

Functional land management for climate change mitigation

17.06.2020.

Aleksejs Nipers

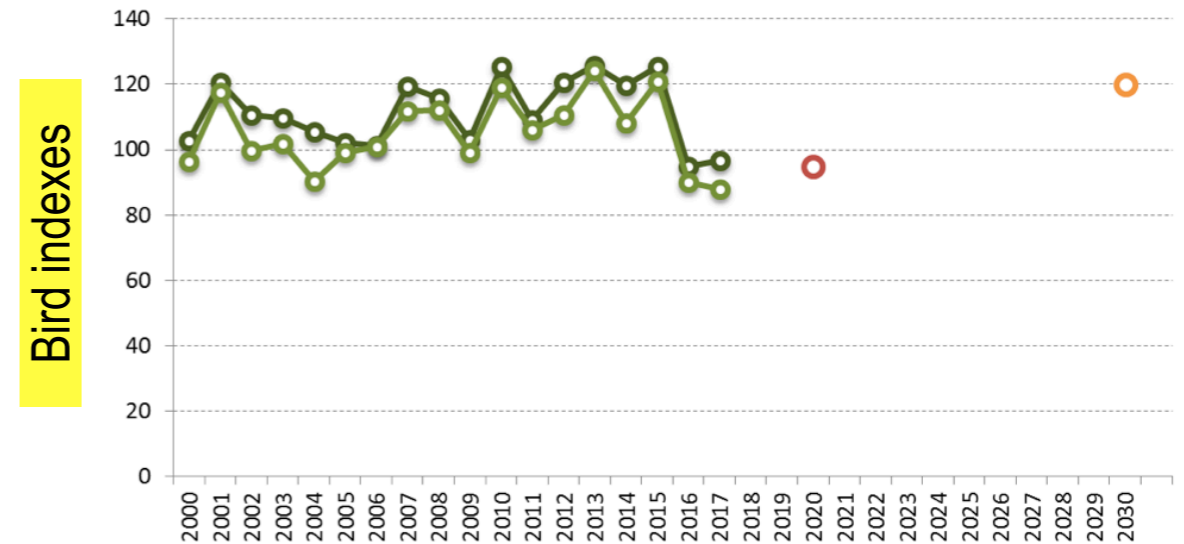
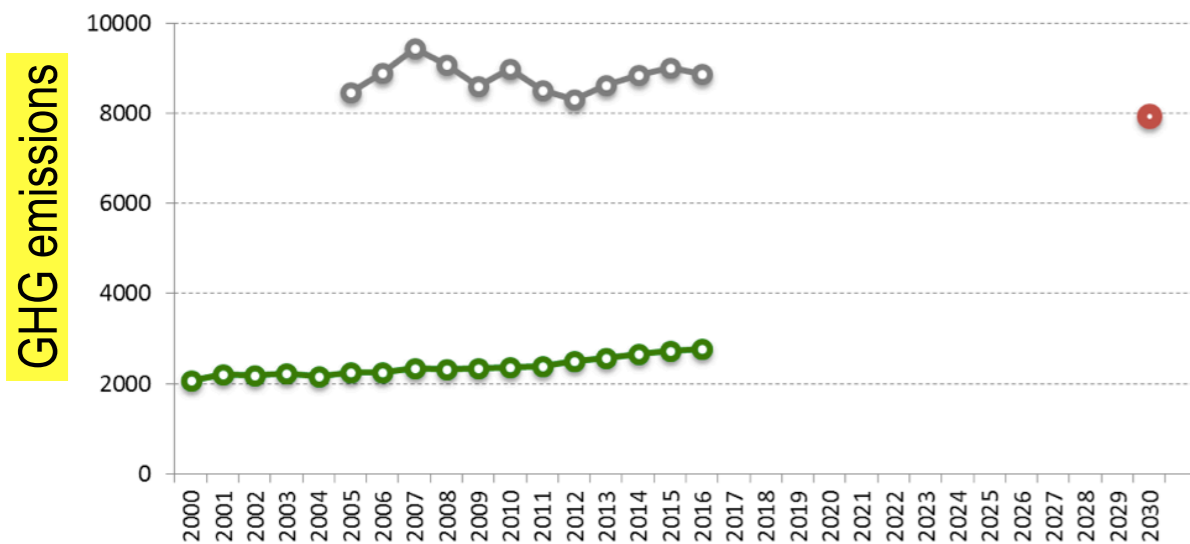
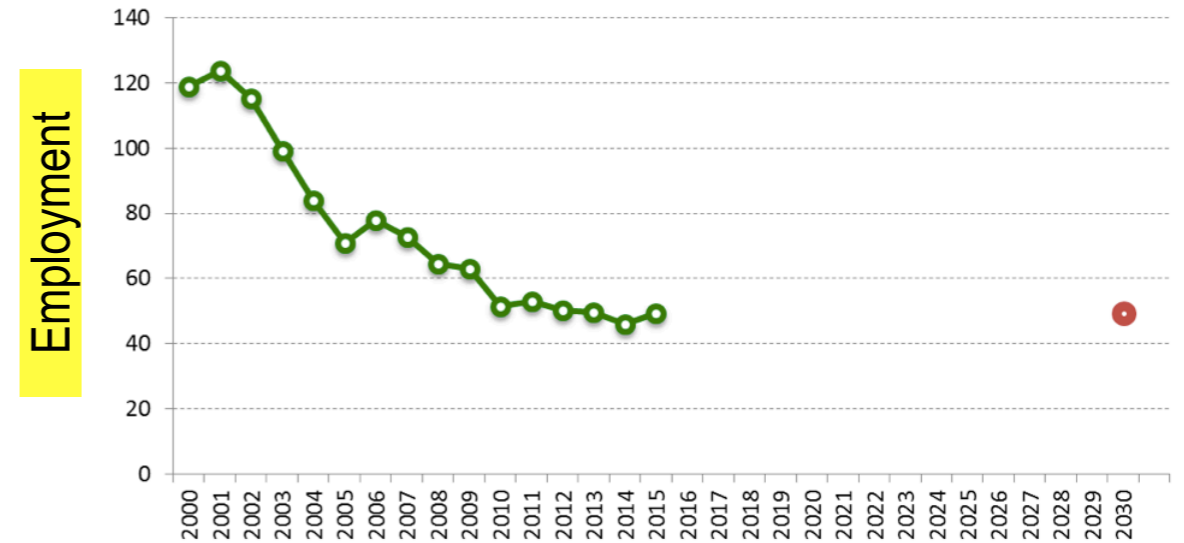
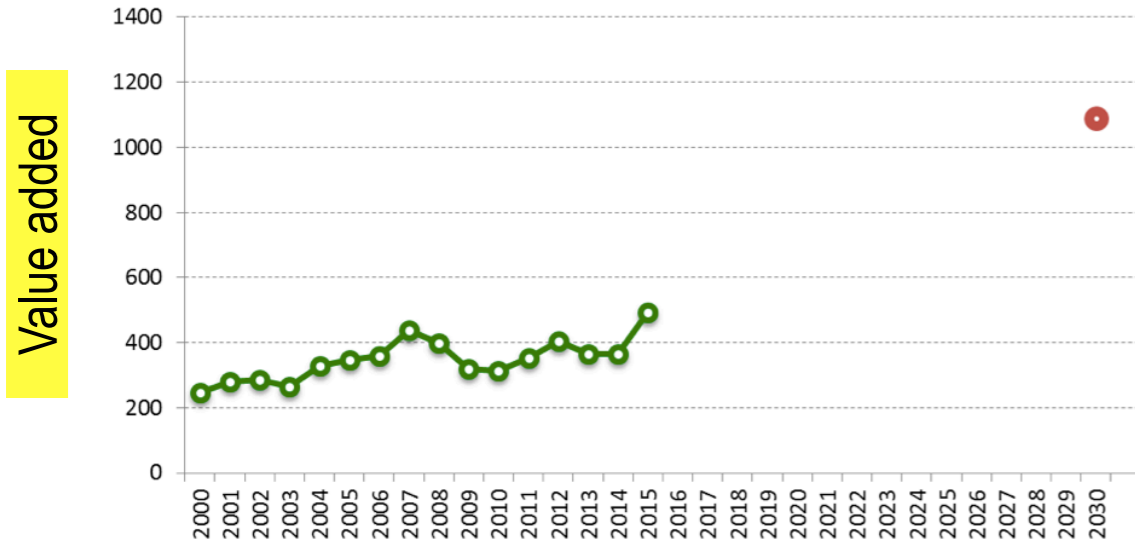
LIFE OrgBalt, LIFE18 CCM/LV/001158

EU LIFE Programme project

“Demonstration of climate change mitigation potential
of nutrients rich organic soils in Baltic States and Finland”

Many different political objectives

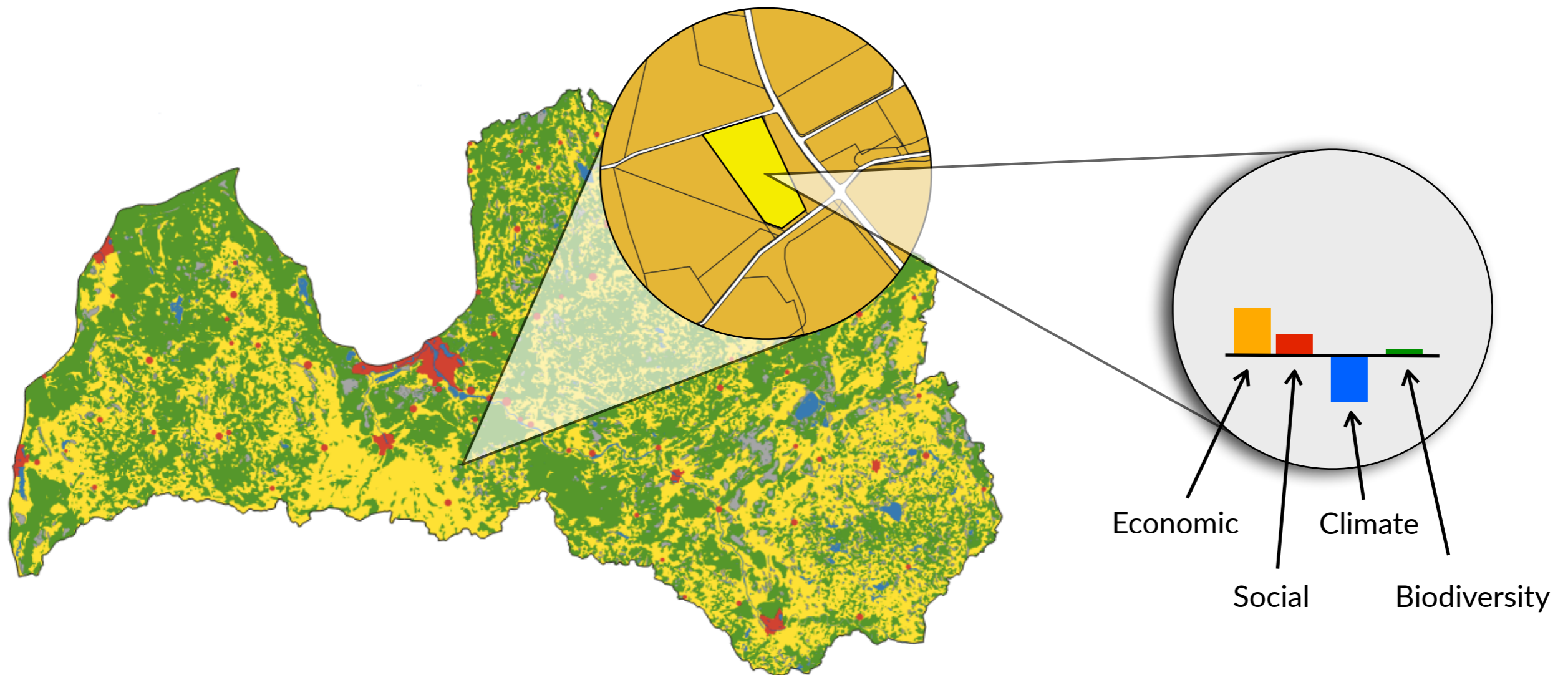
Supply of productive land is not increasing
Demand for different land “functions” is increasing



