

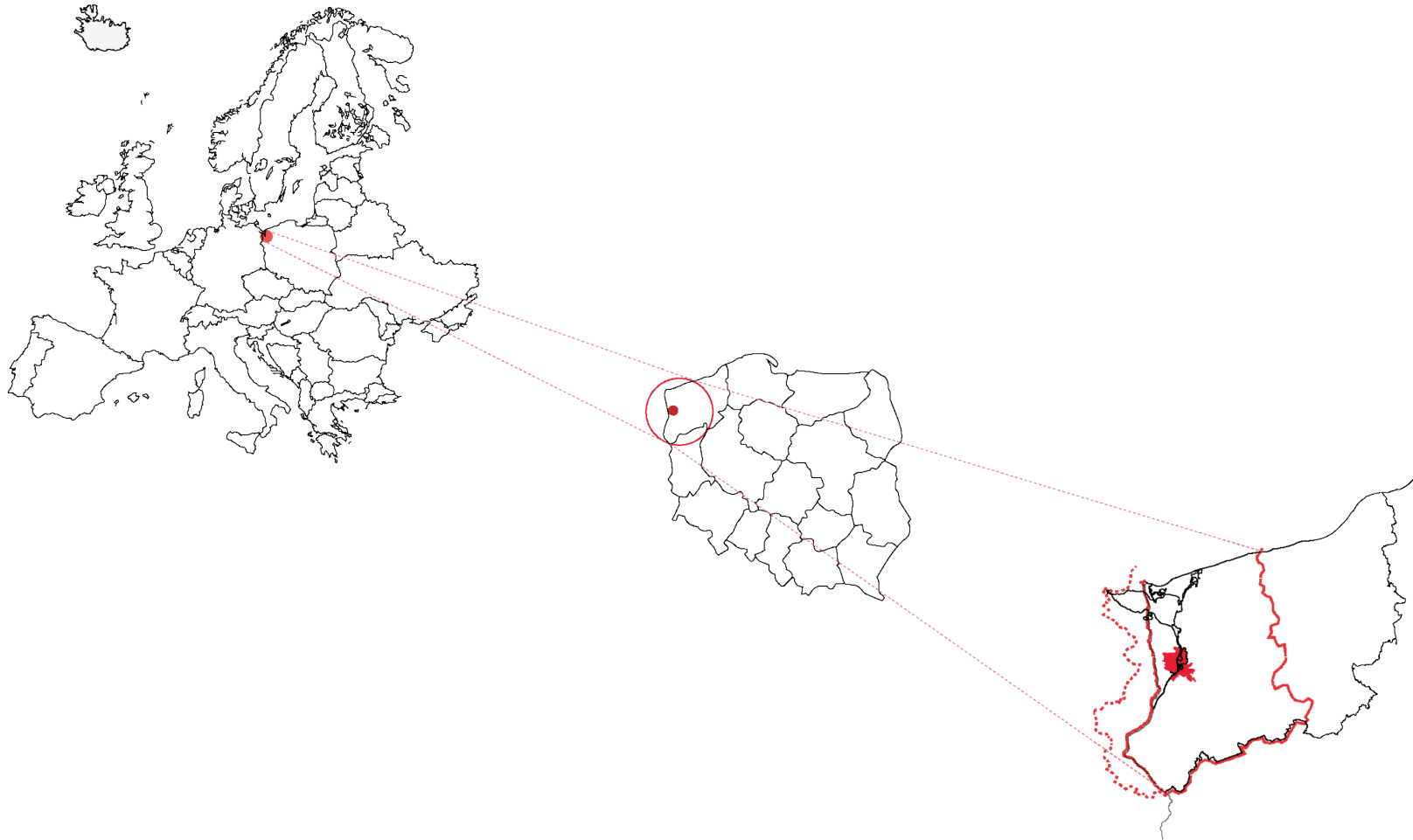
Socio-ecological Cohesion

Bioregional Strategy 'Beyond Growth'
for the Szczecin Functional Area, Poland



Project location

Project location:
Szczecin functional area, West Pomerania Voivodeship, Poland



Regional structure

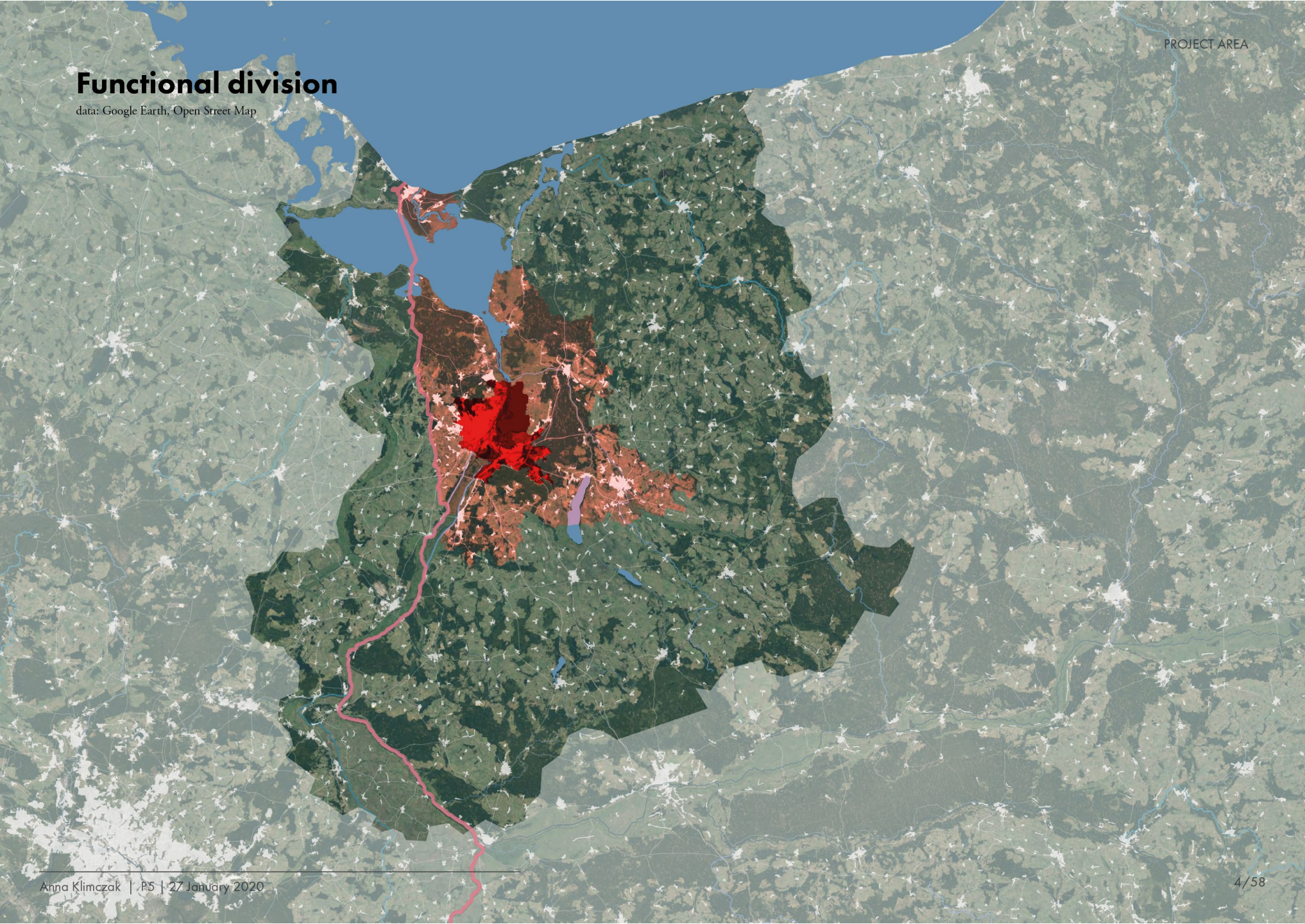
data: Google Earth, Open Street Map

PROJECT AREA

Functional division

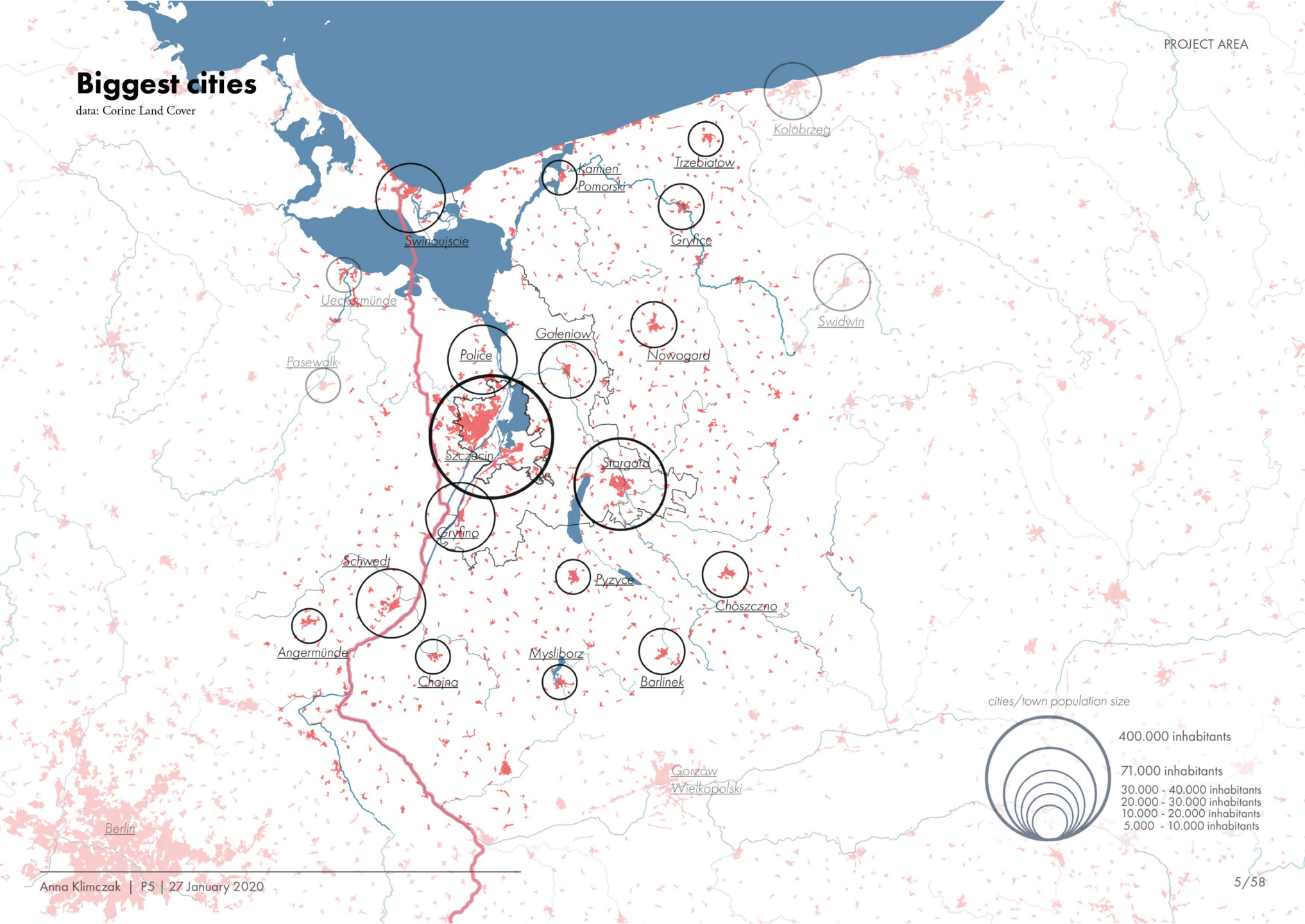
data: Google Earth, Open Street Map

PROJECT AREA



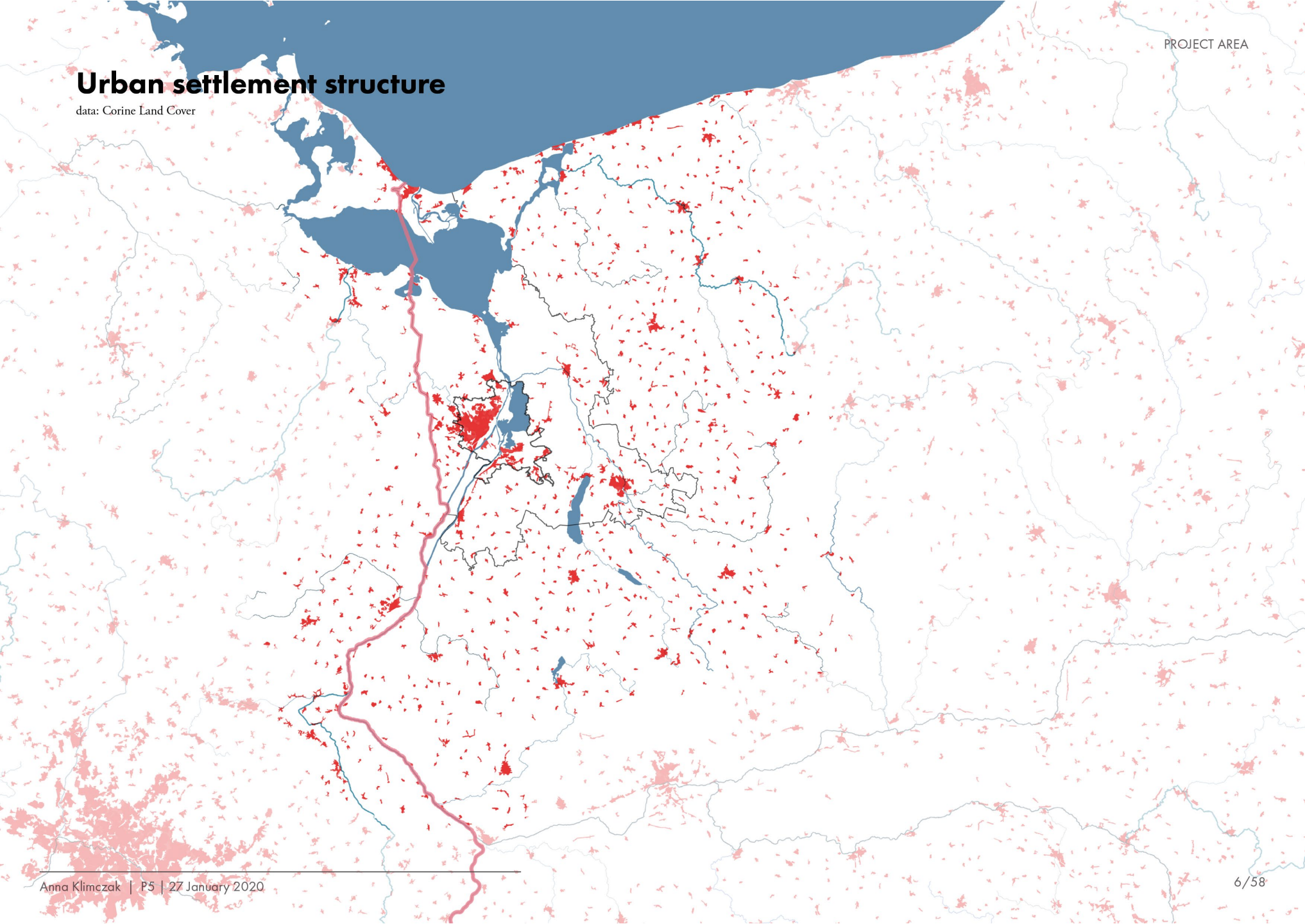
Biggest cities

data: Corine Land Cover



Urban settlement structure

data: Corine Land Cover

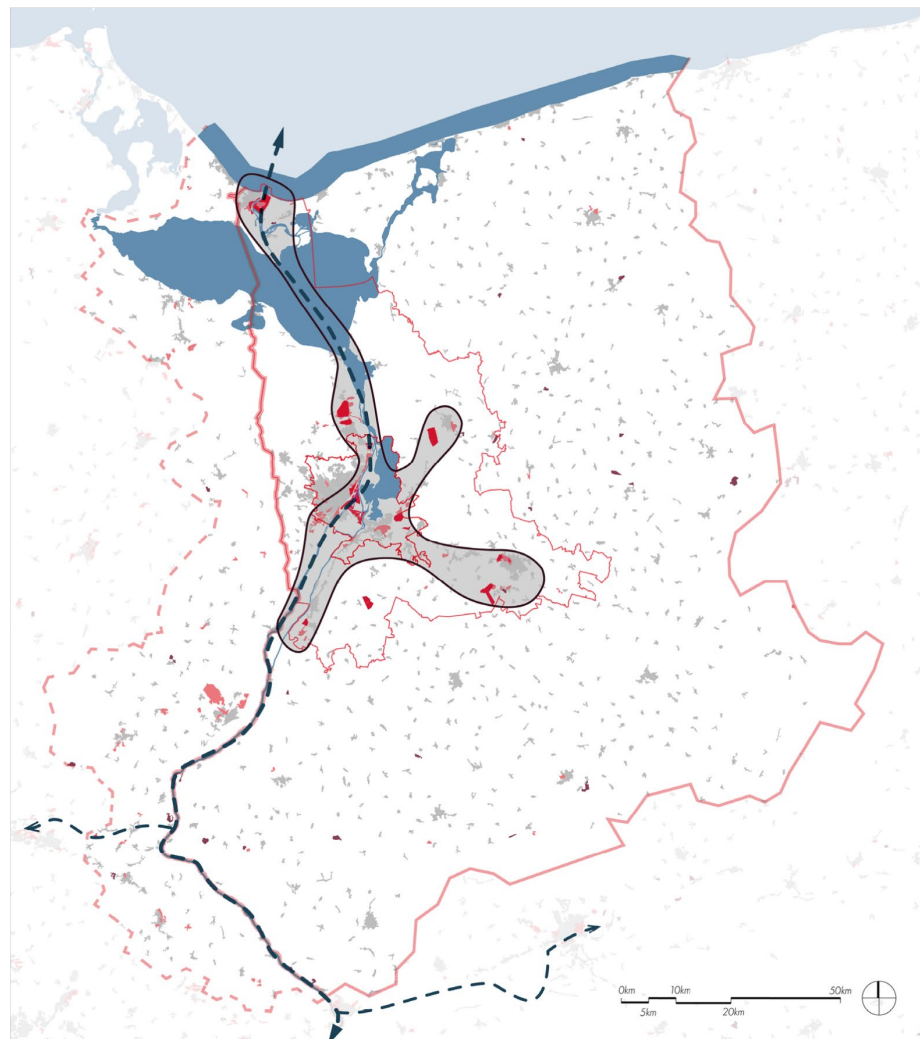
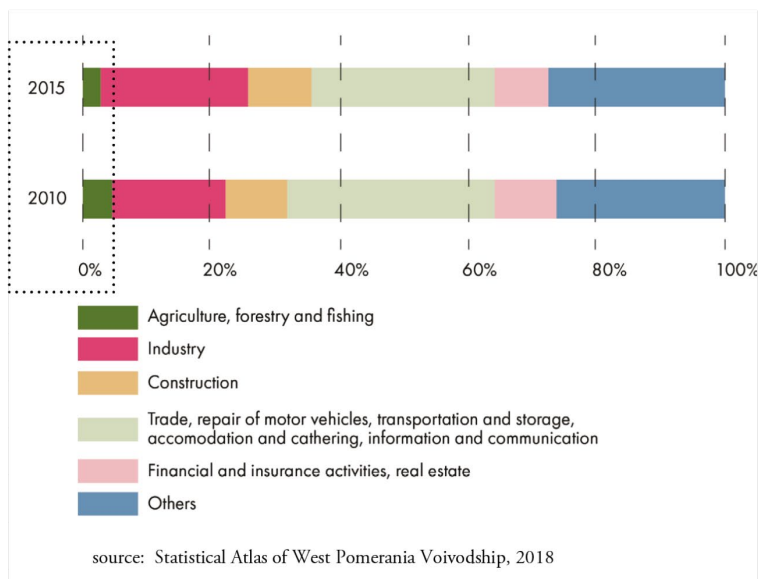


Problem field

Regional focus

Economic development

GDP in voivodship by kinds of activity



data: author's own

Regional focus

Economic development

Big infrastructural projects



source: author

