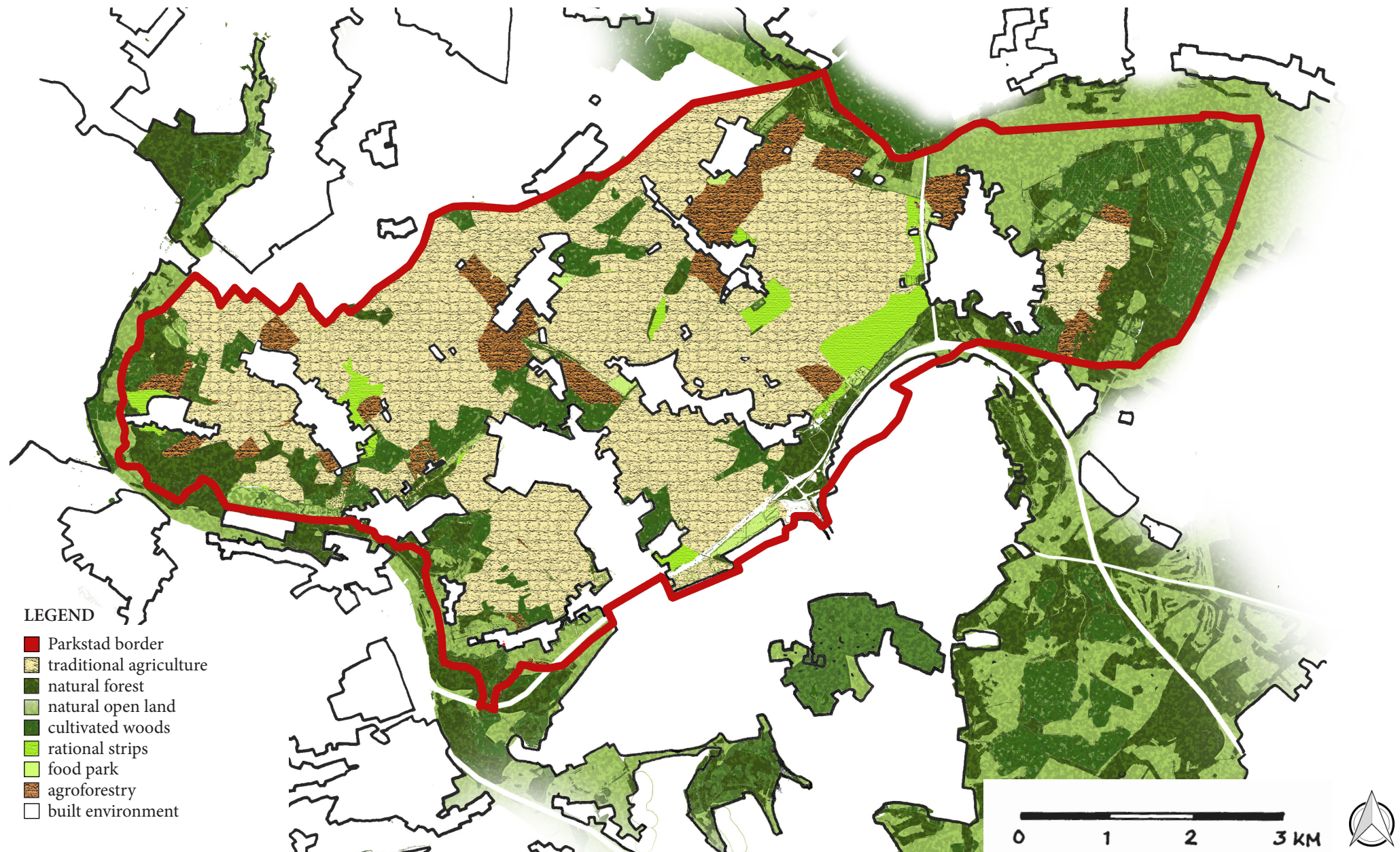


SUMMARY & CONCLUSION

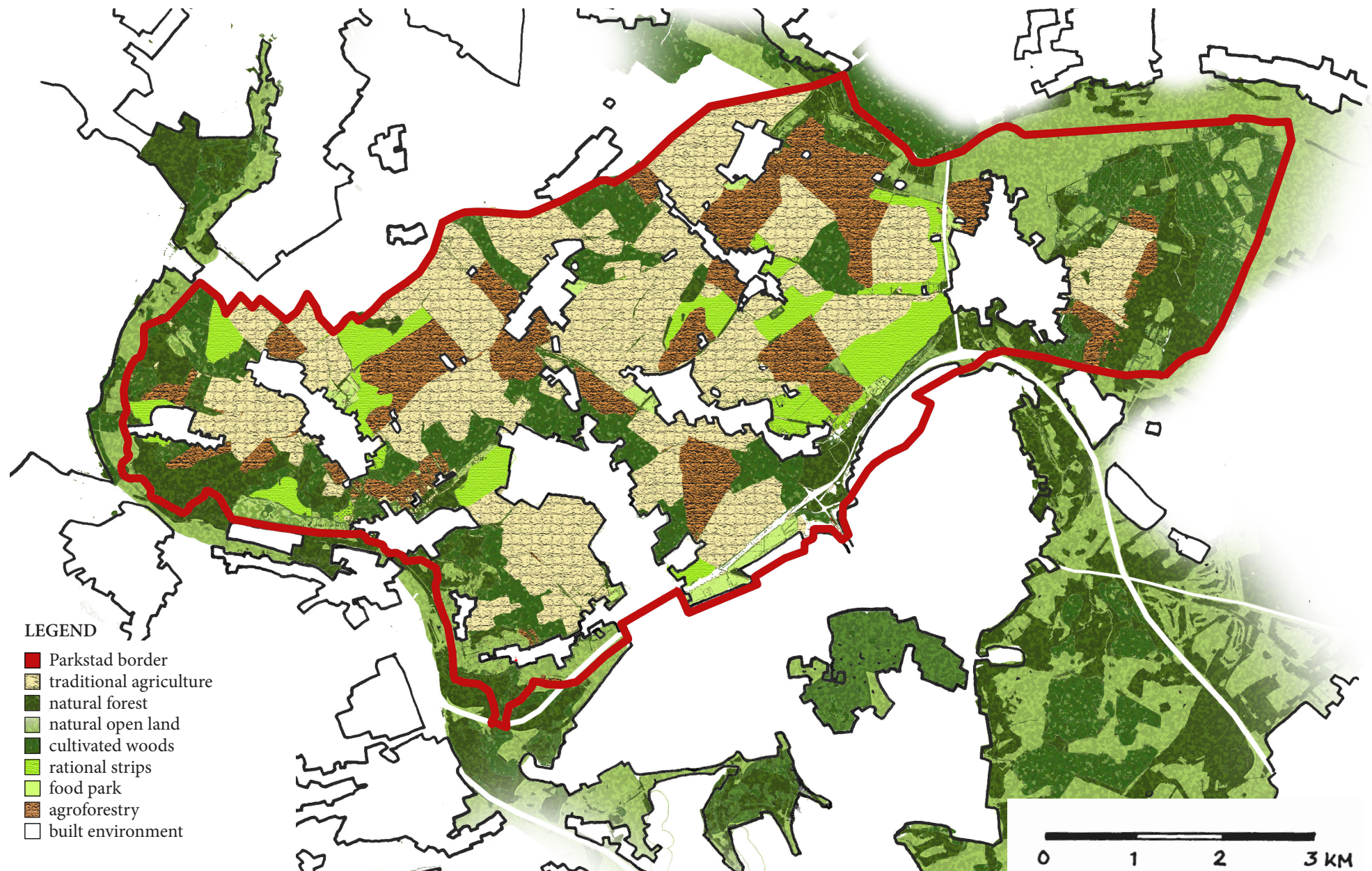
2020



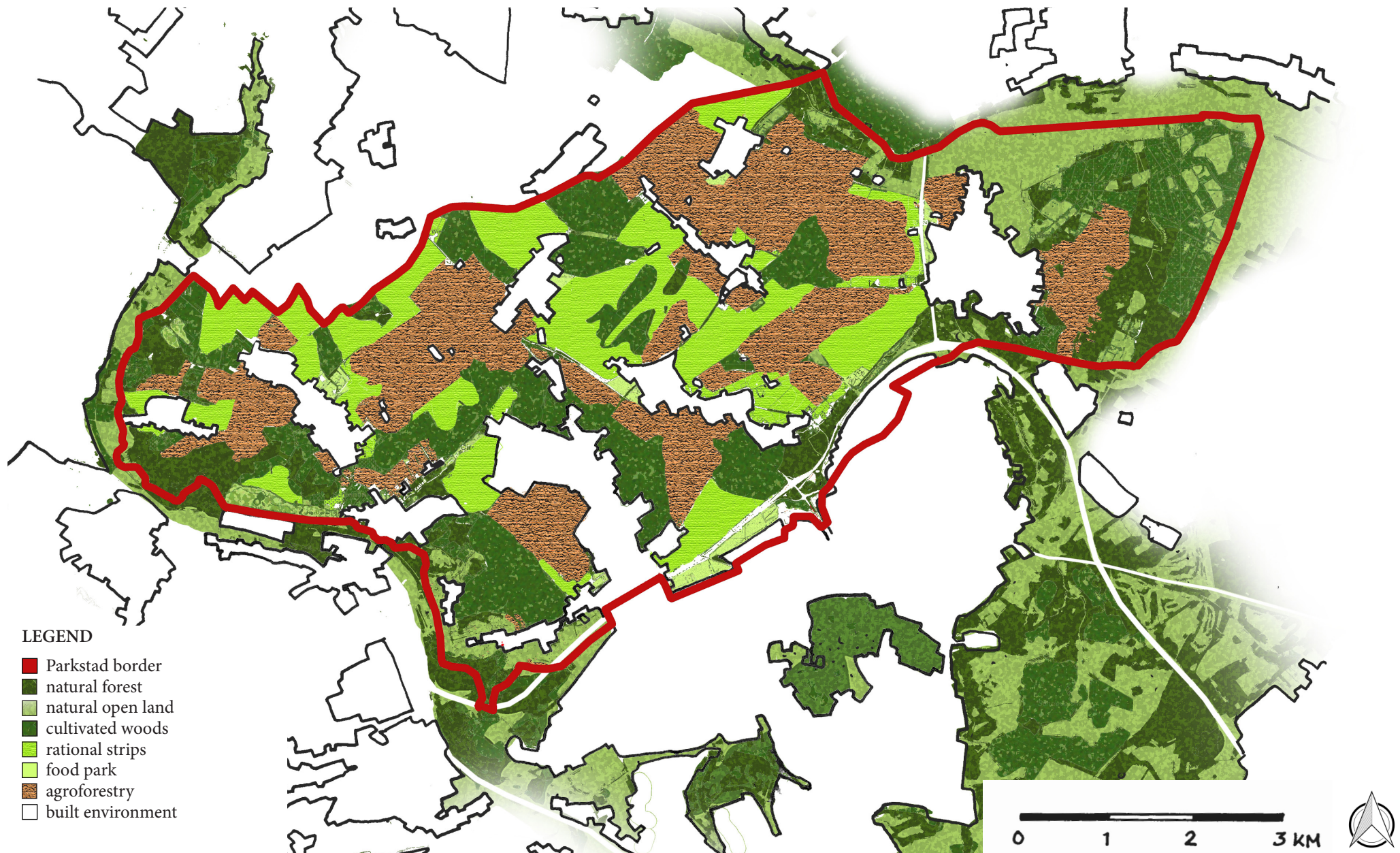
2025



2035



2050





VILLAGE / CITY

CULTIVATED WOODS