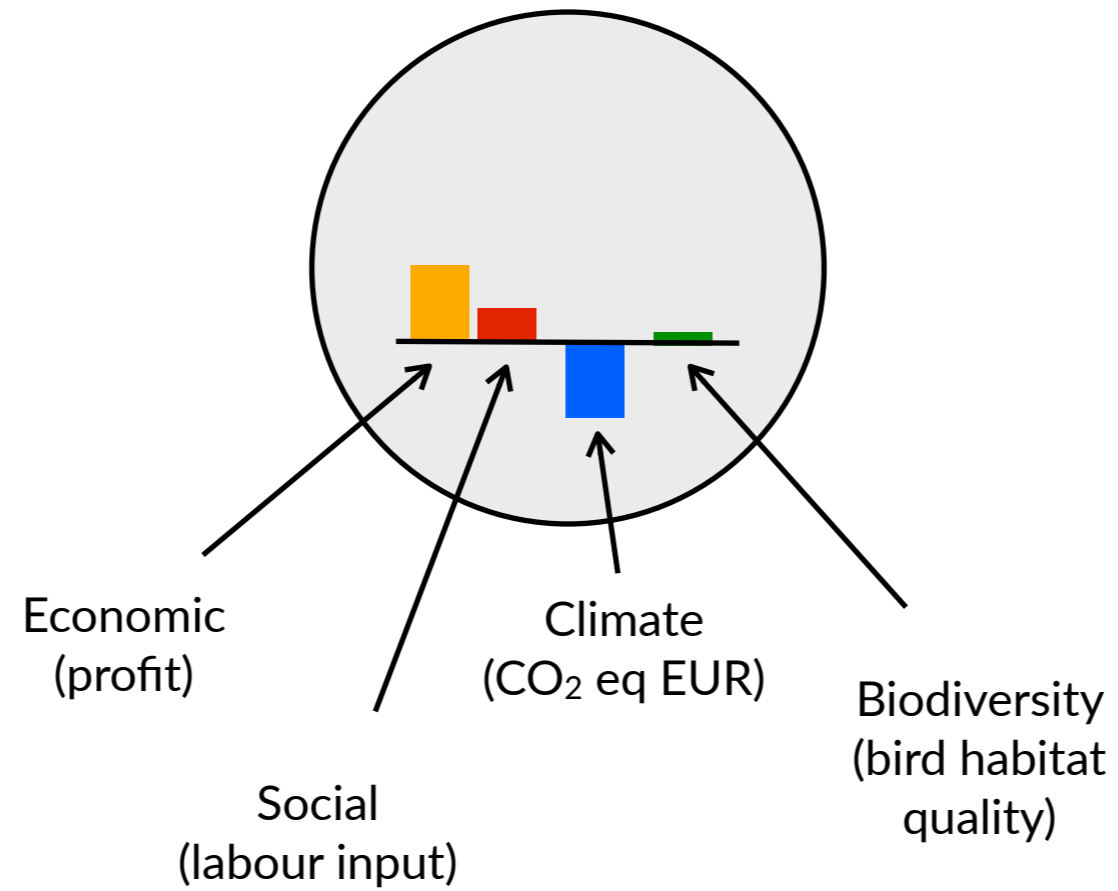
... LULUCF, ammonia, water quality, other objectives

Land functions

Depending on how do we use land, location, land quality and other factors, land performance can be different

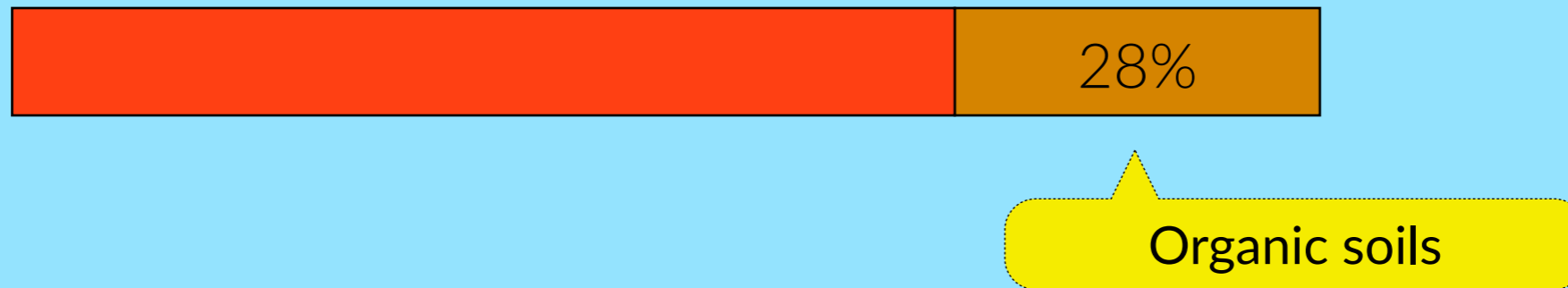


Land functions



Emissions form agriculture

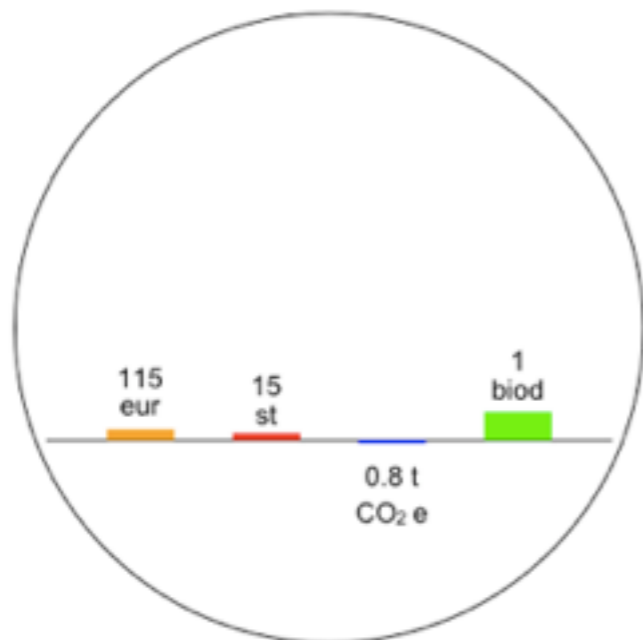
Emissions in agriculture (incl. from organic soils)