Private housing developments



source: www.vastbouw.pl/oferta

Special Economic Zones



source: www.paih.gov.pl

Regional structure

Urban structure

rural



urban



Regional structure *Territory*



Regional problematic *Ecological challenges*



Droughts

(700 million euro in agricultural losses, covering 57,41% of national crop land in 2019)

source: www.gospodarka.dziennik.pl

source: author, June 2019

Regional problematic *Ecological challenges*

Sand storms / April 2019



source: www.to.com.pl

Extreme forest fires / August 2019



source: www.radioszczecin.pl

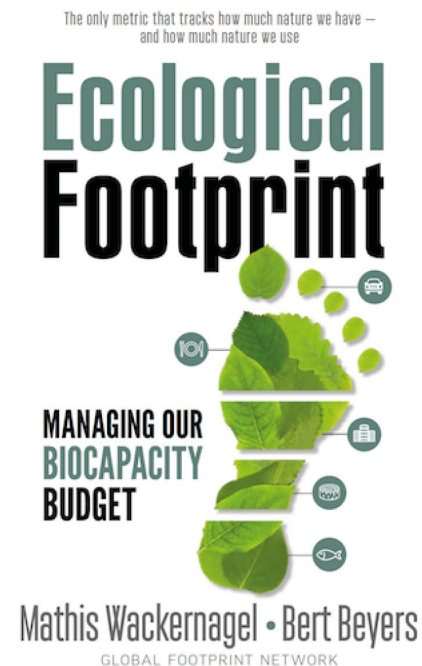
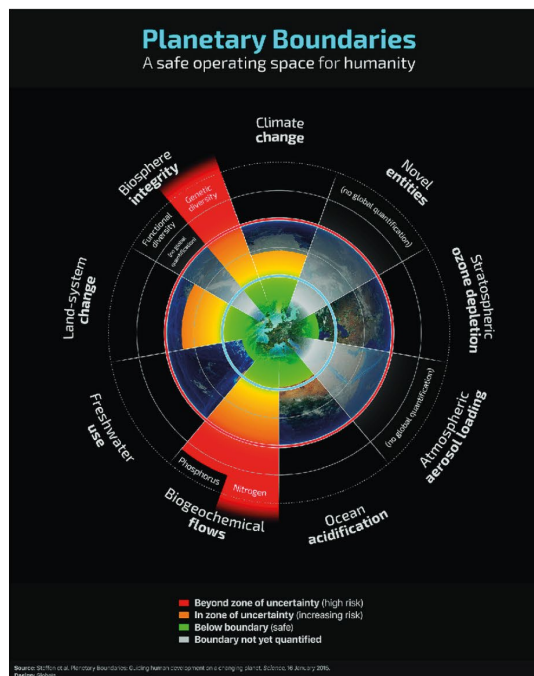
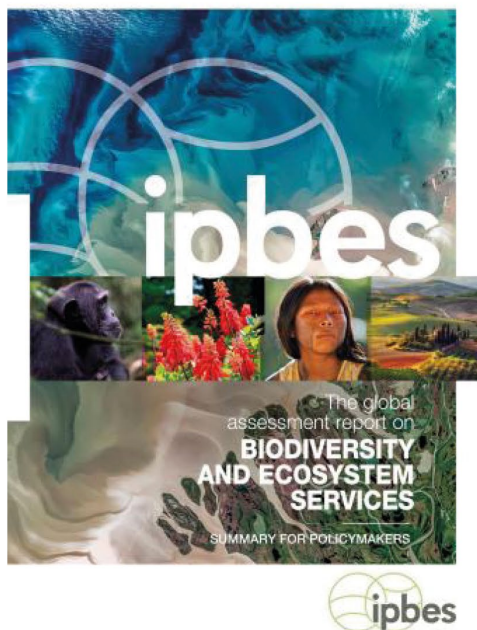
Local flooding / March 2019



source: www.gs24.pl

Regional problematic

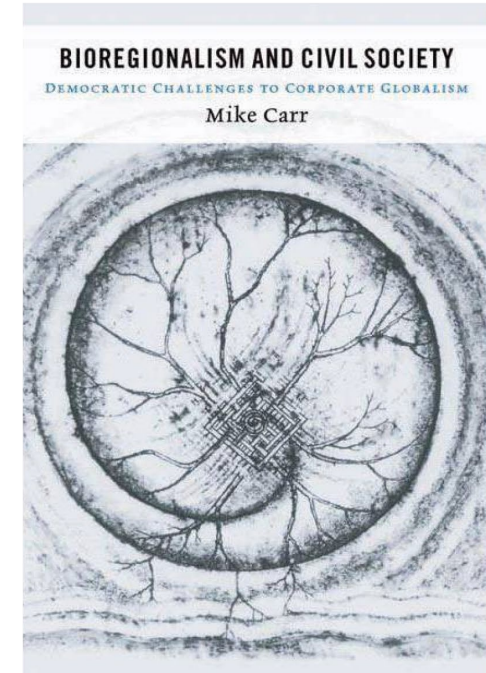
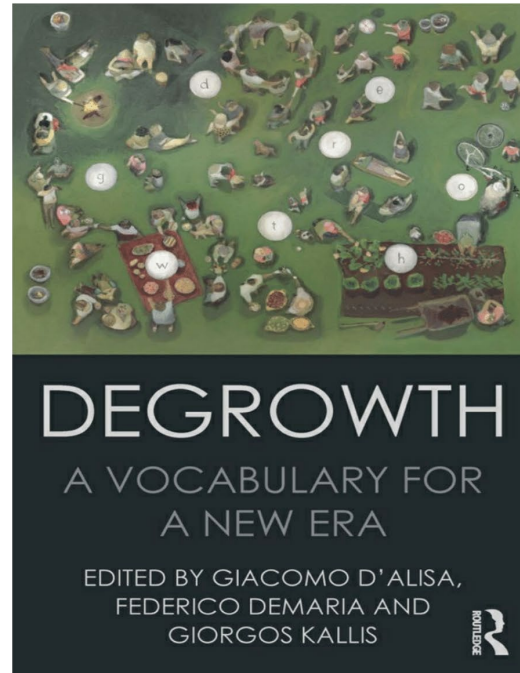
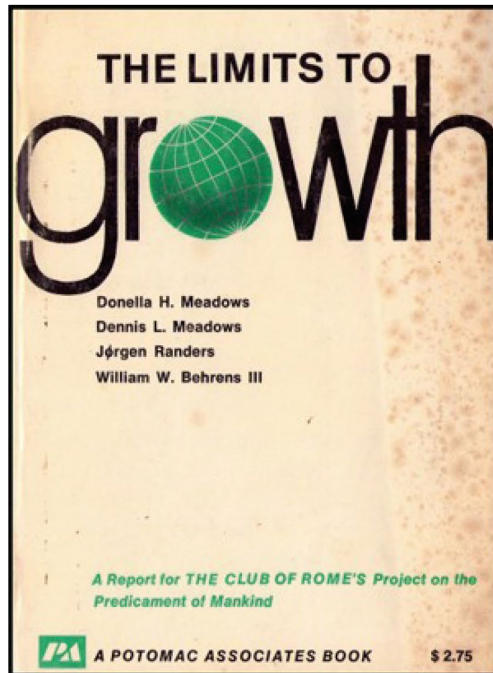
Global ecological challenges