AGROFORESTRY

RATIONAL STRIPS / FOOD PARK

WATERSTRUCTURES / BROOKVALLEY

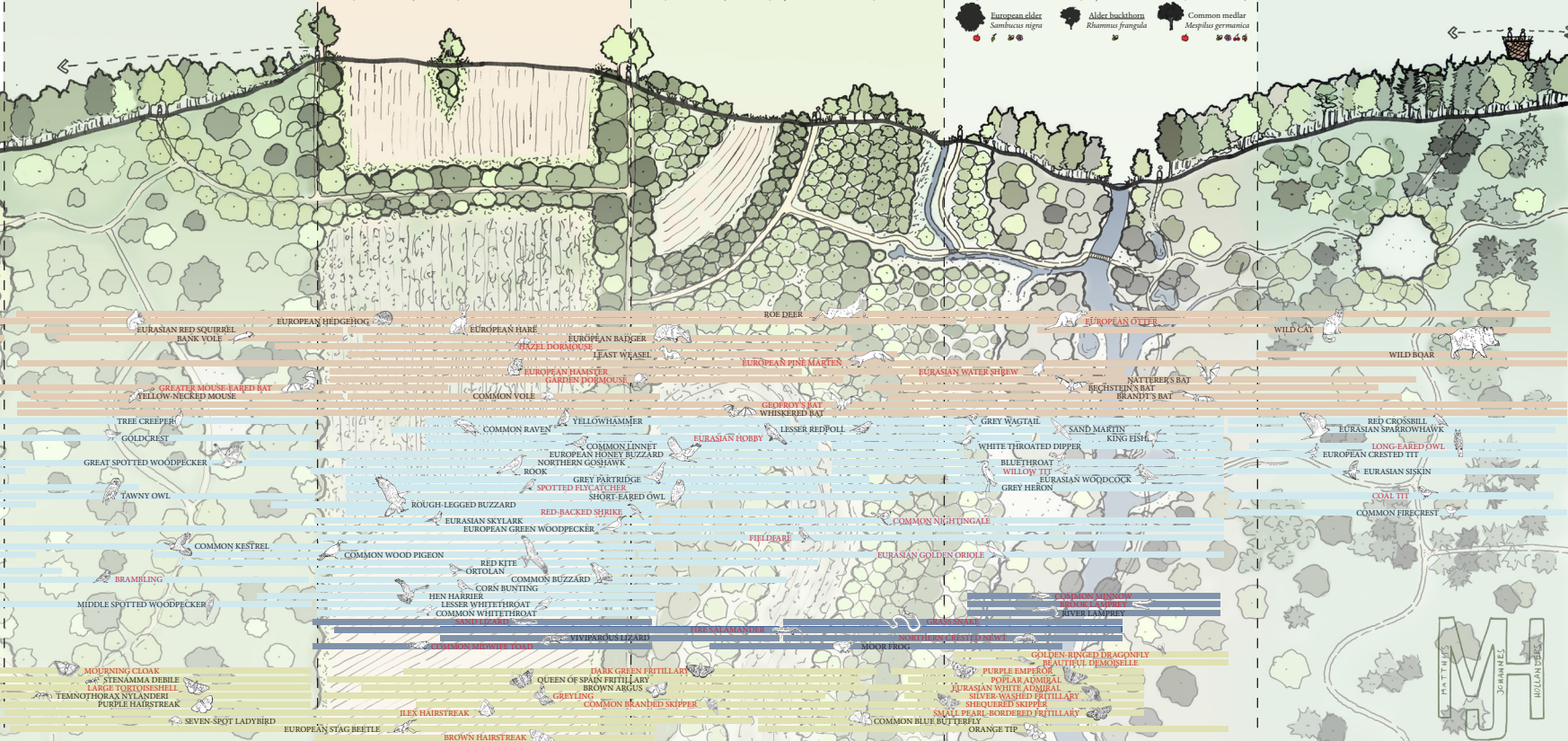
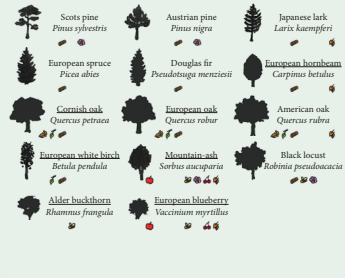
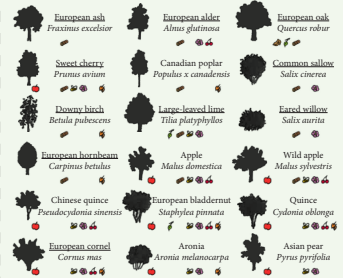
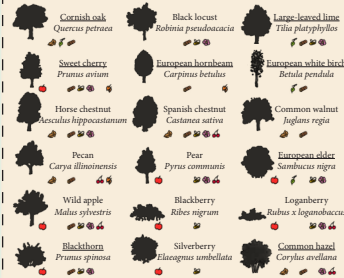
DIVERSIFIED CONIFEROUS FOREST

LEGEND

- Edible fruits
- Edible nuts
- Other edible parts
- Wood product
- Valuable for bees
- Conspicuous bloom
- Ornamental fruits
- Attractive autumn colour

Non native Native
Non patria Patria

RED LISTED ANIMAL:
These red listed animals are vulnerable
for extinction within the Netherlands



Vegetation

Mammals

Birds

Amphibians/
Reptiles/
Fish

Insects