Examples

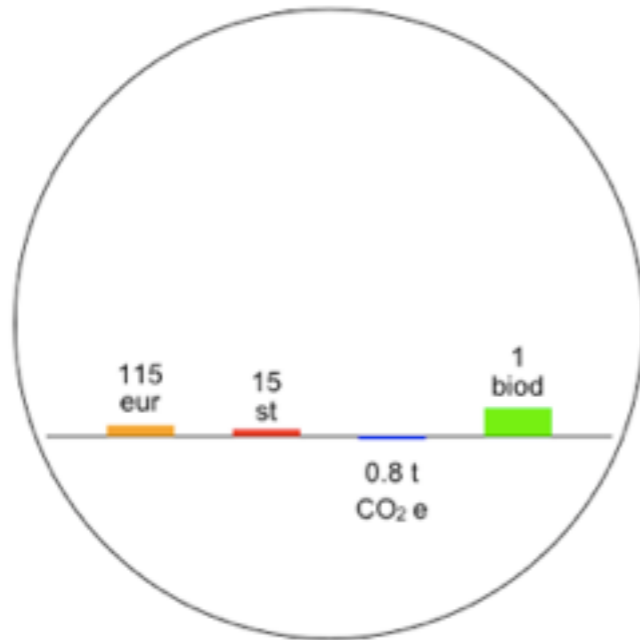
Grains

Grains, 40 points, large farm,
conventional, homogeneous
landscape

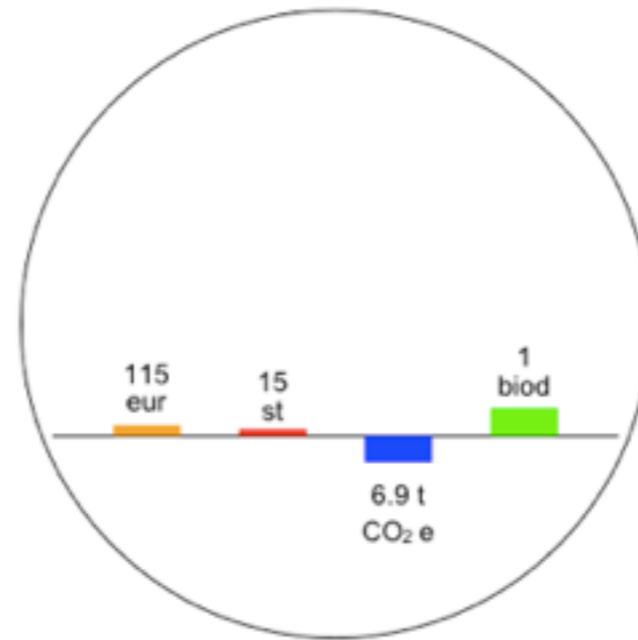


Grains

Grains, 40 points, large farm,
conventional, homogeneous
landscape

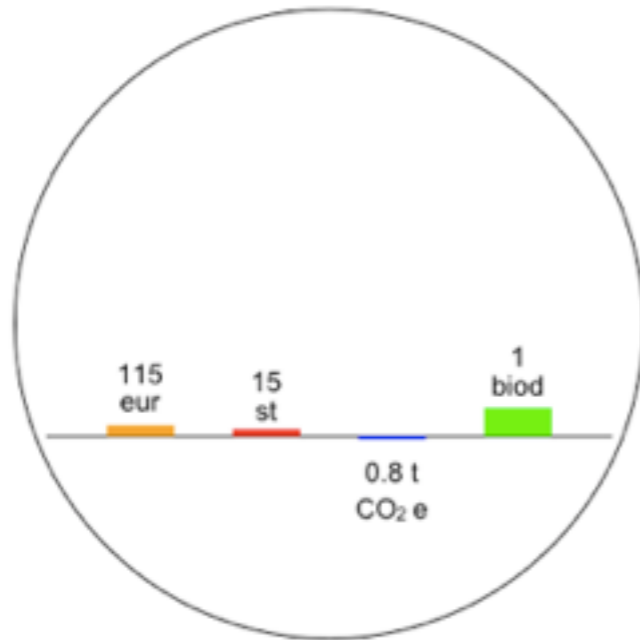


Grains, 40 points, large farm,
conventional, homogeneous
landscape, organic soil

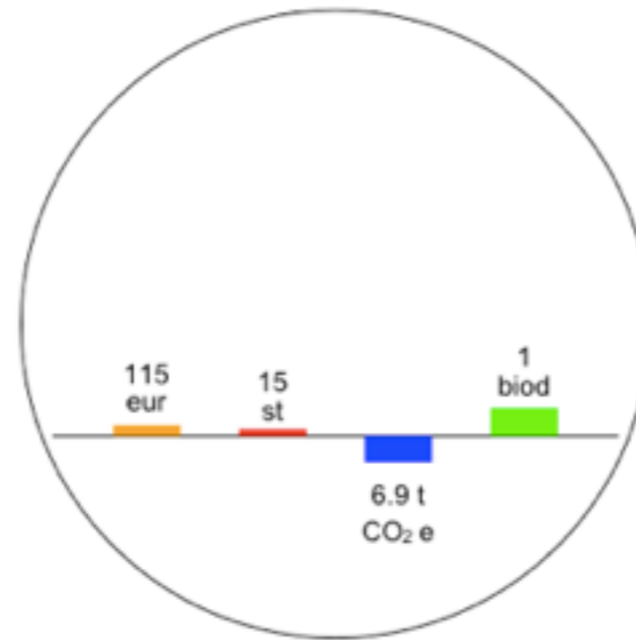


Grains

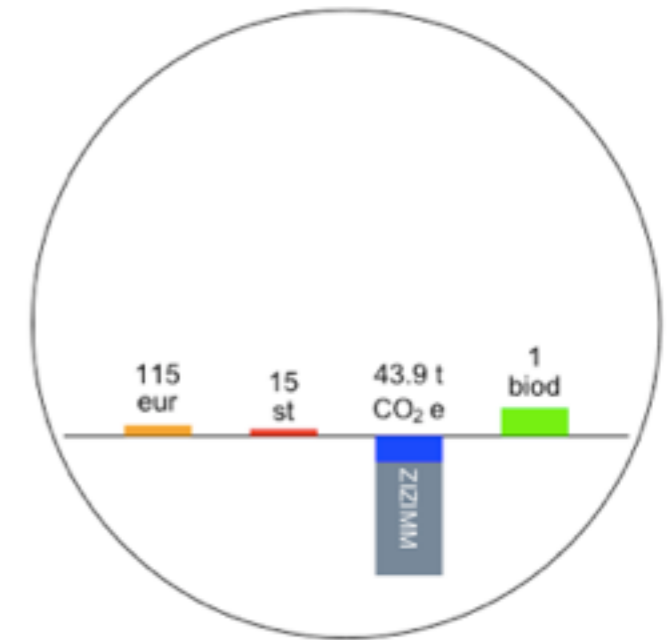
Grains, 40 points, large farm,
conventional, homogeneous
landscape



Grains, 40 points, large farm,
conventional, homogeneous
landscape, organic soil

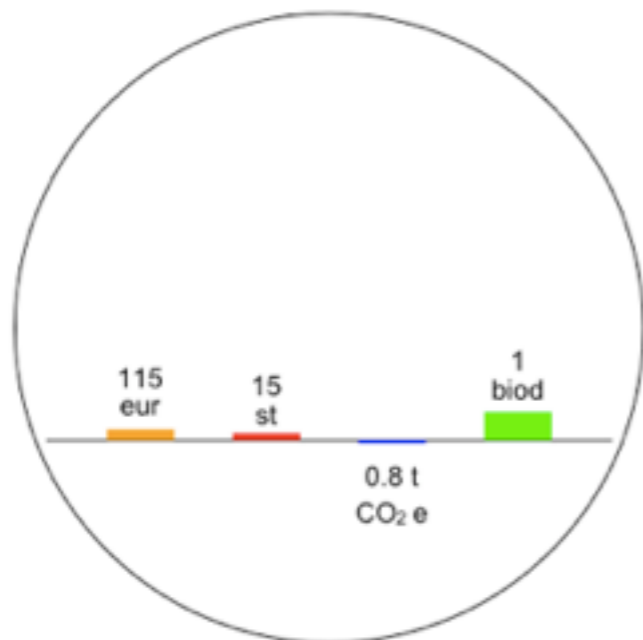


Grains, 40 points, large farm,
conventional, homogeneous
landscape, organic soil (with LULUCF)

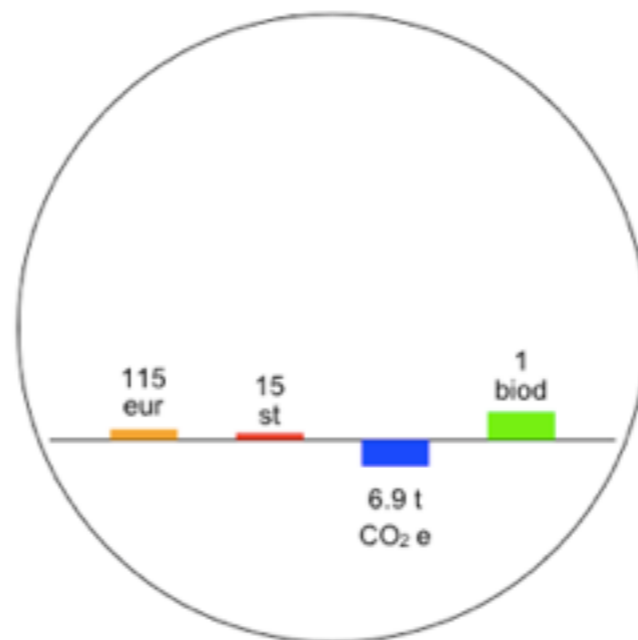


Grains

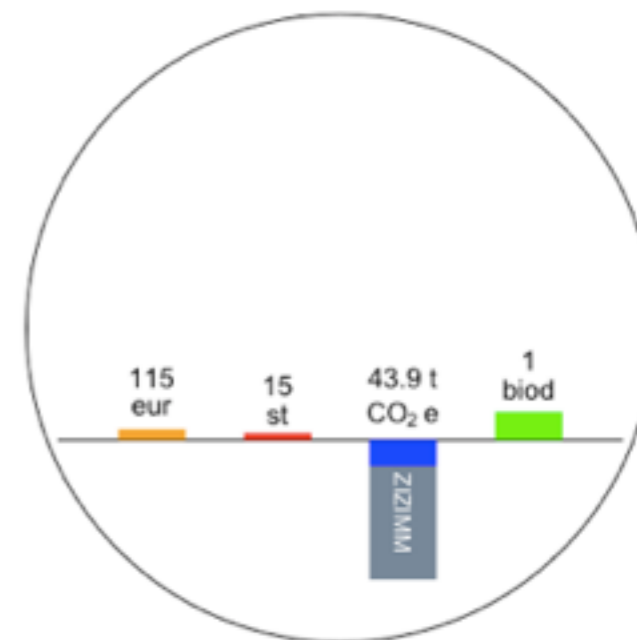
Grains, 40 points, large farm, conventional, homogeneous landscape



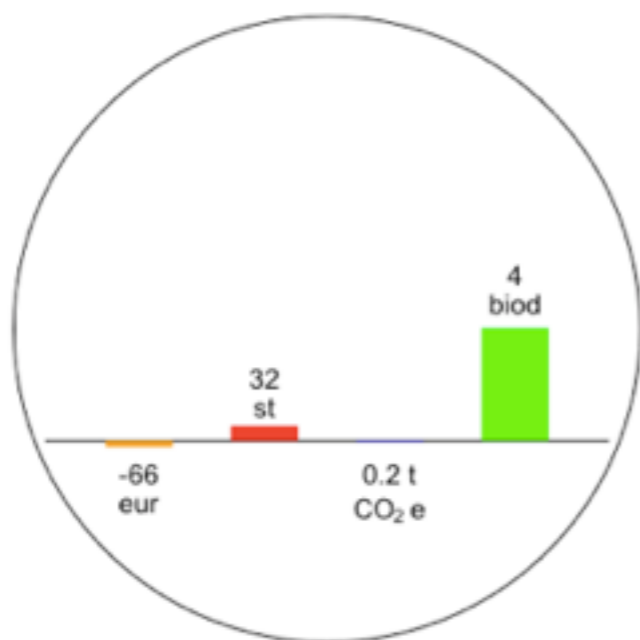
Grains, 40 points, large farm, conventional, homogeneous landscape, organic soil



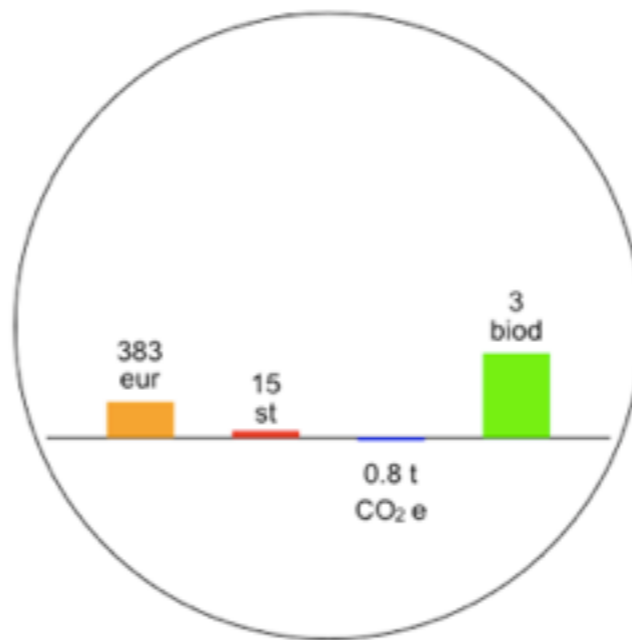
Grains, 40 points, large farm, conventional, homogeneous landscape, organic soil (with LULUCF)



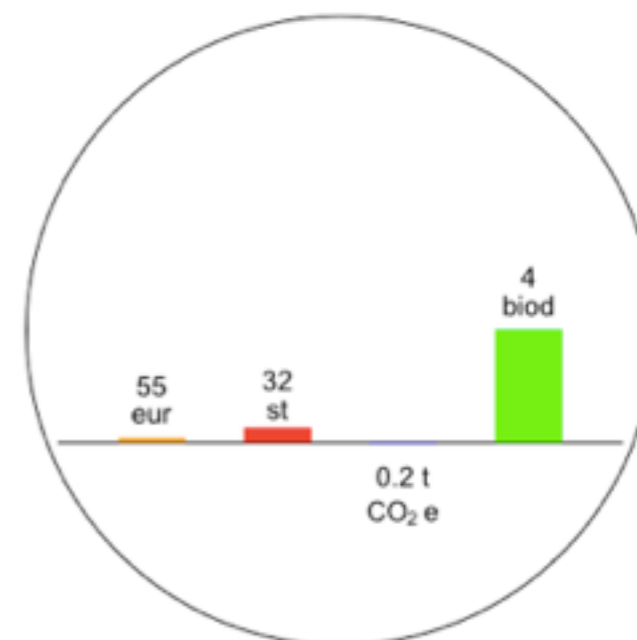
Grains, 30 points, small farm, bioorganic, heterogeneous landscape