Methodological framework

Theoretical framework

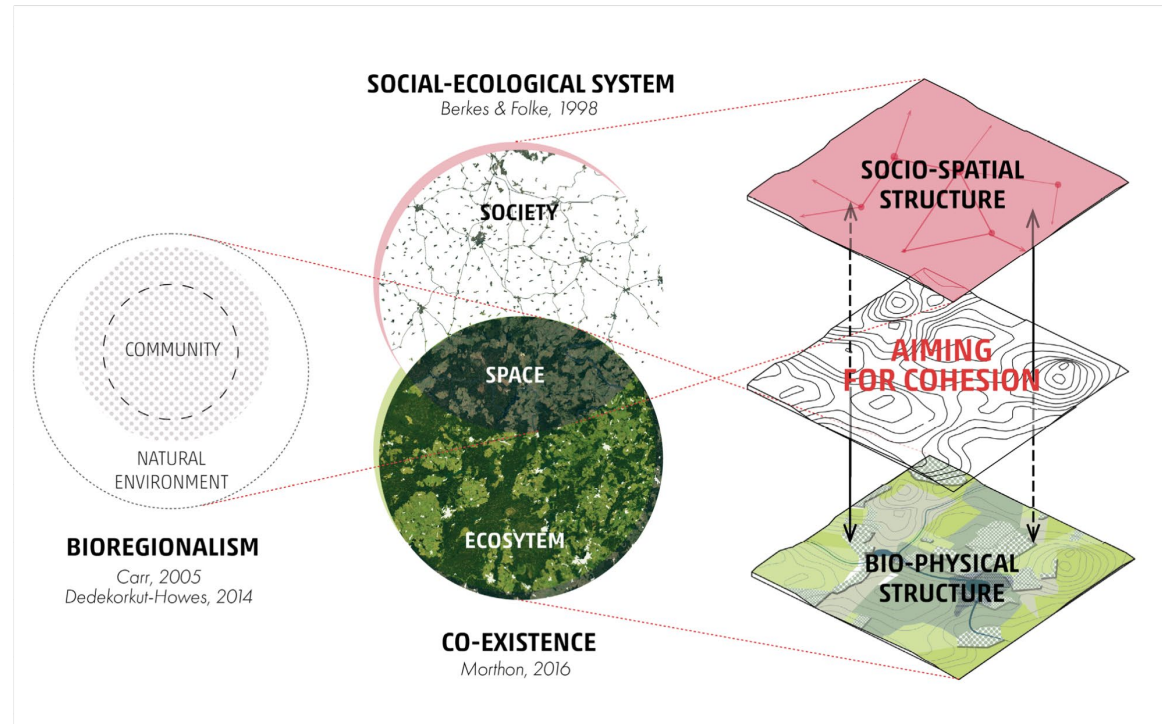
Post-growth approach



Research question

*Until what extend **bioregional spatial planning**,
by answering the **local social problems and ecological challenges**,
can give the **alternative framework** for strategy beyond growth for
the peripheral region, Szczecin functional area, Poland?*

Conceptual framework



Conceptual framework

Socio-ecological cohesion



Analysis

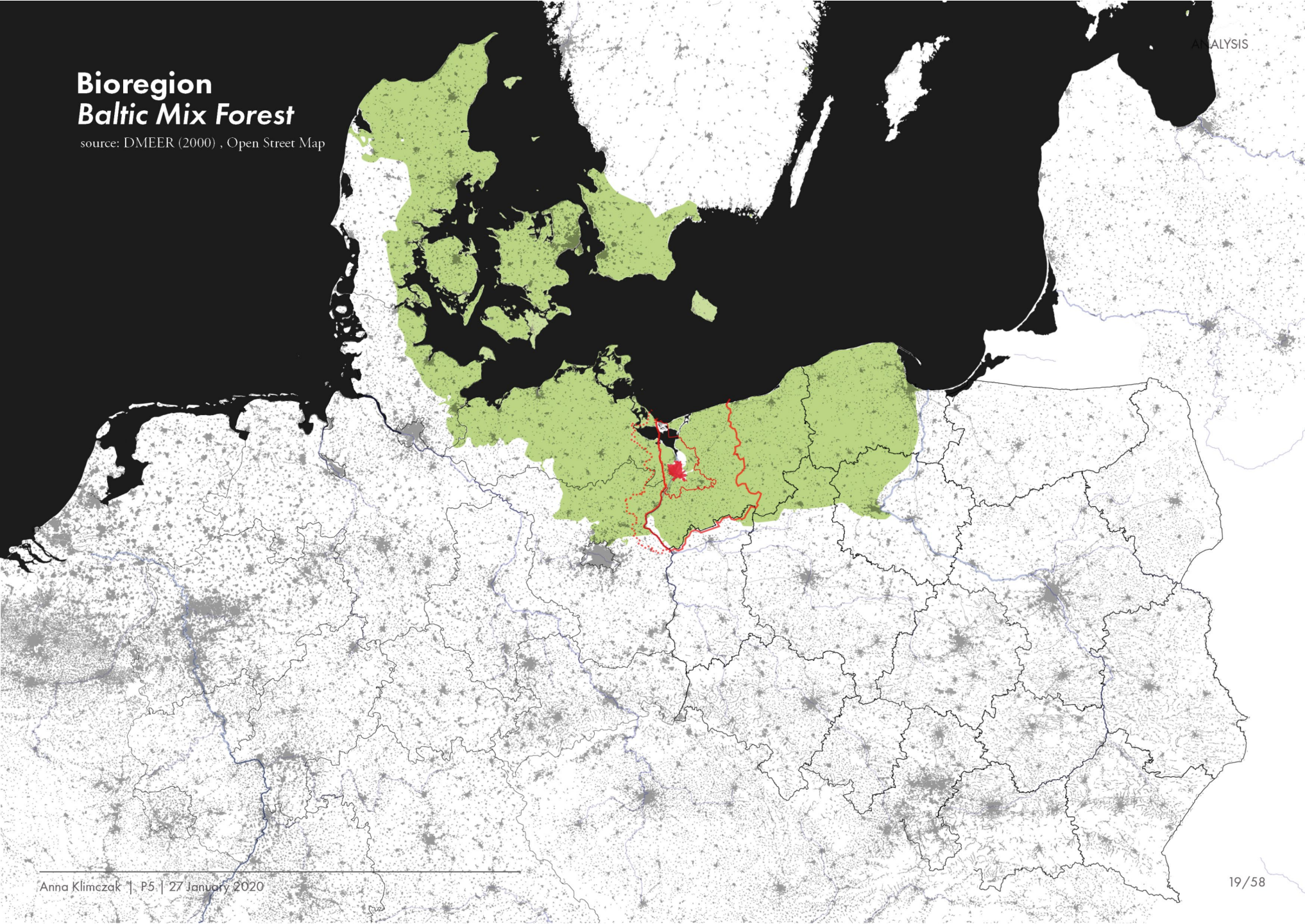
Bioregion

*“ A bioregion is a land and water territory whose limits are defined not by political boundaries, but by the **geographical limits of human communities and ecological systems**. Such an area must be large enough to maintain the integrity of the region’s biological communities, habitats, and ecosystems; to support important ecological processes (...)”*