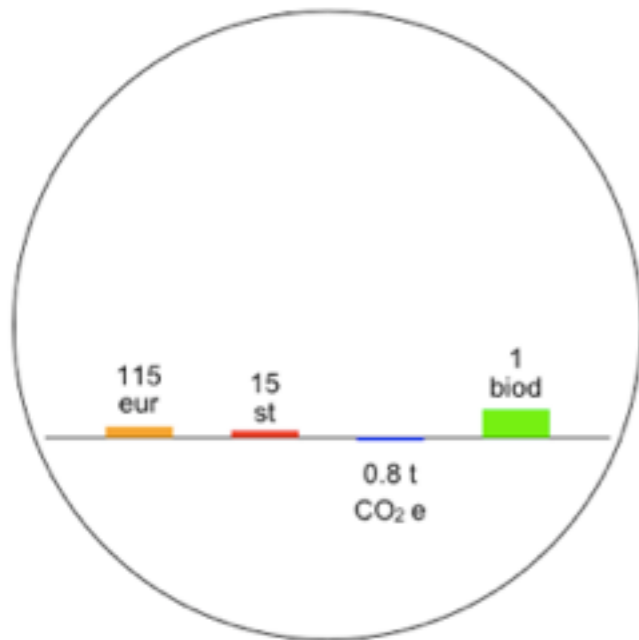
Grains, 60 points, large farm, conventional, heterogeneous landscape



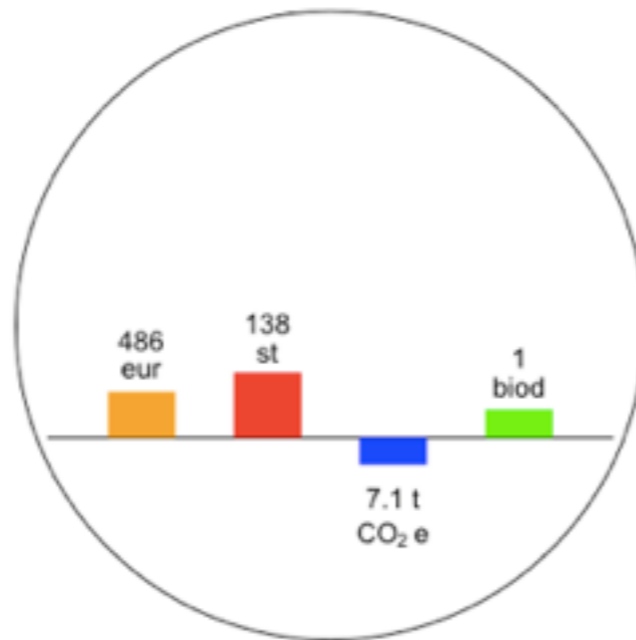
Grains, 40 points, small farm, bioorganic, heterogeneous landscape



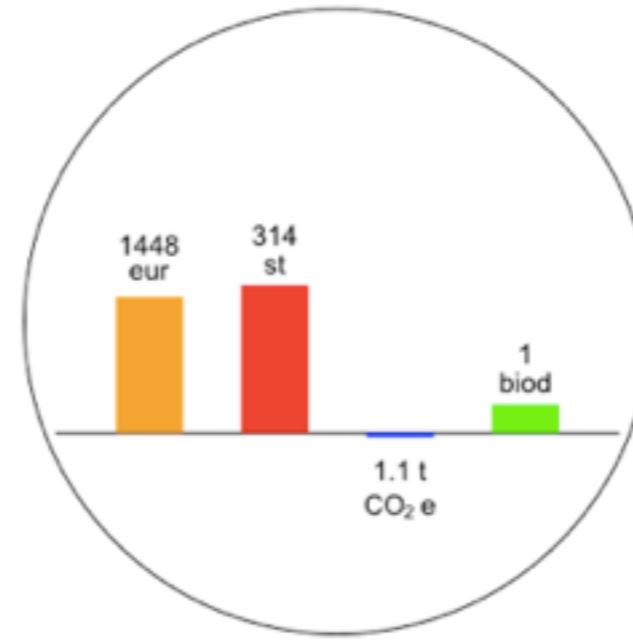
Grains, 40 points, large farm, conventional, homogeneous landscape



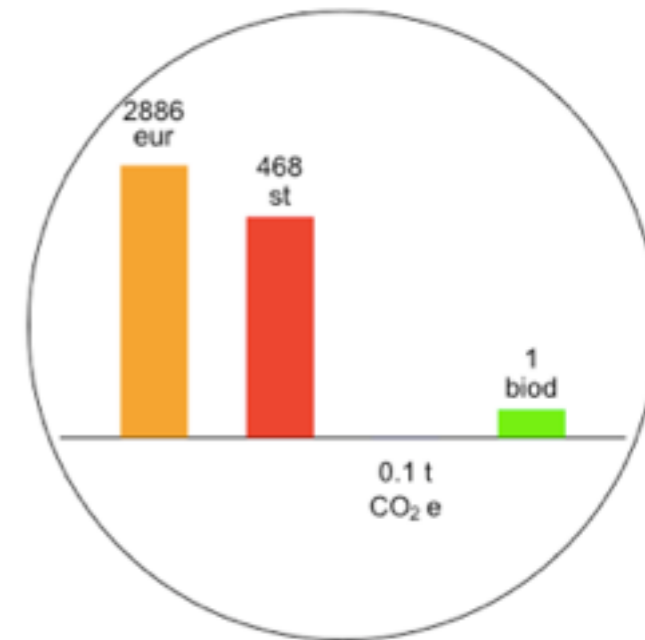
Milk, intensive, large farm, grassland in arable, 40 points, homogeneous landscape (1 ha / 1,5 dairy cows)



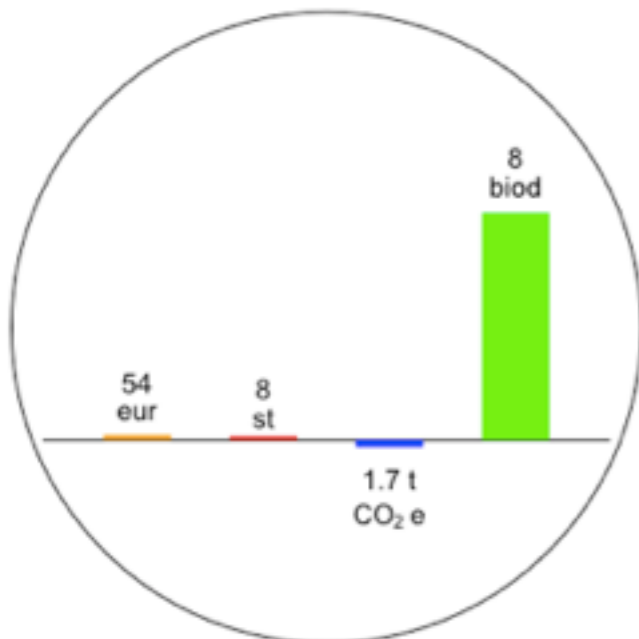
Vegetables, intensive, 40 points, large farm, conventional, homogeneous landscape



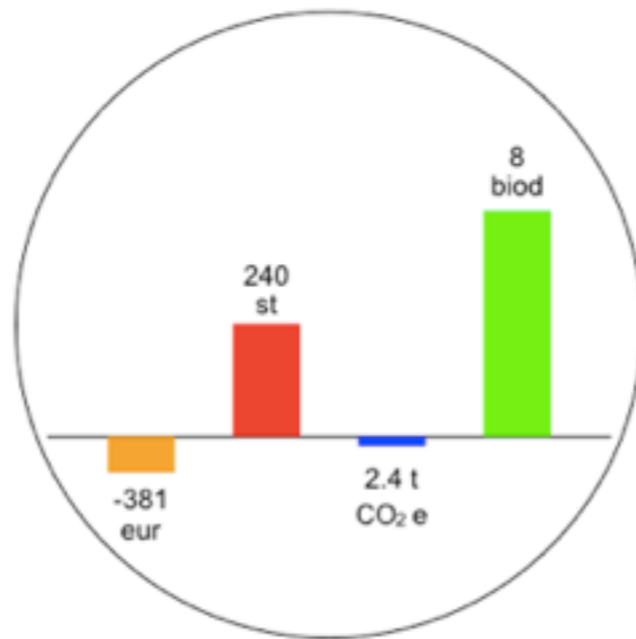
Fruits and berries, intensive, large farm, homogeneous landscape



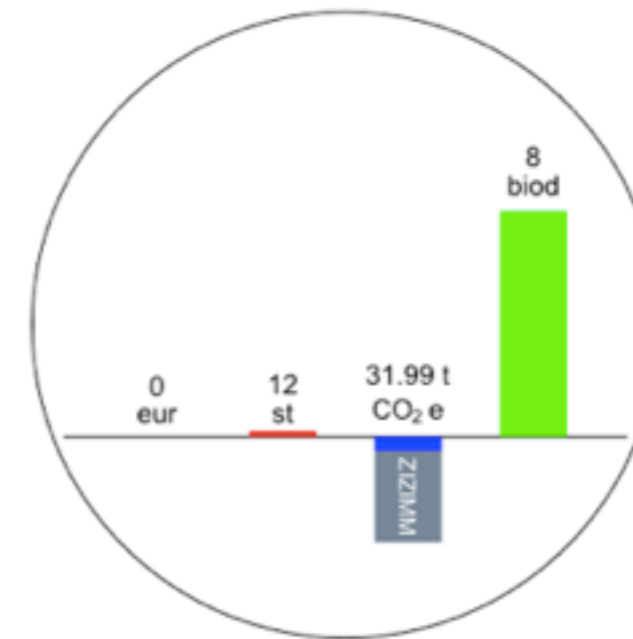
Suckling cows, extensive, average farm, heterogeneous (1 ha / 0,5 cows)



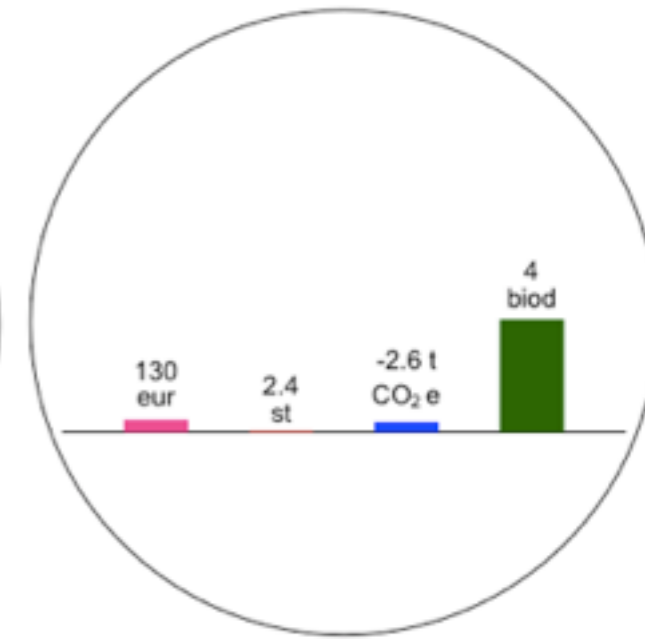
Milk extensive, very small farm, heterogeneous (1 ha / 0,5 cows)



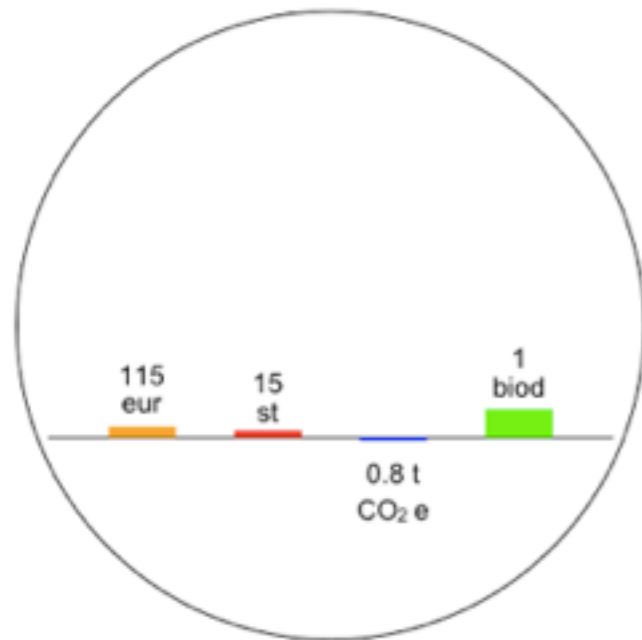
Mowing, small farm, heterogeneous, organic soil (with LULUCF)



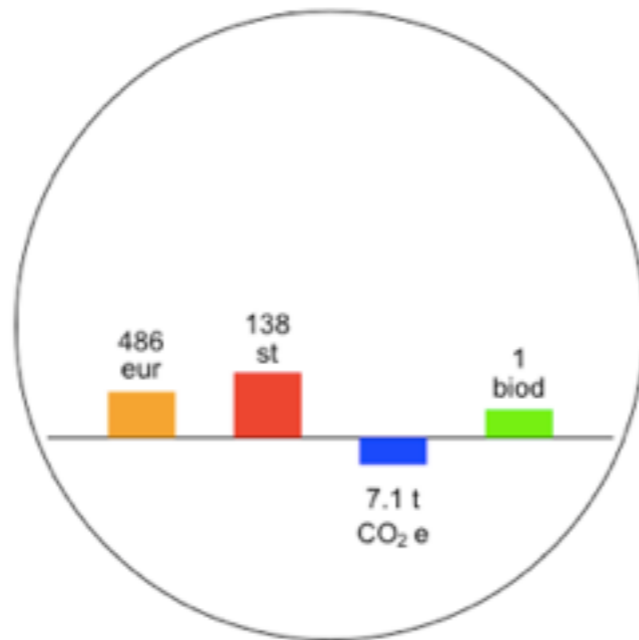
Spruce, land use change for agricultural land, 1 site quality



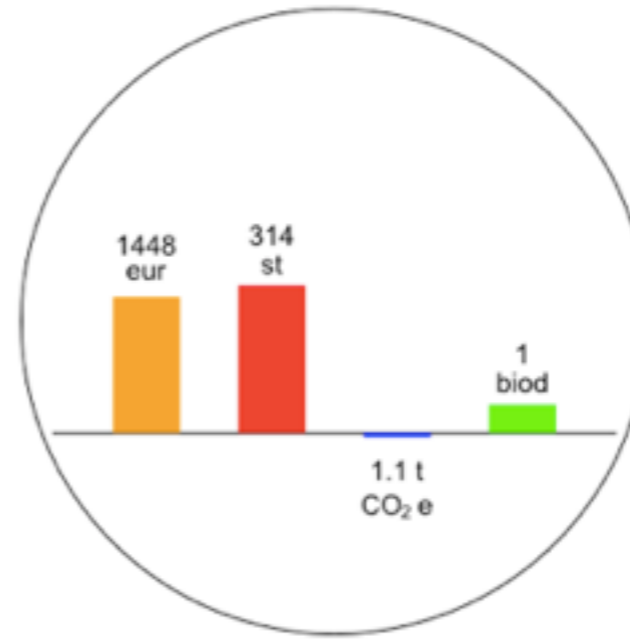
Grains, 40 points, large farm, conventional, homogeneous landscape



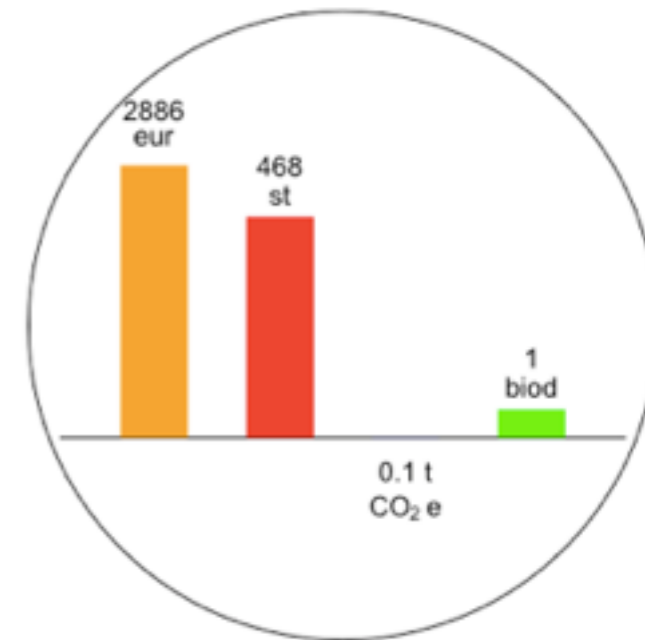
Milk, intensive, large farm, grassland in arable, 40 points, homogeneous landscape (1 ha / 1,5 dairy cows)



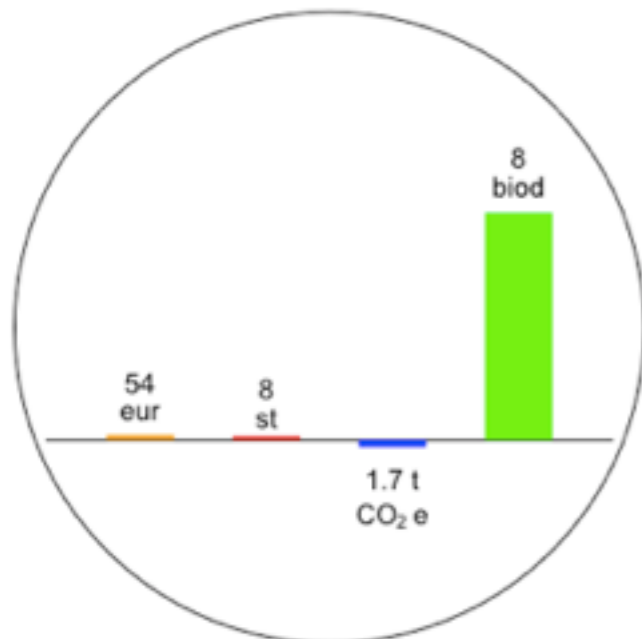
Vegetables, intensive, 40 points, large farm, conventional, homogeneous landscape



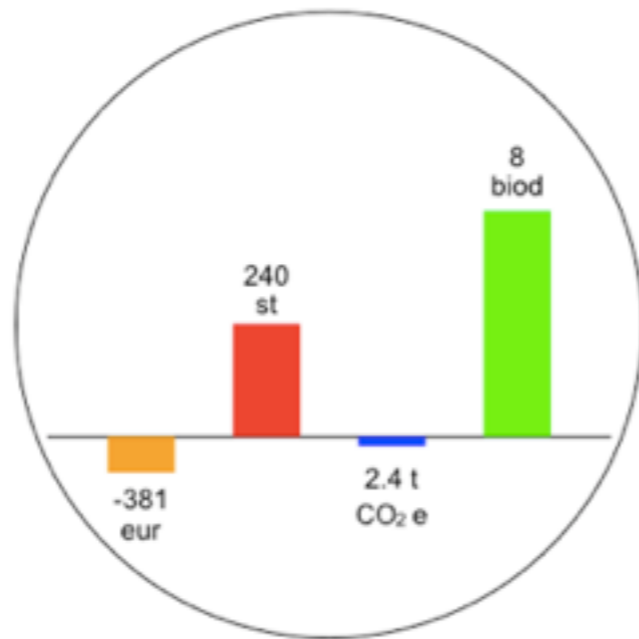
Fruits and berries, intensive, large farm, homogeneous landscape



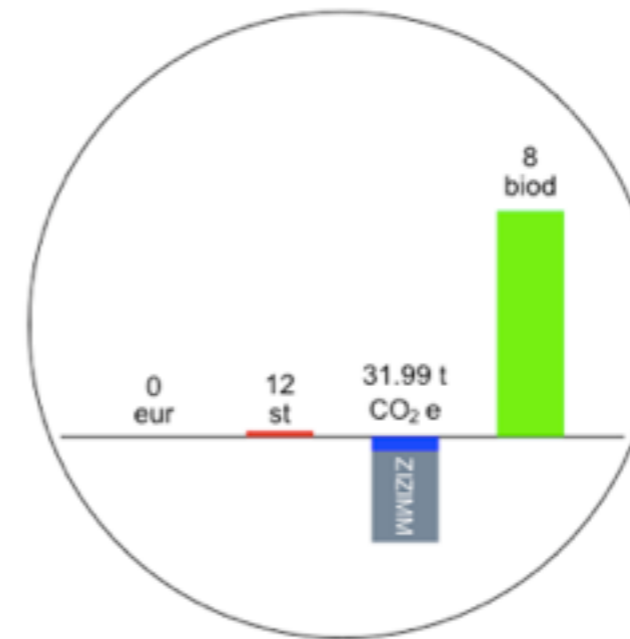
Suckling cows, extensive, average farm, heterogeneous (1 ha / 0,5 cows)



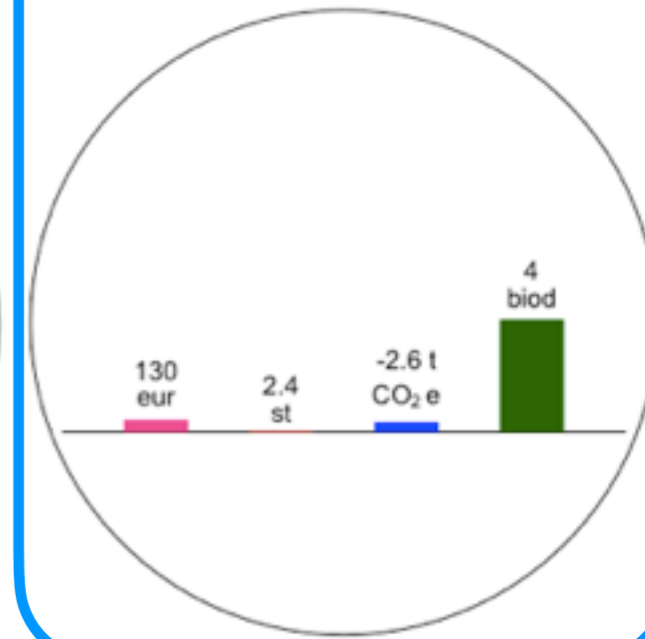
Milk extensive, very small farm, heterogeneous (1 ha / 0,5 cows)



Mowing, small farm, heterogeneous, organic soil (with LULUCF)