Word Resource Institute

Bioregion *Baltic Mix Forest*

source: DMEER (2000) , Open Street Map

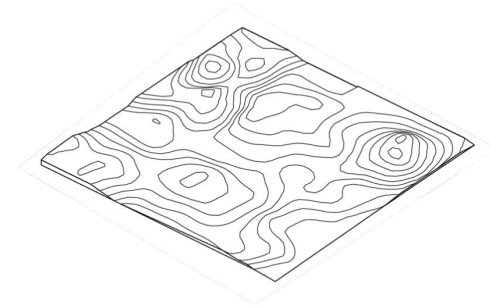


Bioregion

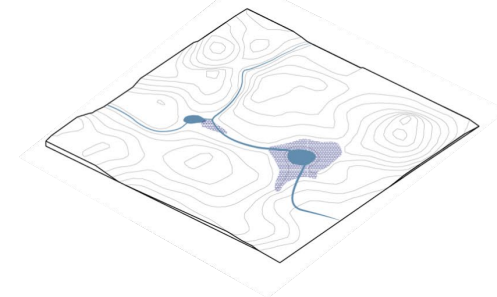


source: Digital Elevation Model over Europe (EU-DEM), 2017

Post-glacial landform



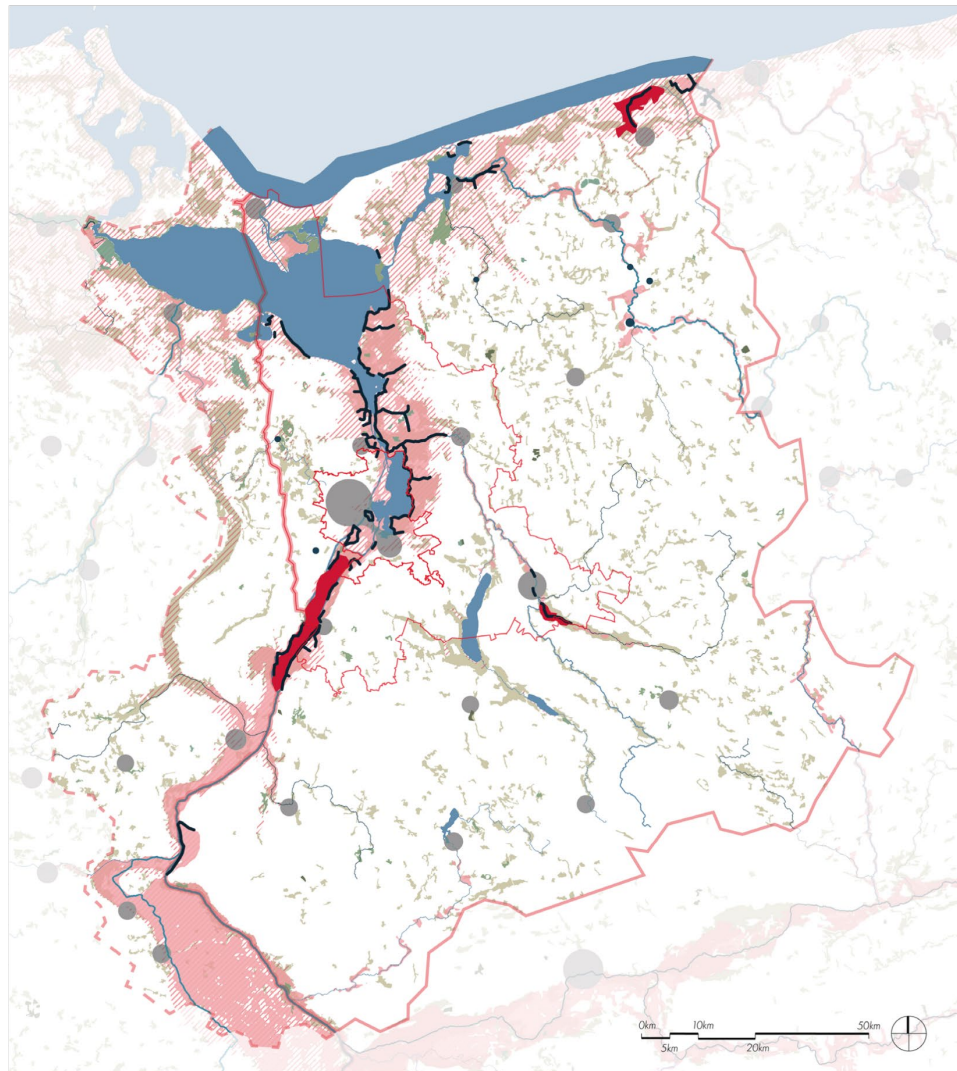
Small water bodies and water streams



Land-use patchwork



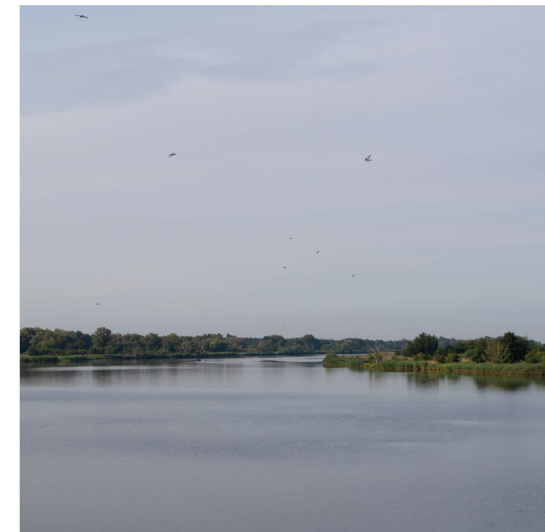
Water system



source: West Pomerania Geoportal

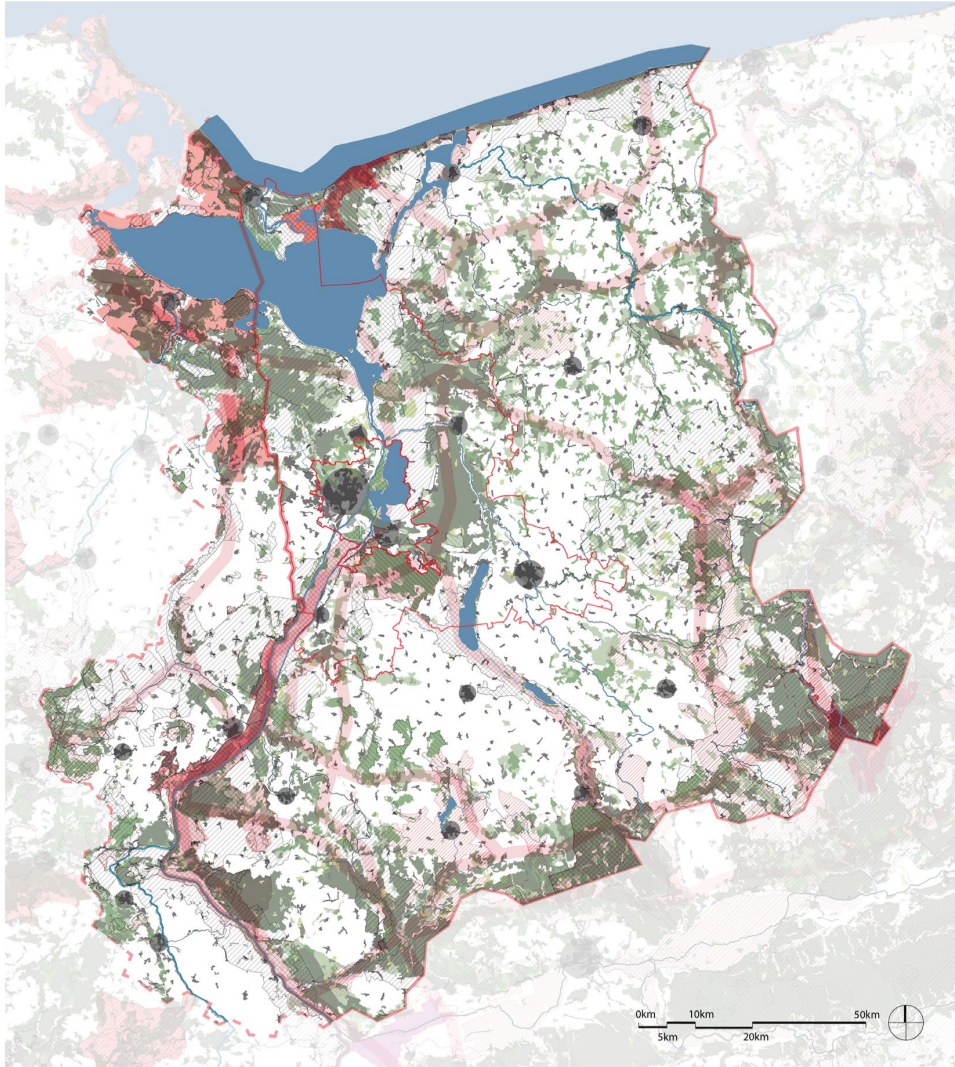


source: Jan Łoziński / www.youtube.com



source: author

Natural environment



source: Polish Environmental Agency, Corine Land Cover, 2018



source: author



source: author

Productive landscape



source: Corine Land Cover, 2018

industrialized forest
grassland/meadow
crop land

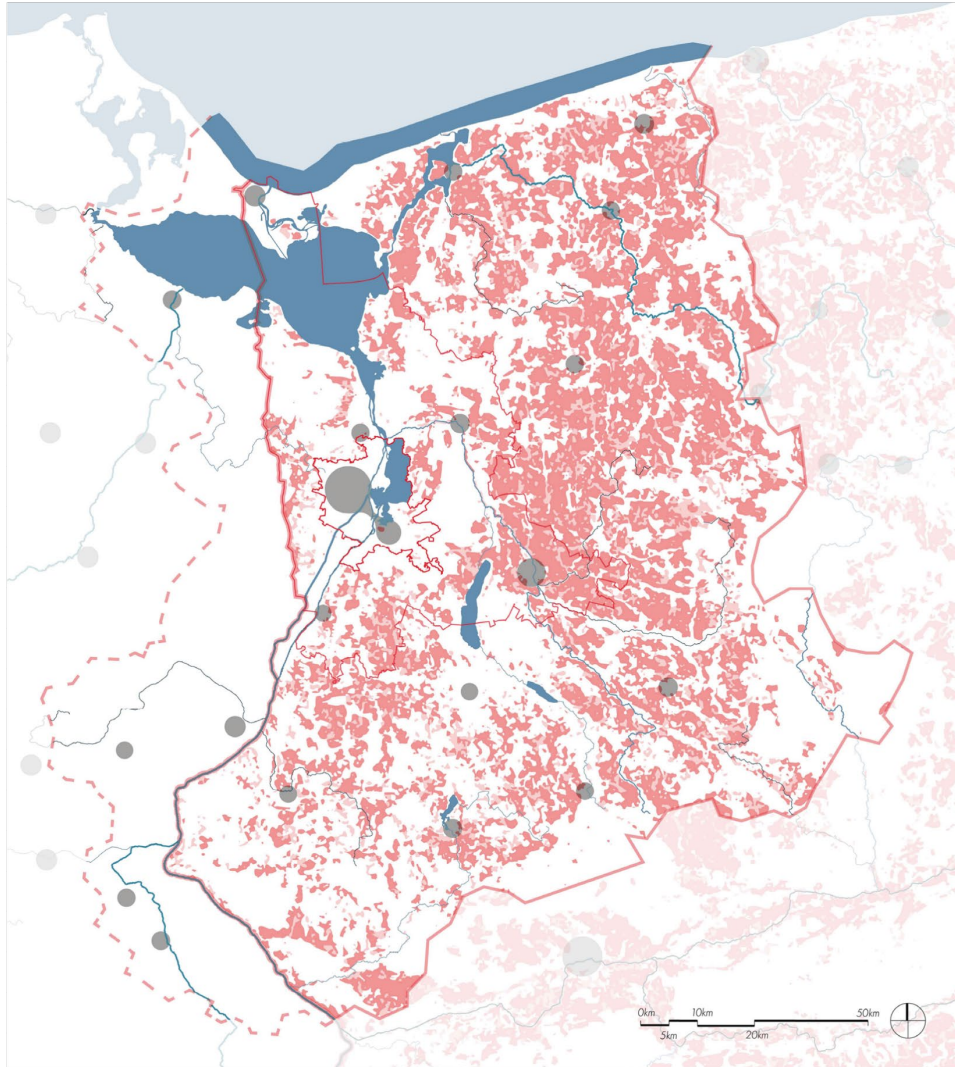


source: author



source: author

Productive landscape - exploitation



source: System Monitoringu Suszy Rolniczej, 2019

Soil categories prone to drought
 1st category - very prominent
 2nd category - prominent