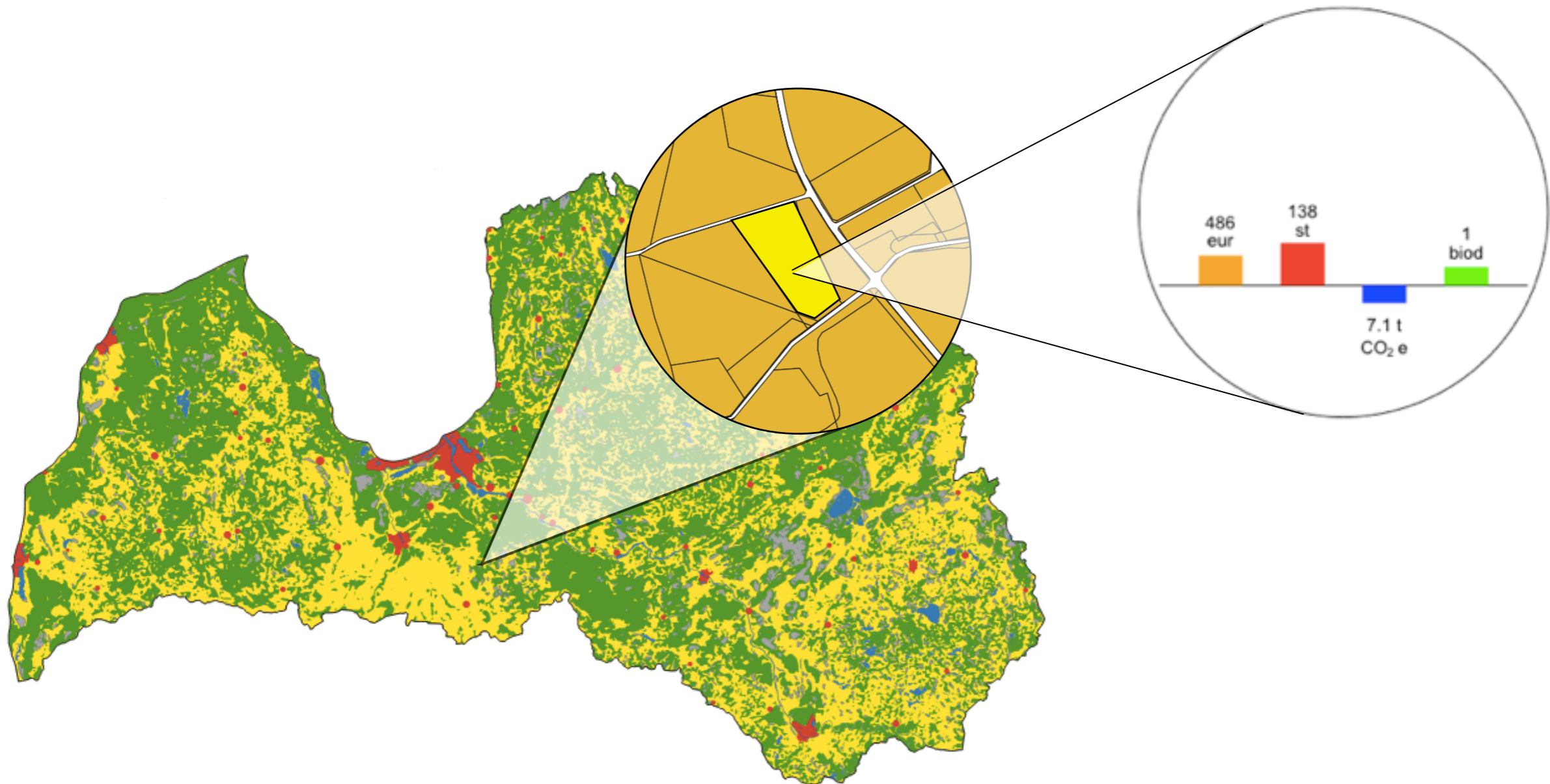


Spruce, land use change for agricultural land, 1 site quality



Land functions

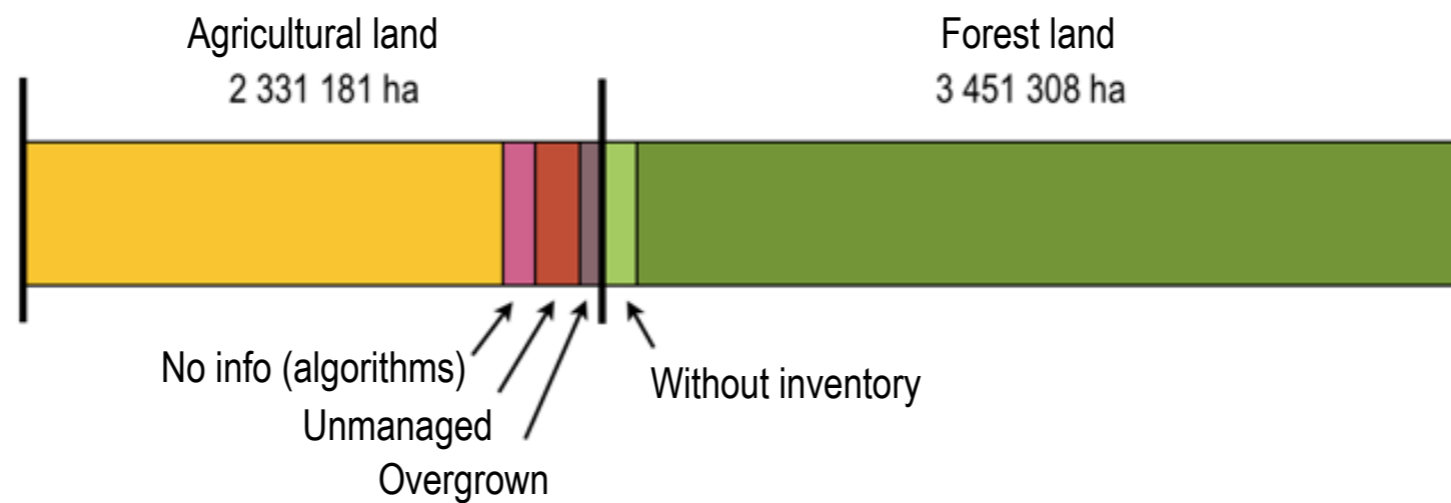
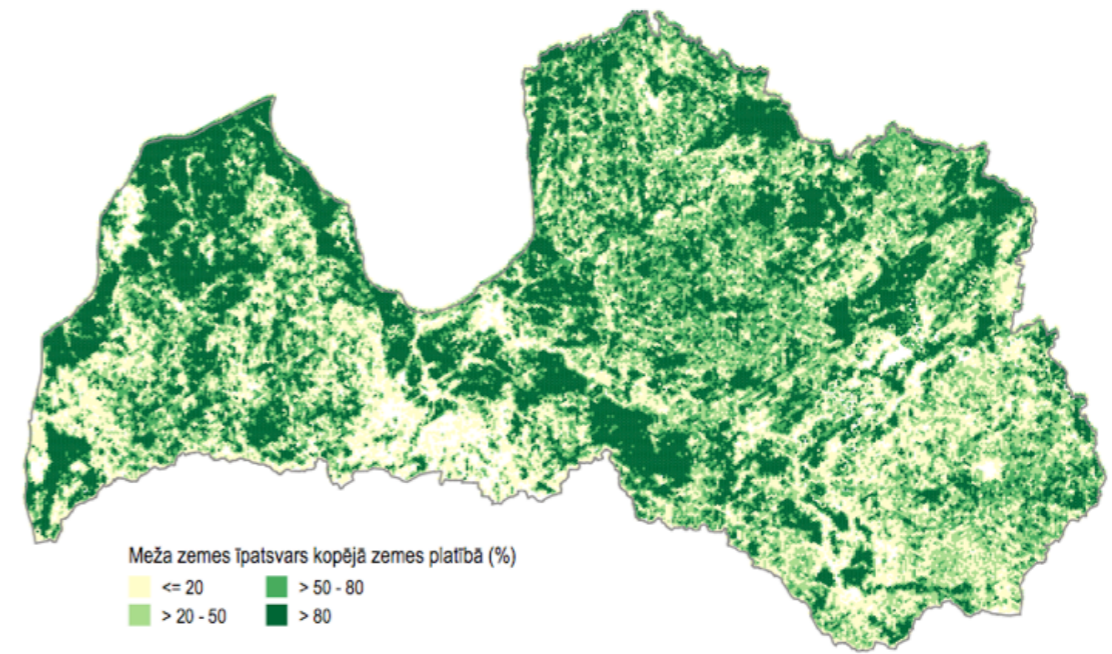
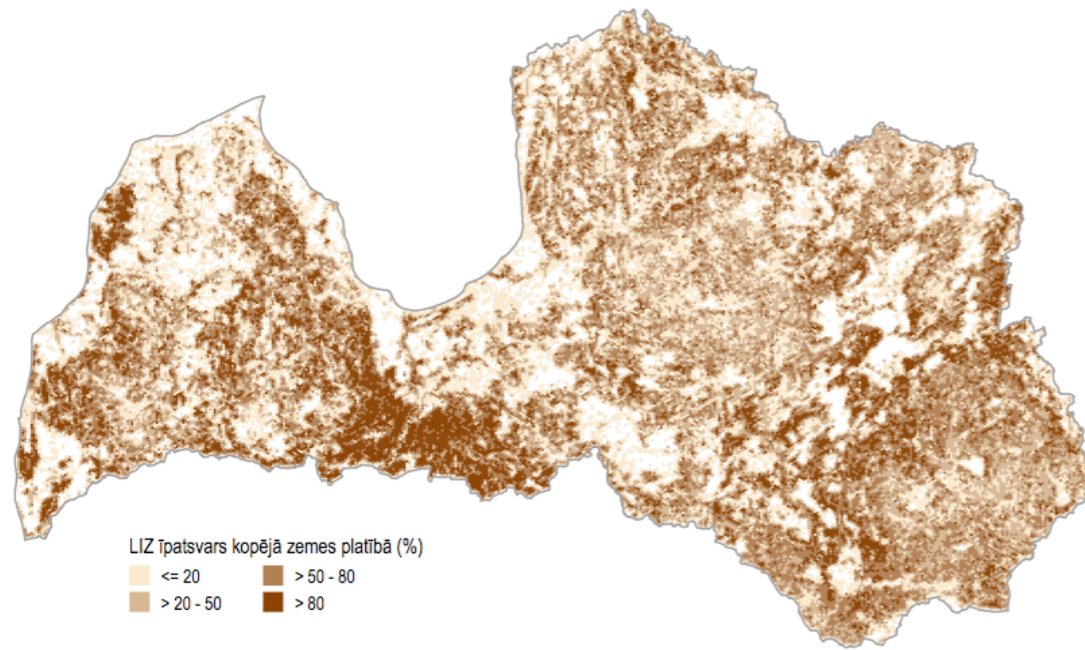
Depending on how do we use land, location, land quality and other factors, land performance can be different



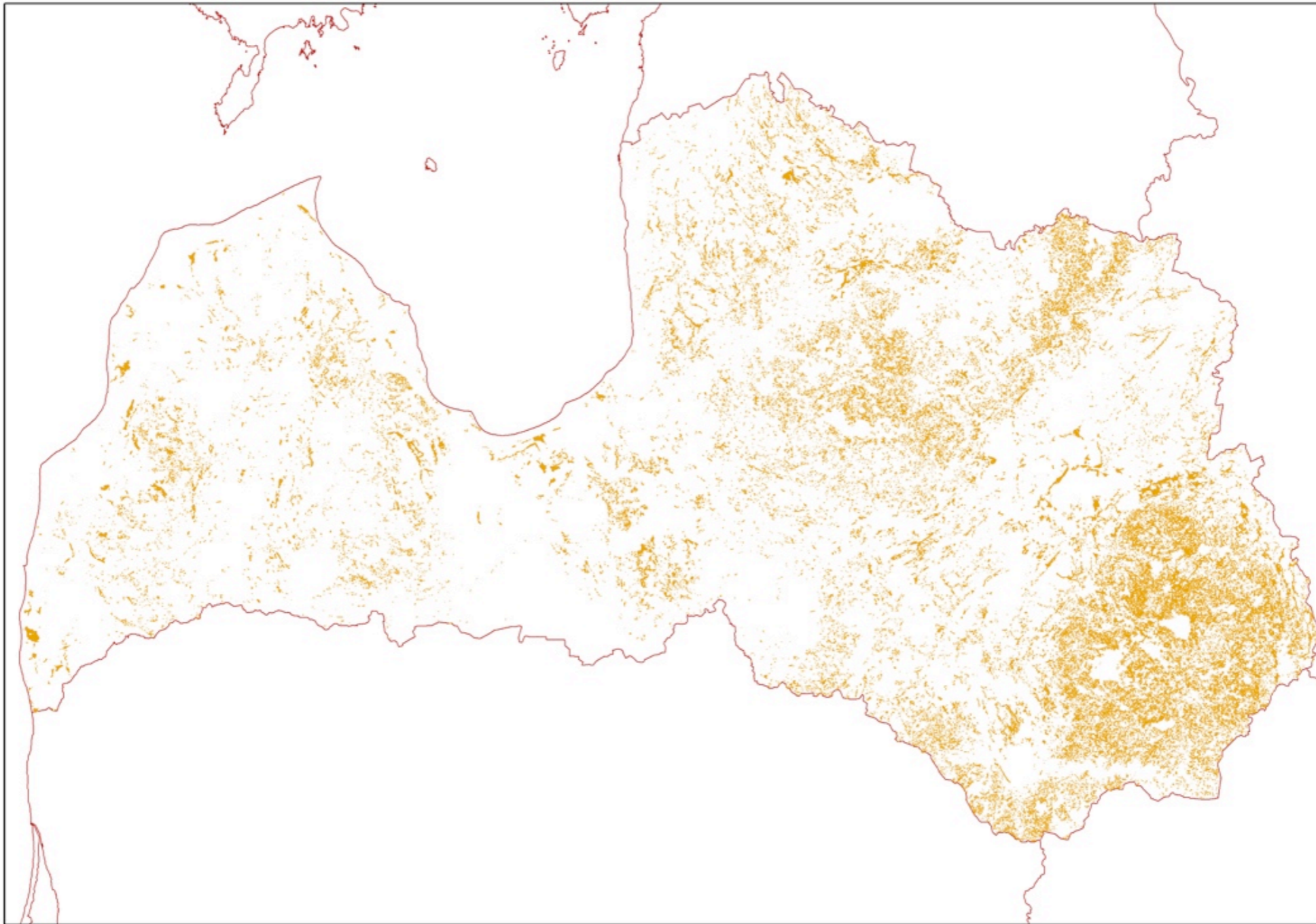
Database

Agricultural land
~ 9,8 milj. parcels

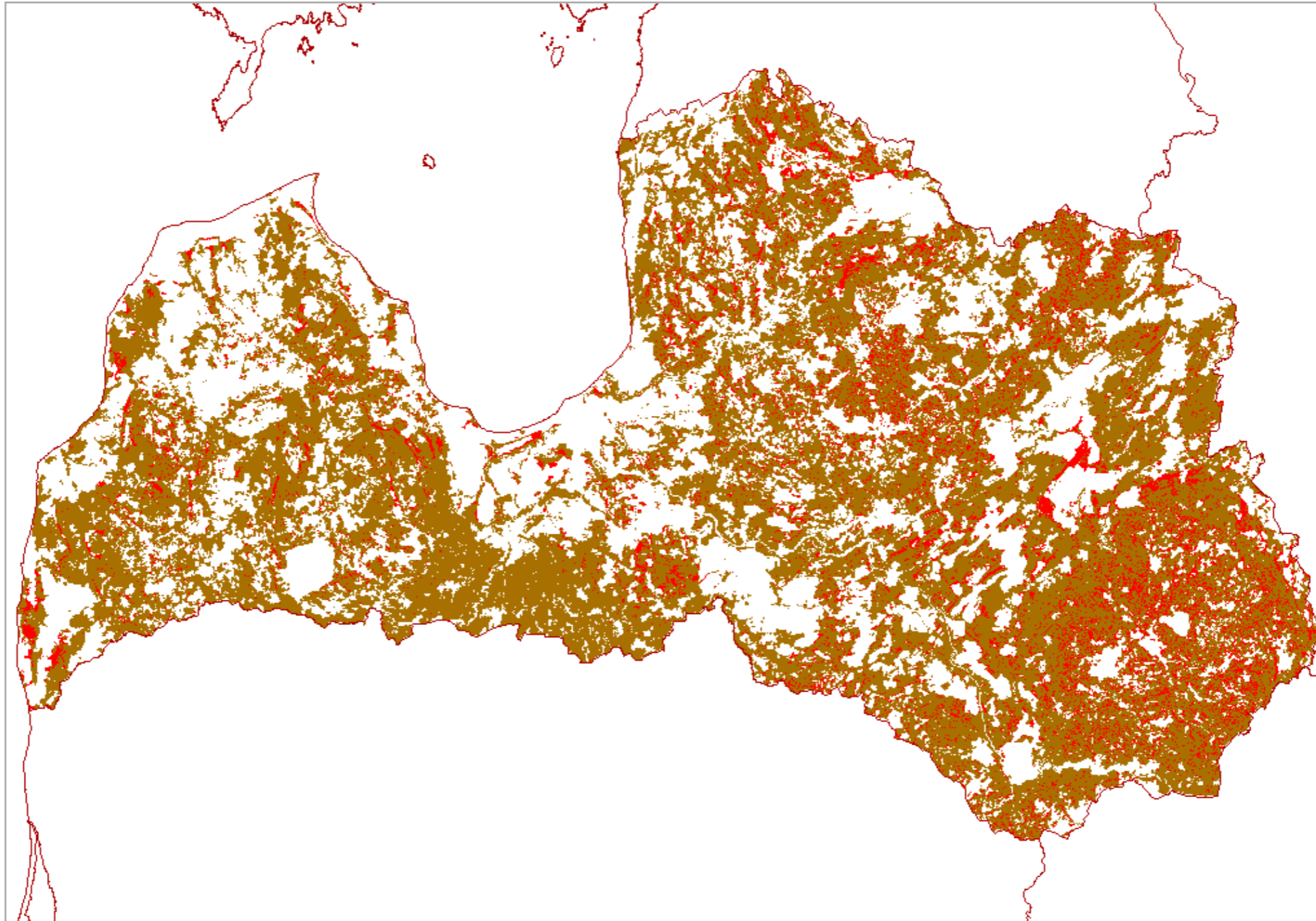
Forest land
~ 2,8 milj. parcels



Hydromorphic soils

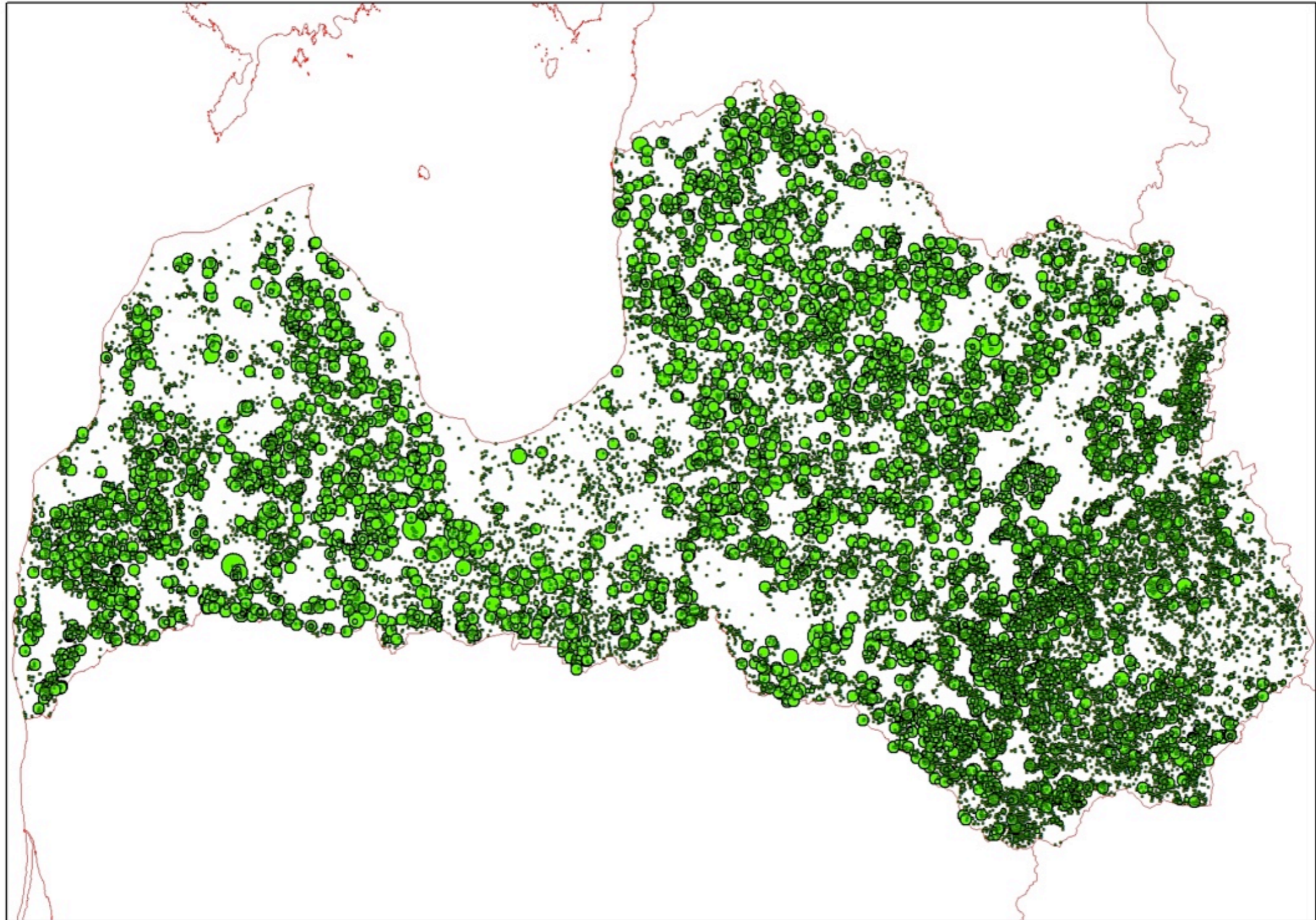


H&S as part of agricultural land



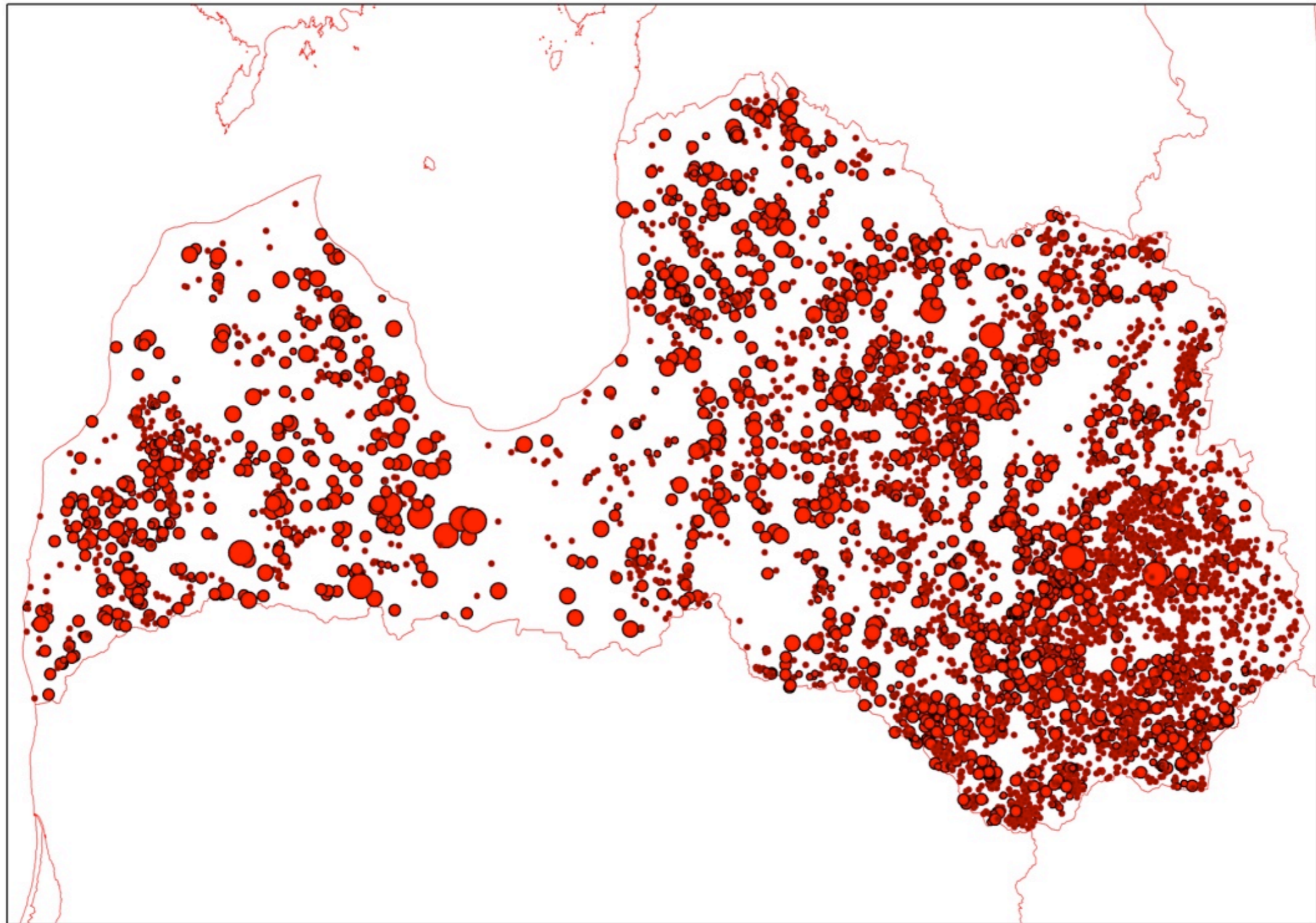