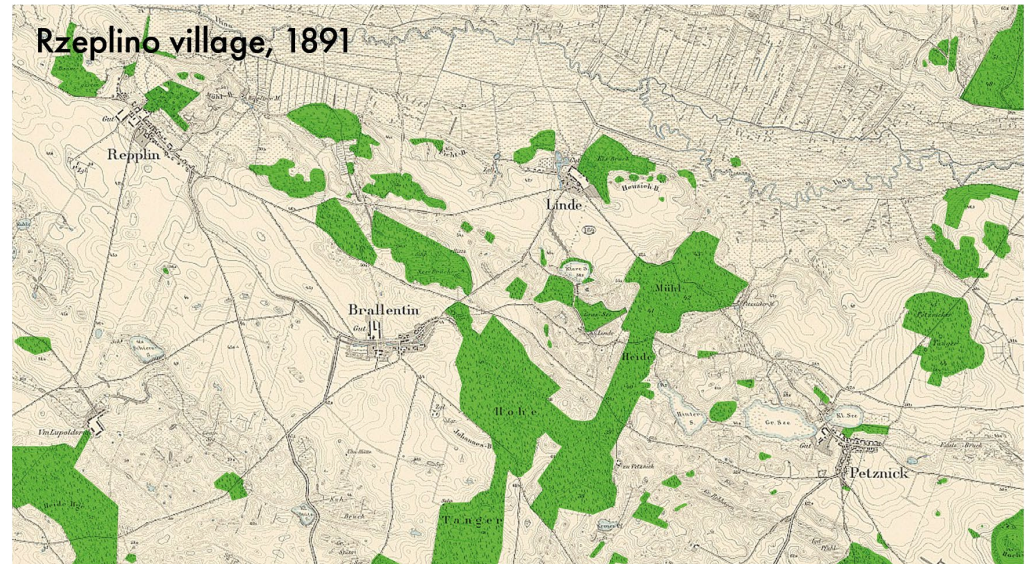


source: author

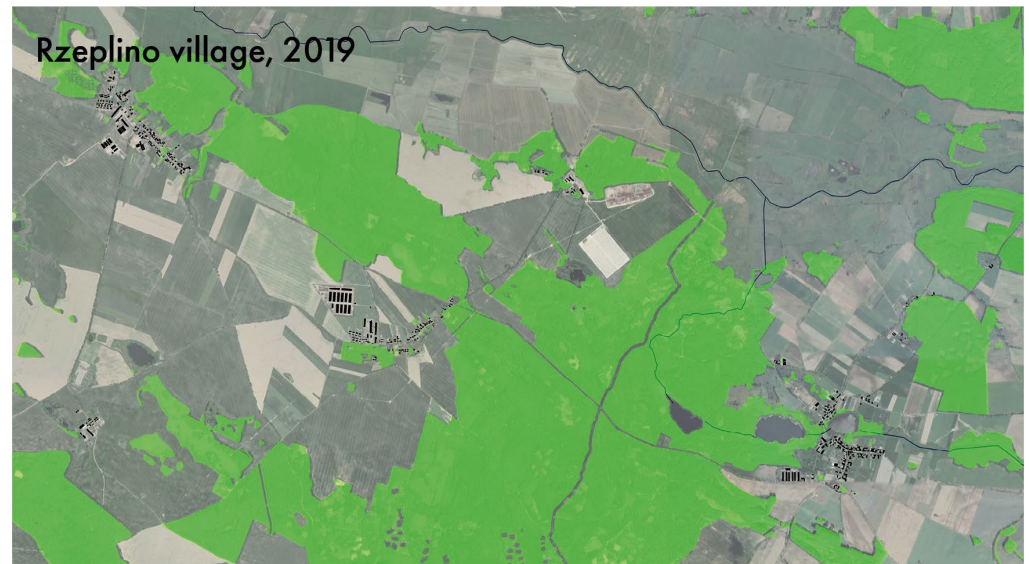


source: author

Constructed landscape

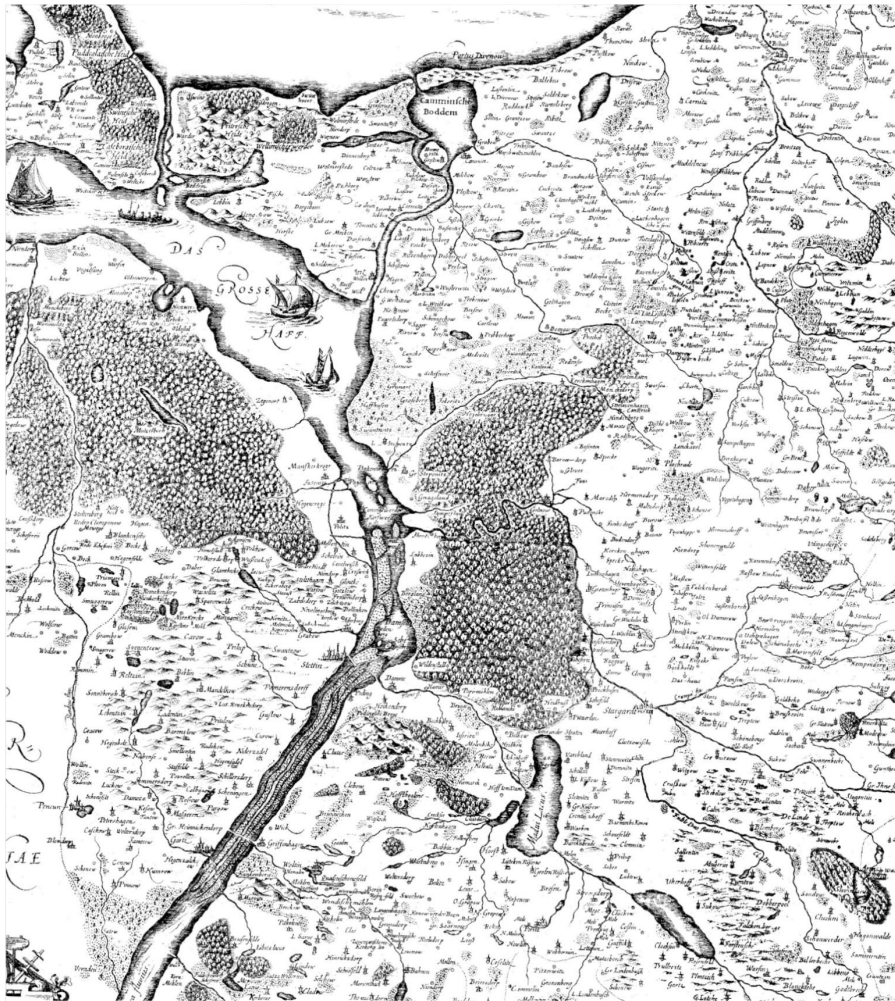


source: Reichsamt für Landesaufnahme, 1891, Maßstabsblatt 1329

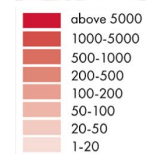
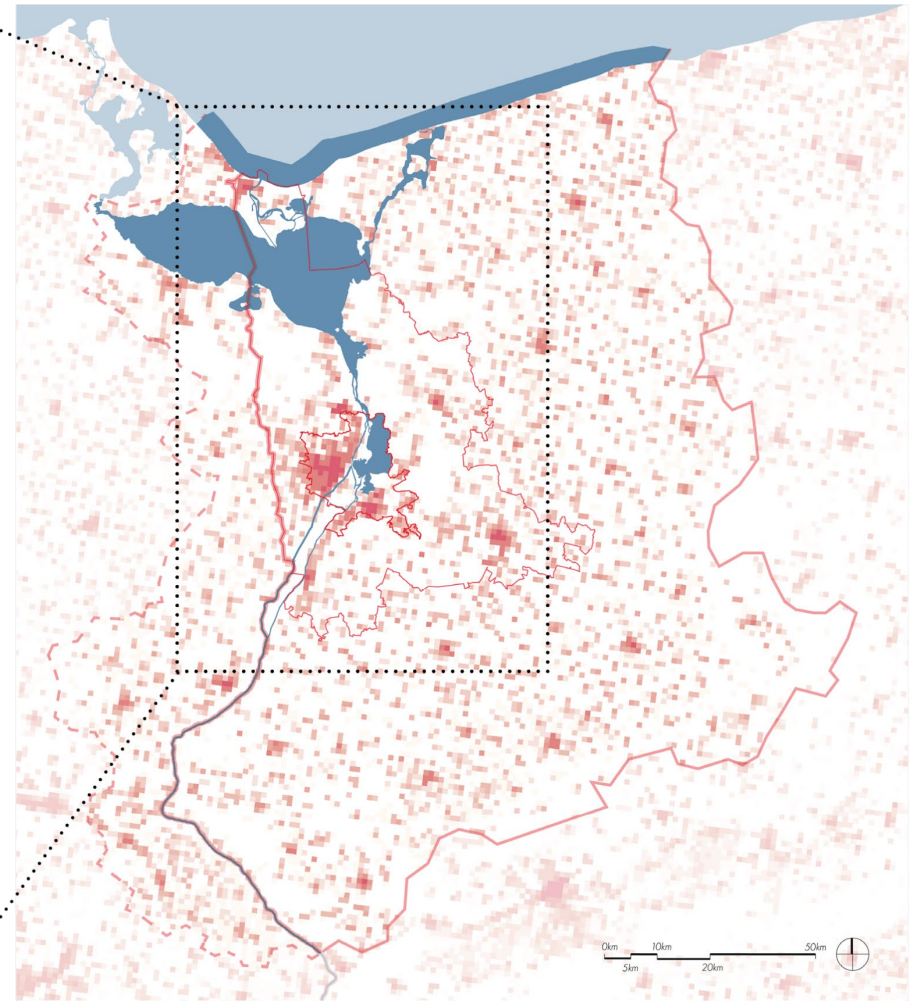


source: Google Earth, Open Street Map

Social structure Orgins



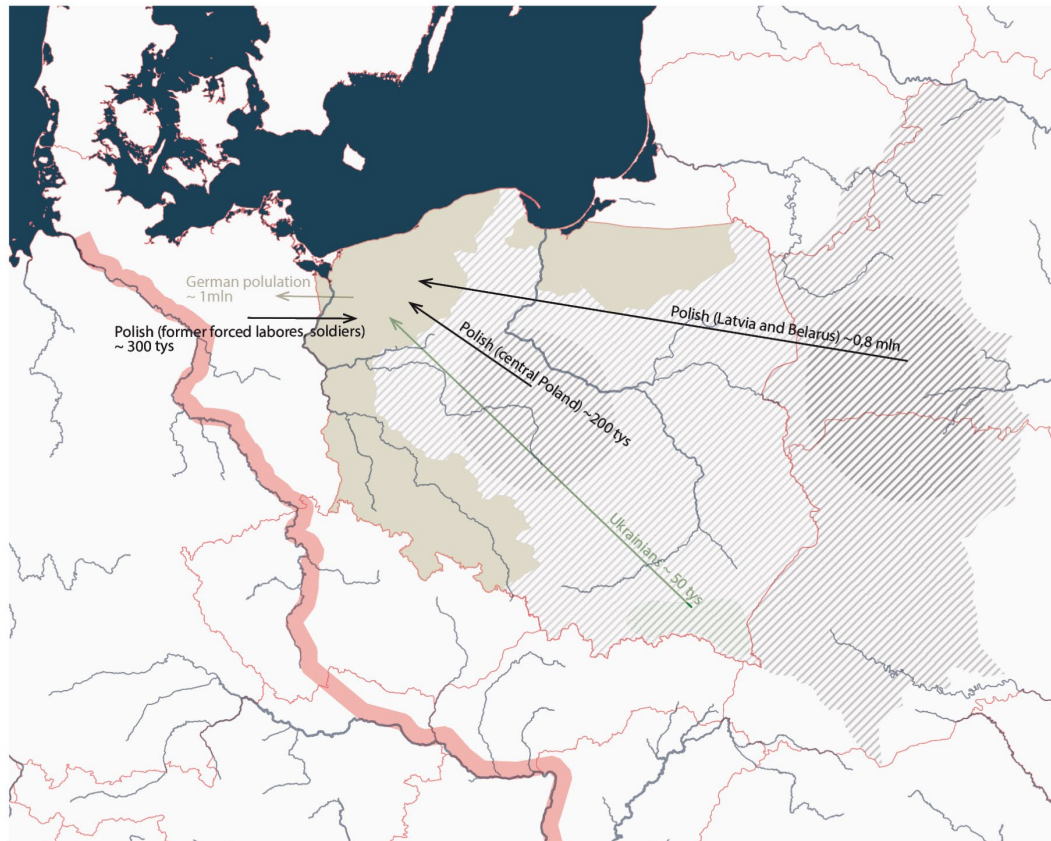
Part of Lubinus Duchy of Pomerania map, 1618 / source: commons.wikimedia.org



Present density map: population grid / source: Eurostat 2011

Social structure

Resettlement 1939-1959



Deportation, resettlements, migrations 1939-1959 / data: Polish Historical Muzeum, 2008

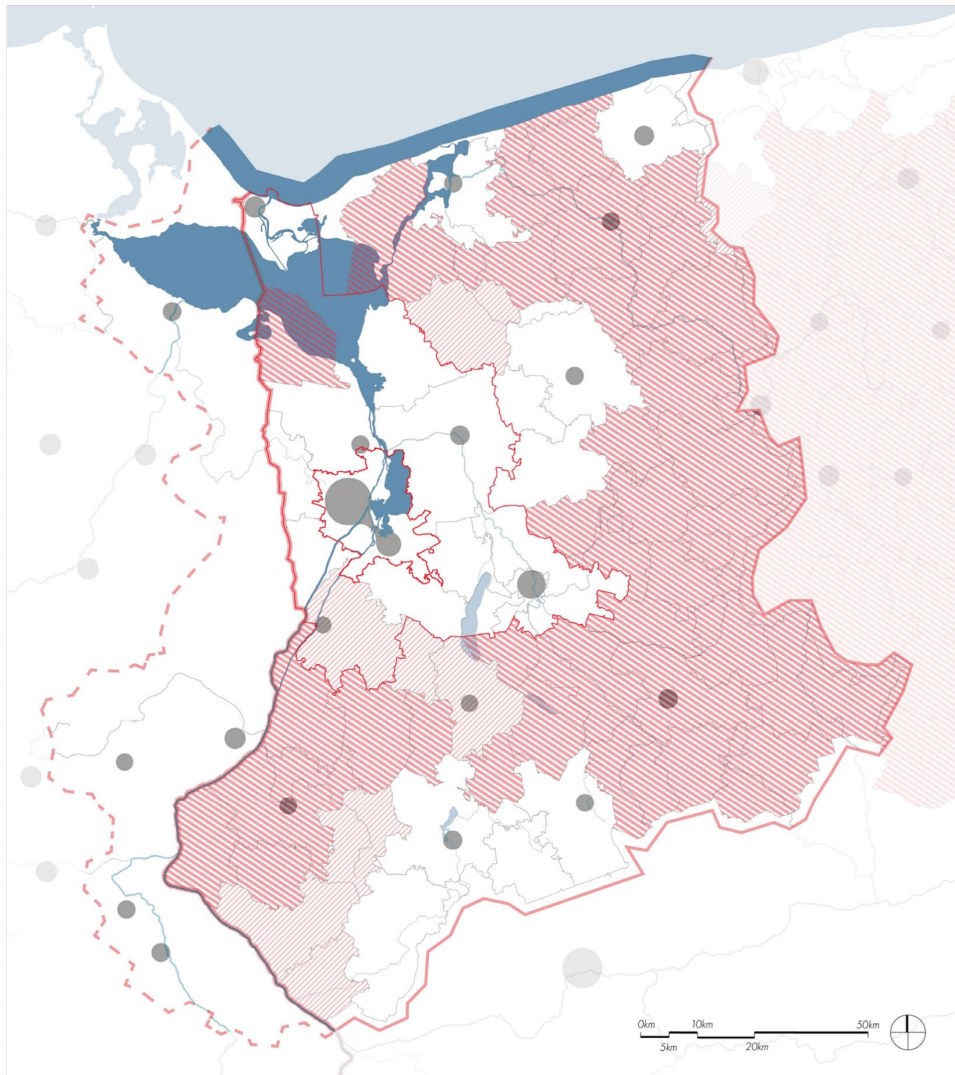


source: www.okolice.wowa.pl





source: www.szczecin.wyborcza.pl

Social Exclusion



source: Regional Development Office, Program for Inclusion Zones, 2017

 municipality in the exclusion zone
 municipality on transformation stage



source: author



source: author

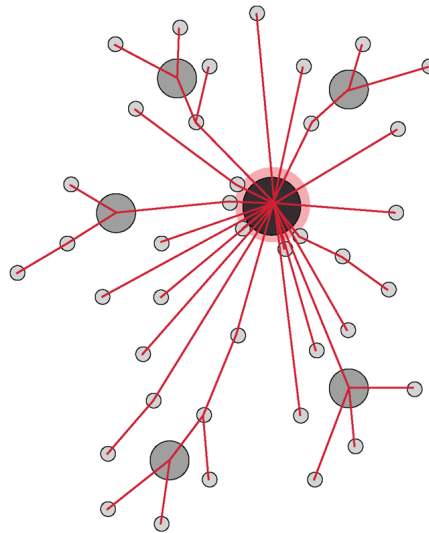
Morphological studies

village - town relation

Villages



proposed network



Towns

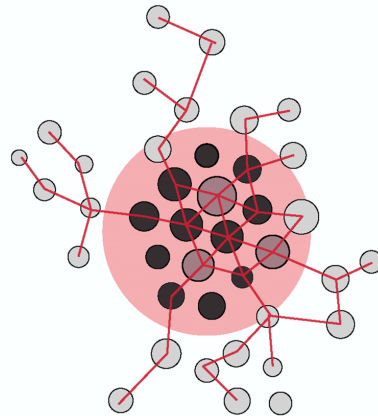


Morphological studie *city-suburb relation*

City



proposed network



Suburb



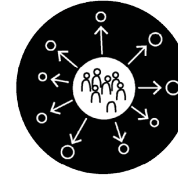
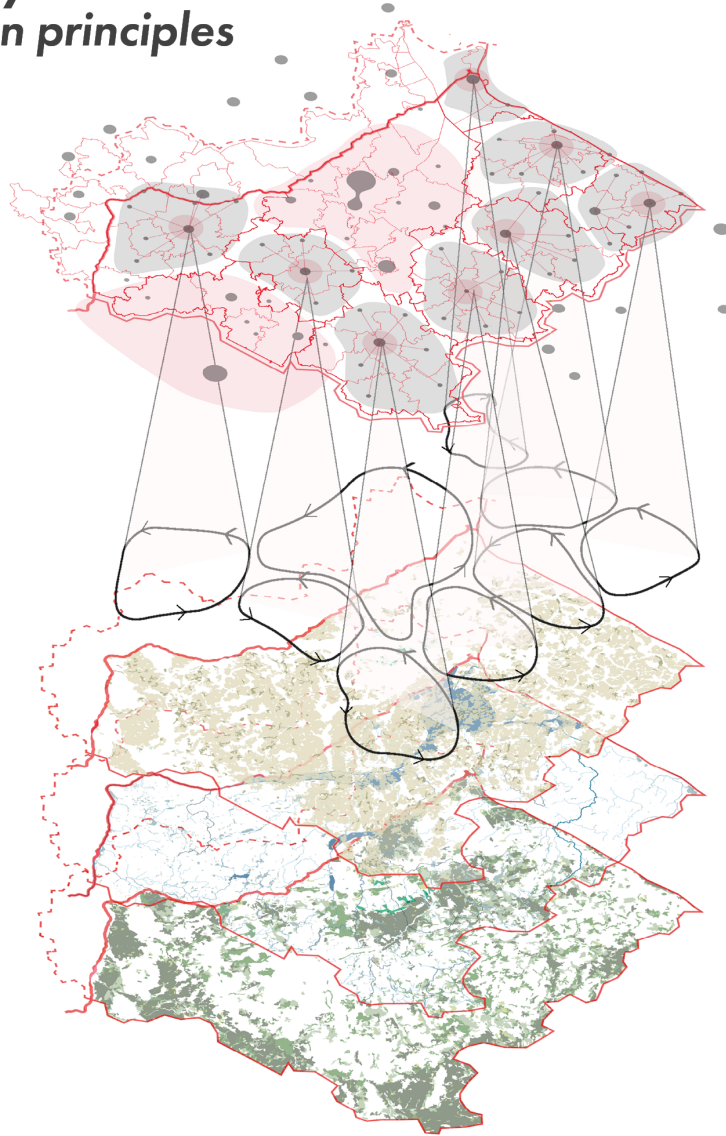
Strategy

Strategy Vision



Strategy

4 Design principles



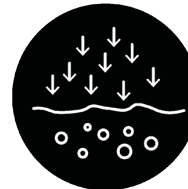
1. Strengthening social infrastructure

Improving conditions for the commons



2. Regenerating the production

Diversifying local production, enhancing local distribution



3. Rising absorption capacity

Responsive water management



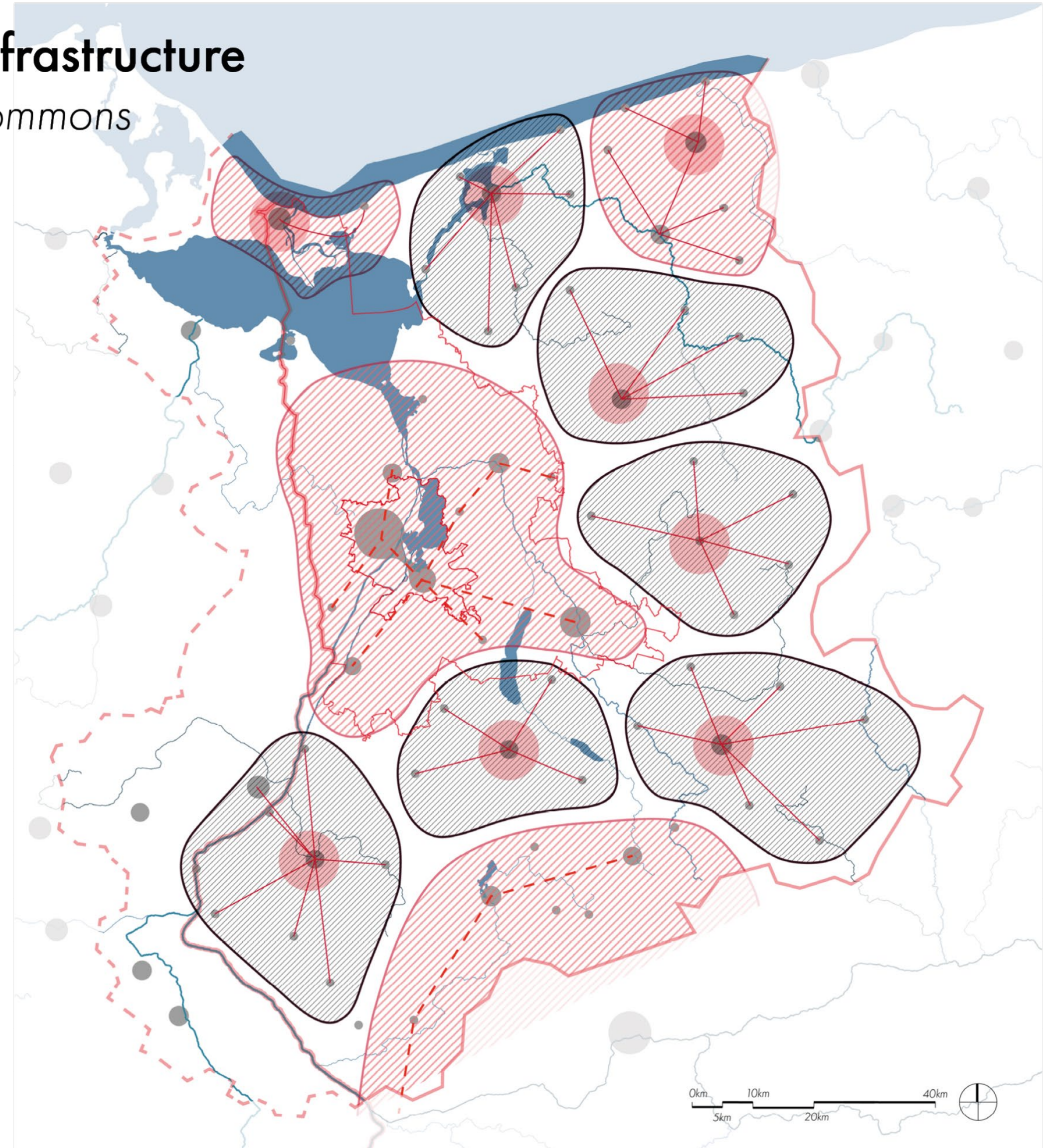
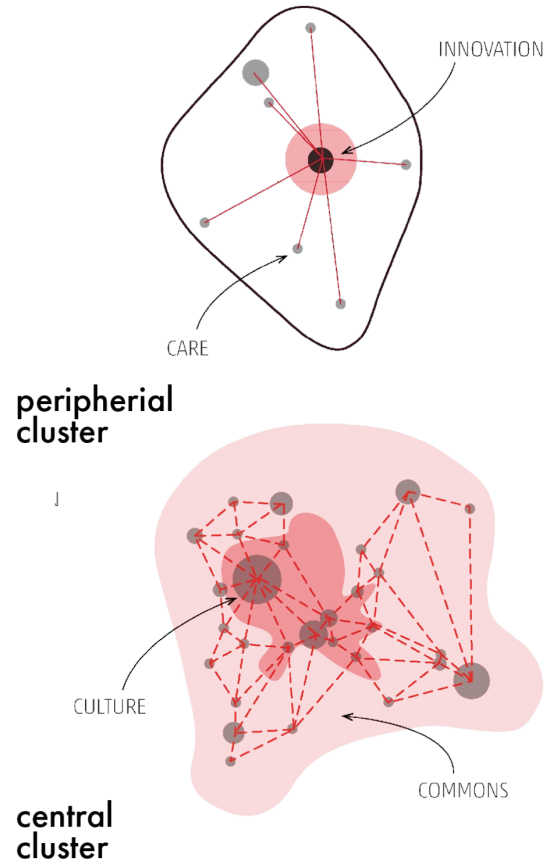
4. (RE)Creating Protected Areas

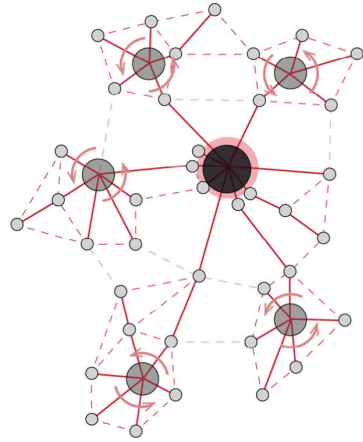
Regional (biological) identity



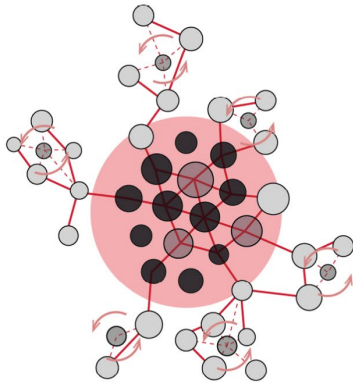
1. Strengthening social infrastructure

Improving conditions for the commons

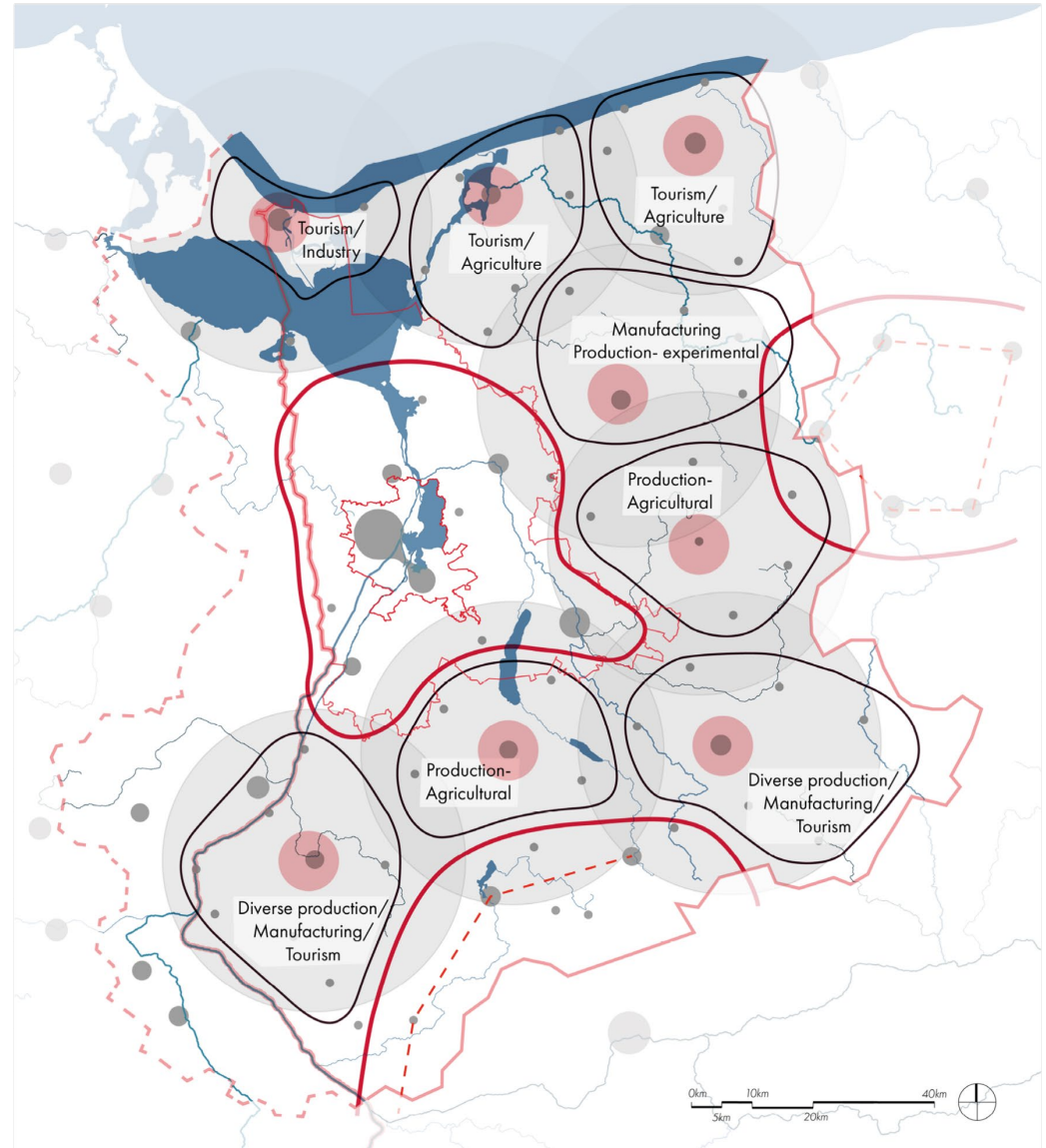




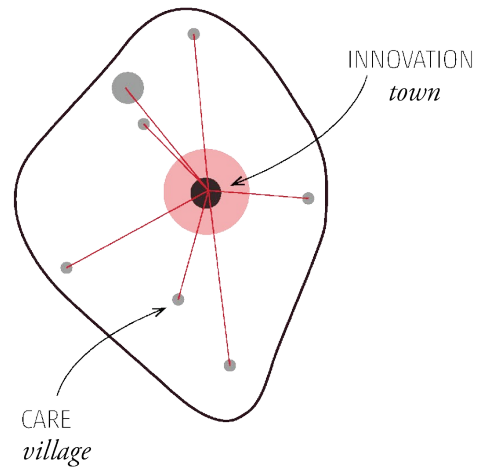
relation
villages - town



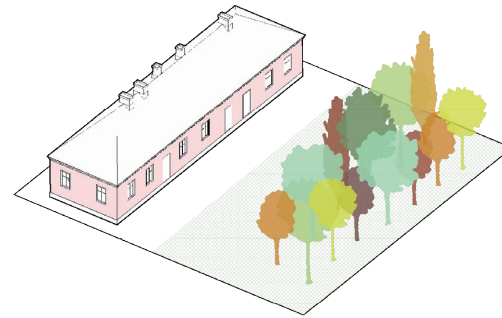
relation
city-suburbs



Peripheral cluster



1.1. Innovation centre (towns)



1.2. Care facilities (villages)

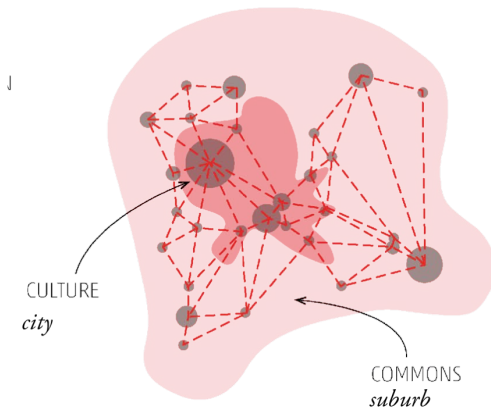


source: www.assemblestudio.co.uk

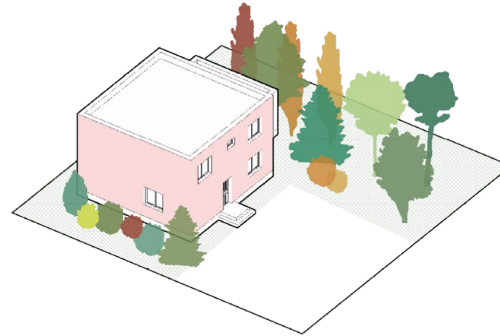


source: www.pozatorun.pl

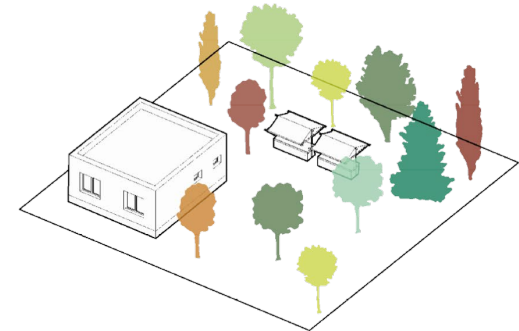
Central cluster



1.3. Culture centre (city)



1.4. Space for the commons (suburbs)



source: www.projektinwestor.pl



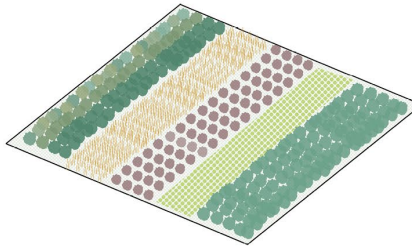
source: www.metrowarszawa.gazeta.pl



2. Regenerating the production

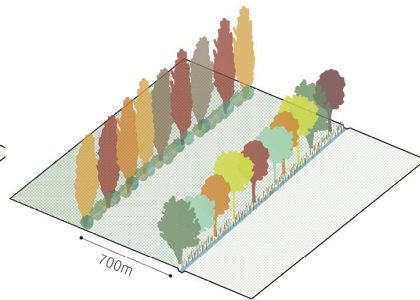
*Diversifying local production,
enhancing local distribution*

2.1. Organic Agriculture



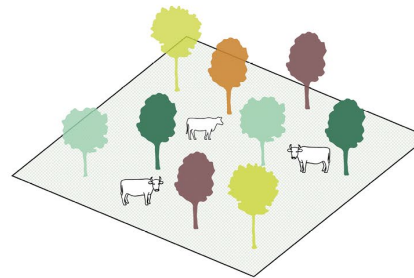
source: www.ecoarka.com.pl

2.2 Buffer strips



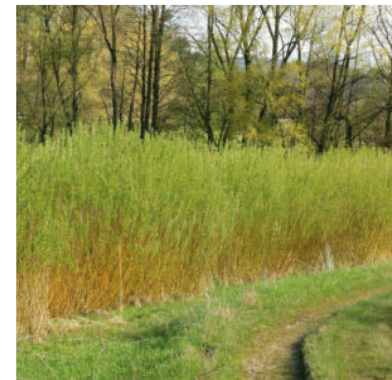
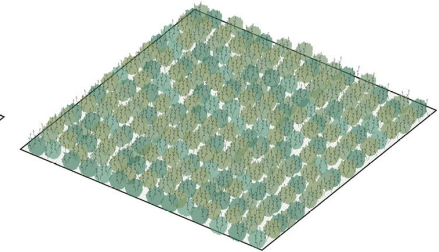
source: ocplayer.pl/57691063-Zadrzewienia-srodpolne.html

2.3. Silvopasture and Agroforestry

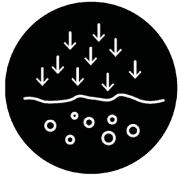


source: www.foodandforest.co.uk

2.4. Shift in production type



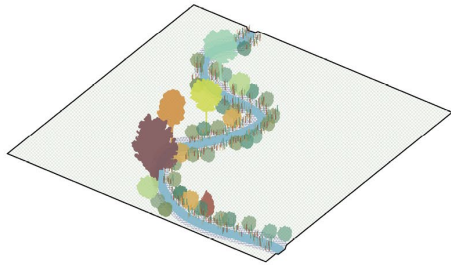
source: www.murator-dom.pl



3. Rising absorption capacity

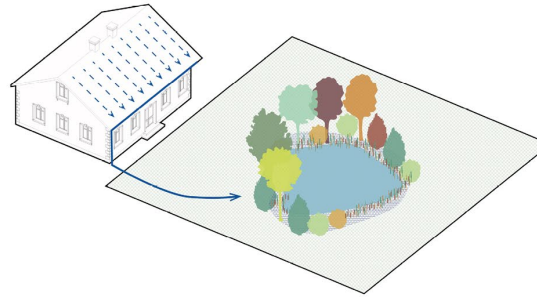
Responsive water management

3.1. Renaturalisation



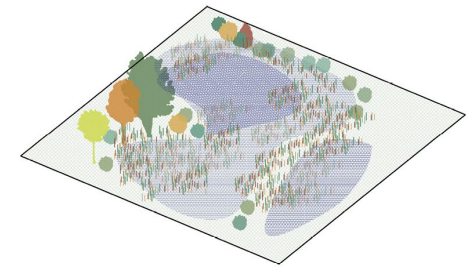
source: Marcin Budniak, facebook.com/TPRLiG

3.2. Collecting



source: Jackie Webb, theconversation.com

3.3 Protected (wet) lands



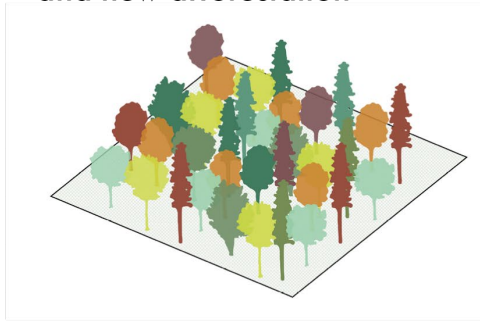
source: www.wikipedia.pl



4. (RE)Creating Protected Areas

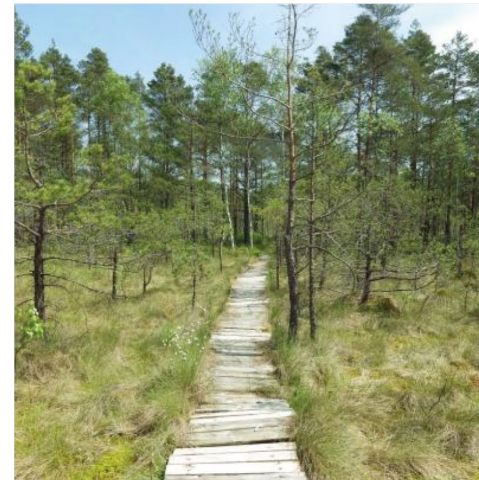
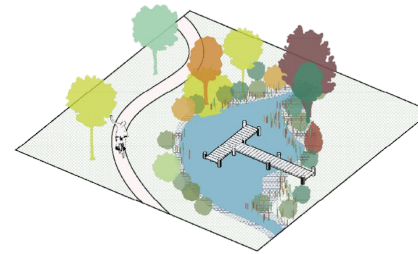
Regional (biological) identity

4.1. Forest renewal and new afforestation



source: rebnie.wl.sggw.pl

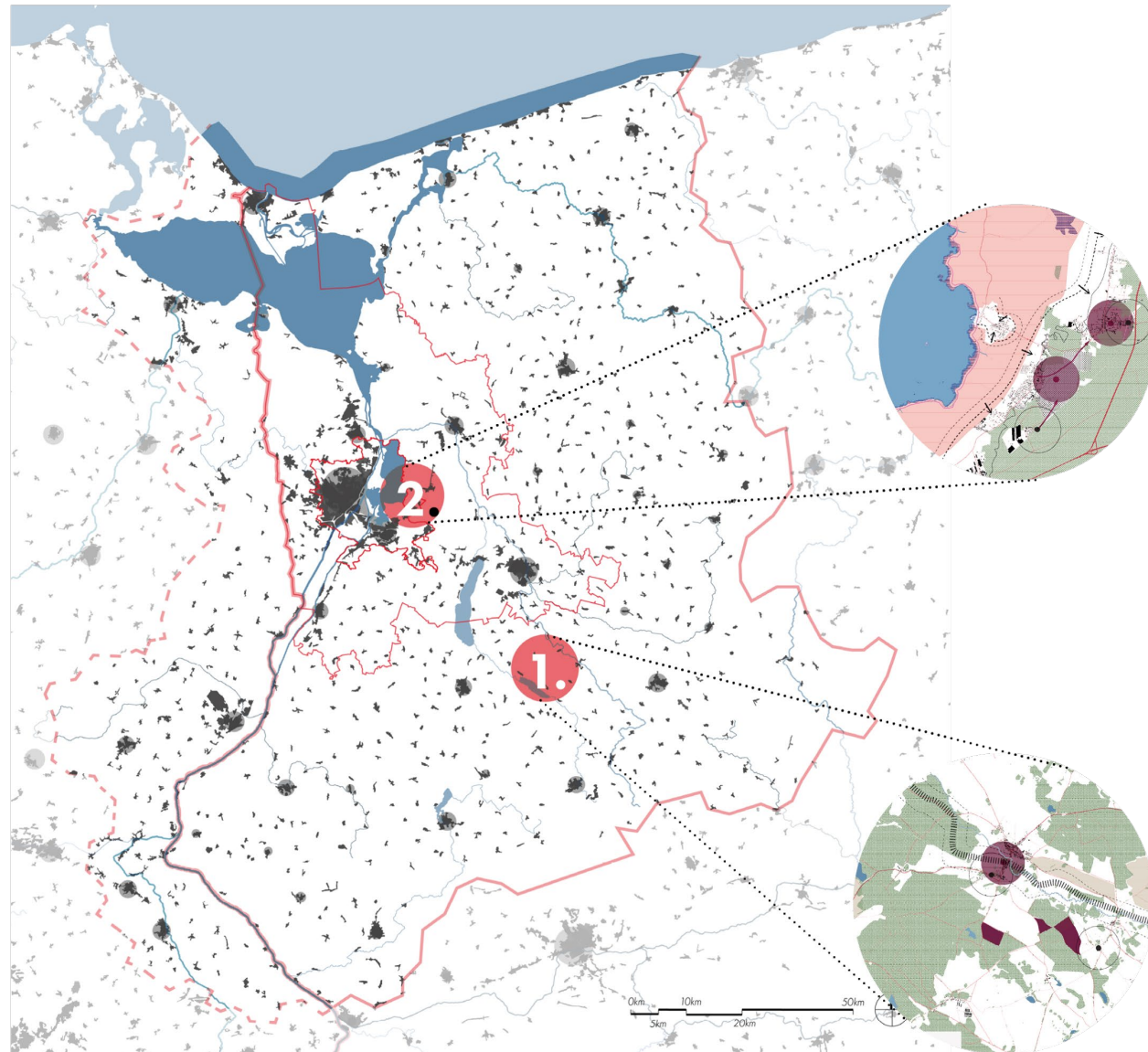
4.2. Small infrastructure



source: www.szczecinek.szczecinek.lasy.gov.pl

Spatial interventions

Design interventions



1 - Dolice village

Landscape changes



source: author

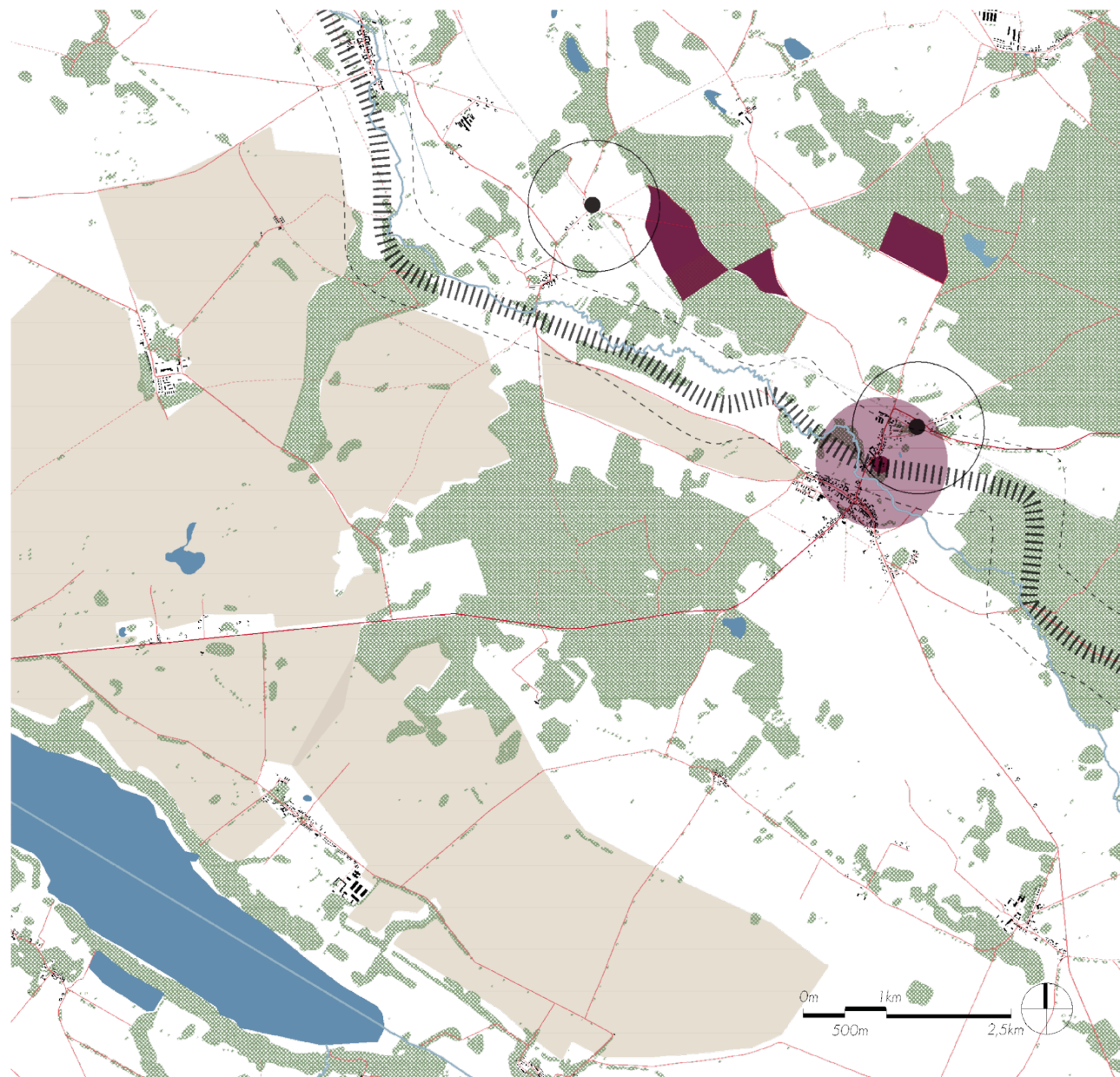
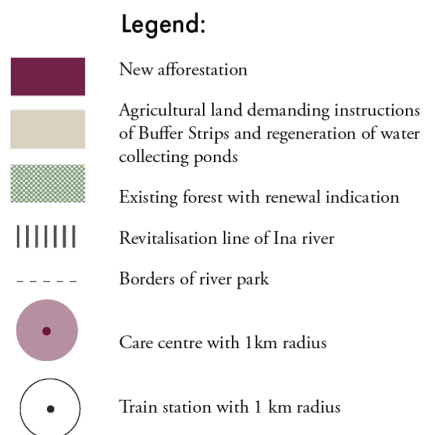


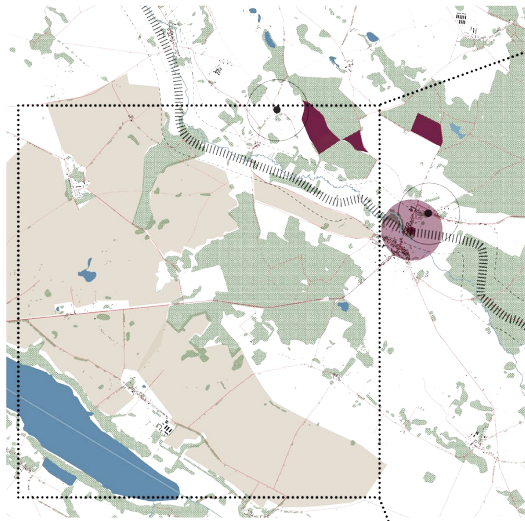
source: author





1 - Dolice village

Landscape changes



**Legend:**

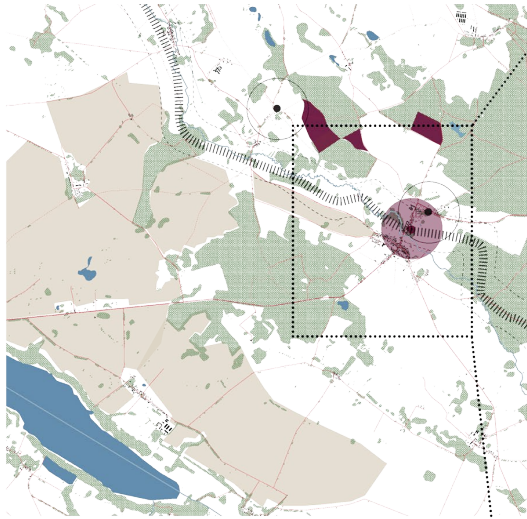
-  Localization of organic farm
-  Buffer Strips

Landscape changes











Landscape changes





Legend:

-  Land use change into energetic willow
-  New afforestation
-  Land use change into naturalized meadows
-  Deepened and cleaned water ponds
-  Maintain stream of Ina river
-  Buffer strips along field roads
-  Local park and experimental garden
-  Care center localized in the vacant plot



Landscape changes with Care facility



Landscape changes with Care facility



2 - Szczecin Załom

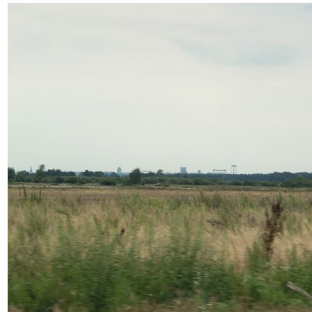
Controlled expansion

Single-family
housing



source: author

Wetlands

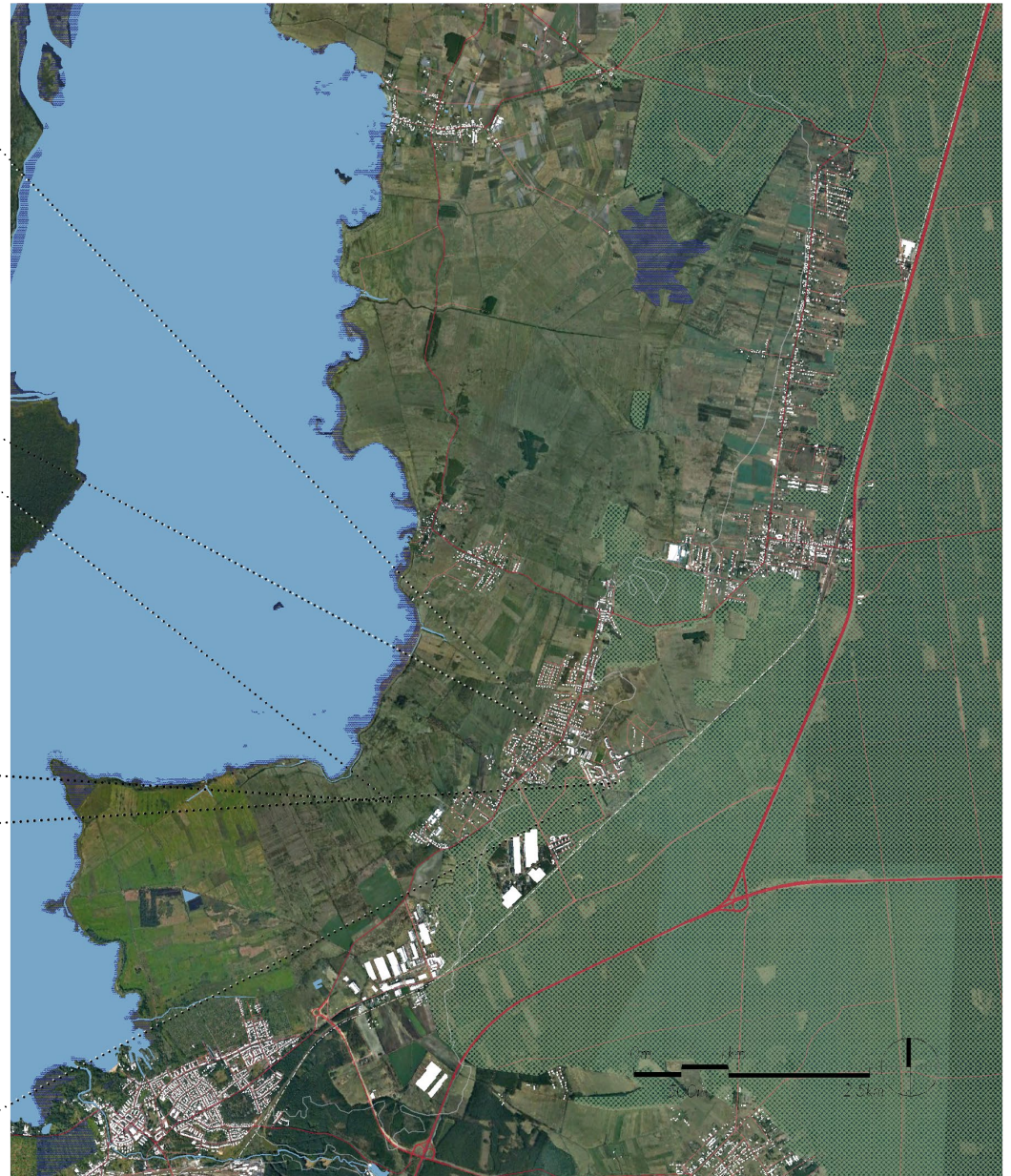


source: author

Kasztanowe
neighbourhood

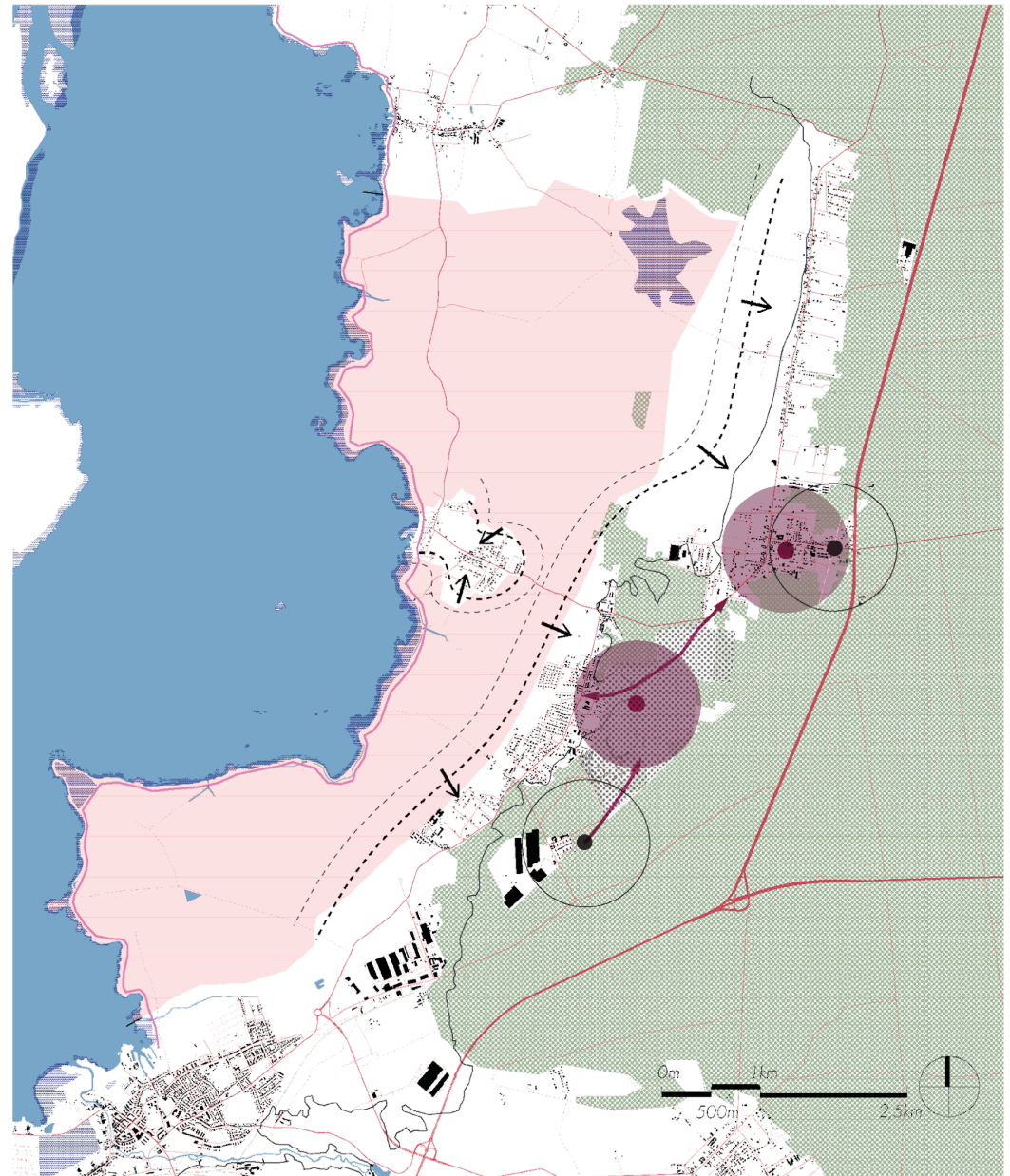


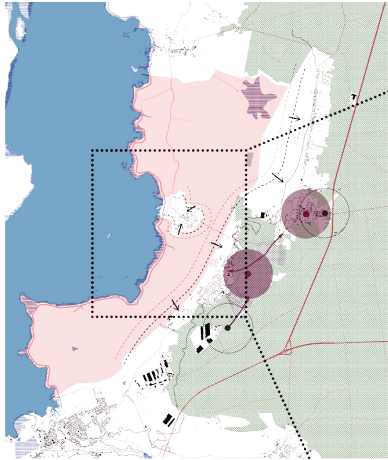
source: author






2 - Szczecin Załom

Controlled expansion



**Legend:**

-  Land use change into energetic willow
-  New afforestation
-  Land use change into naturalized meadows

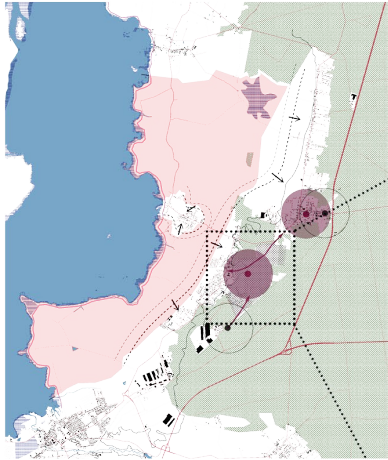


Landscape changes






Landscape changes





Legend:

-  Existing area design for the housing
-  Proposed areas for the housing
-  Proposed area for public facilities
-  Proposed area for green buffer zones
-  Proposed area for production facilities
-  Demolished road
-  Proposed new municipal road
-  Example of housing types



Controlled expansion with Space for the Commons



Conclusions



Thank you