Dairy cows

(all soils)



Dairy cows

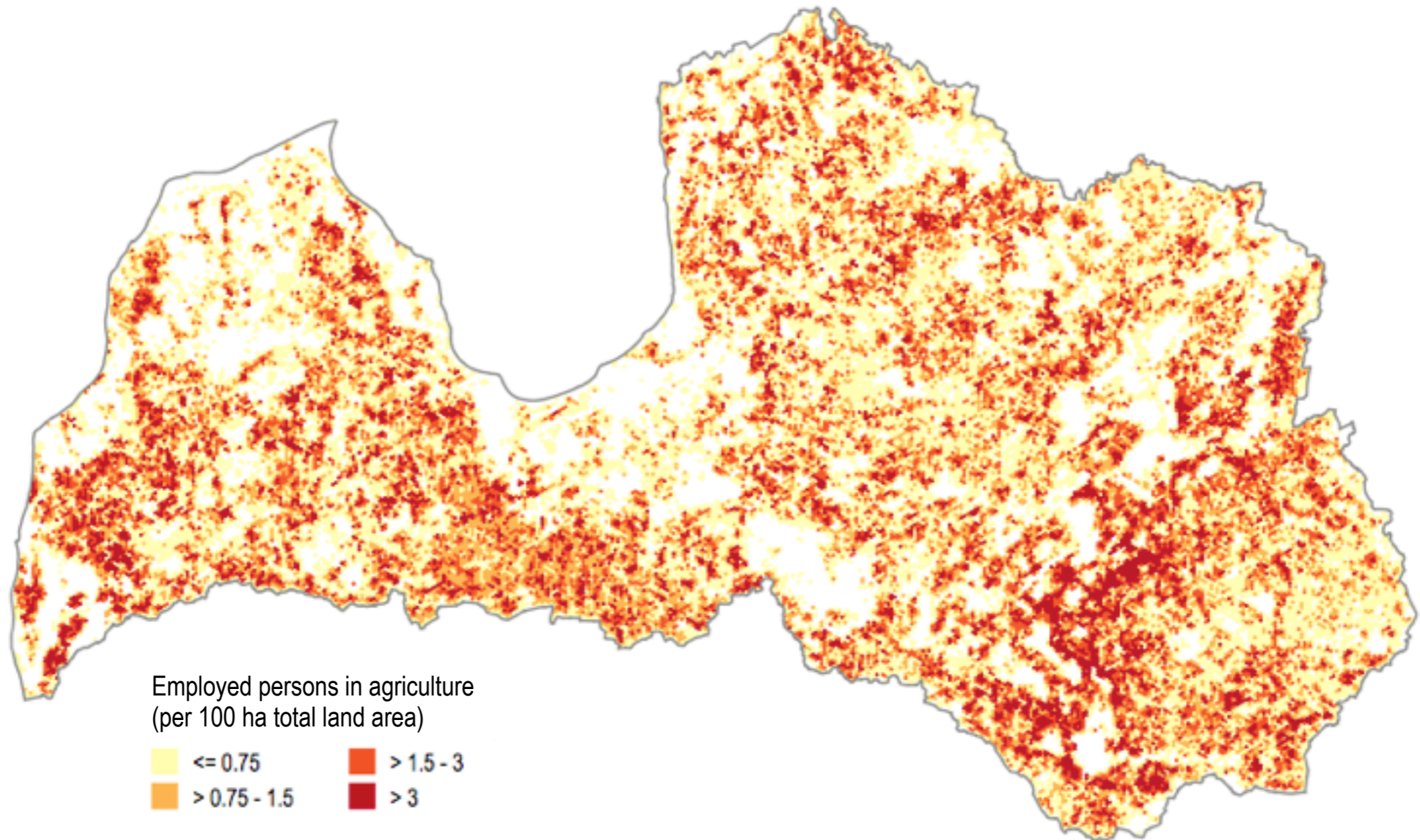
(Hydromorphic soils)



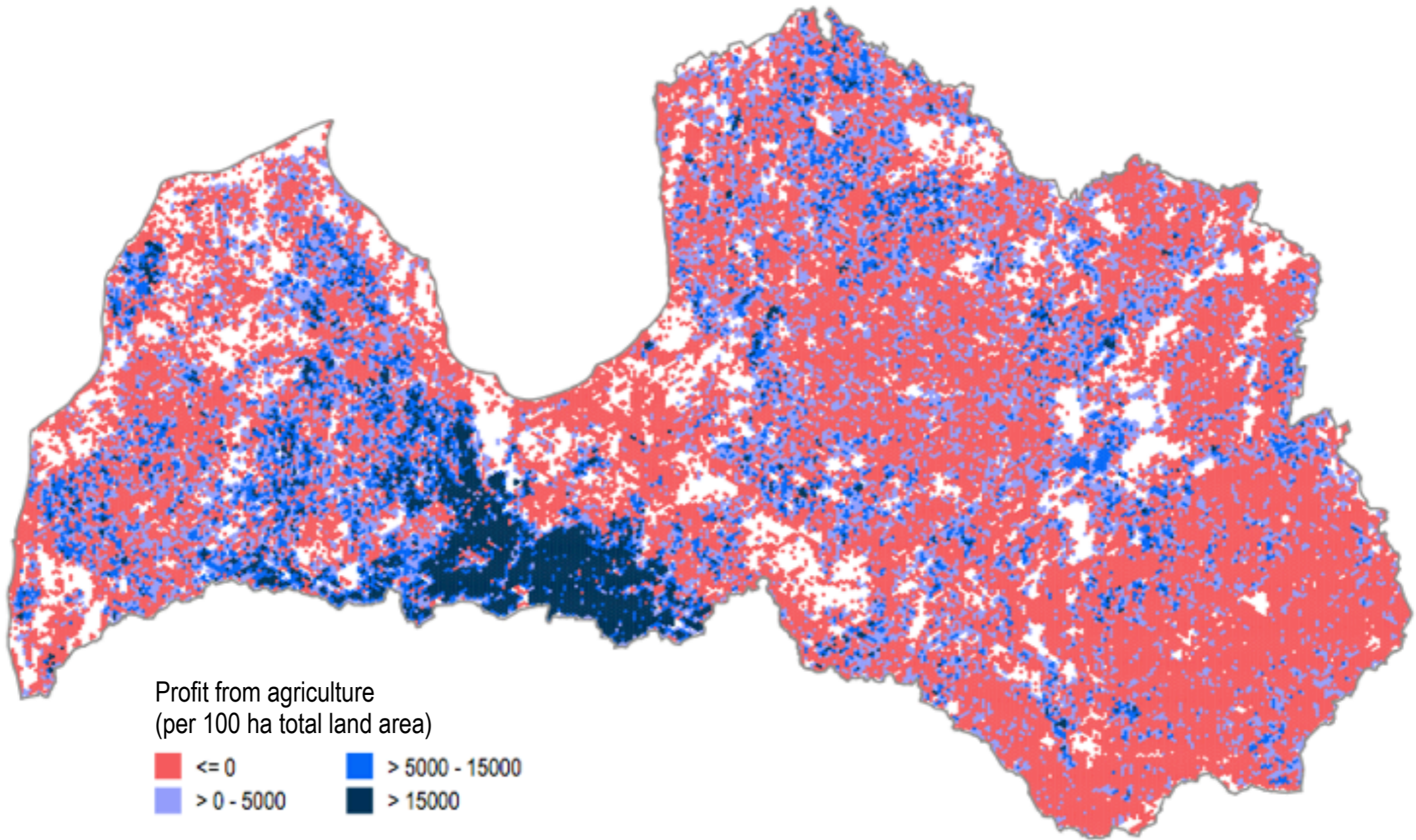
We are going to answer the question
of socioeconomic impact of organic
soils and impact in the case of land
use change

Some snapshots

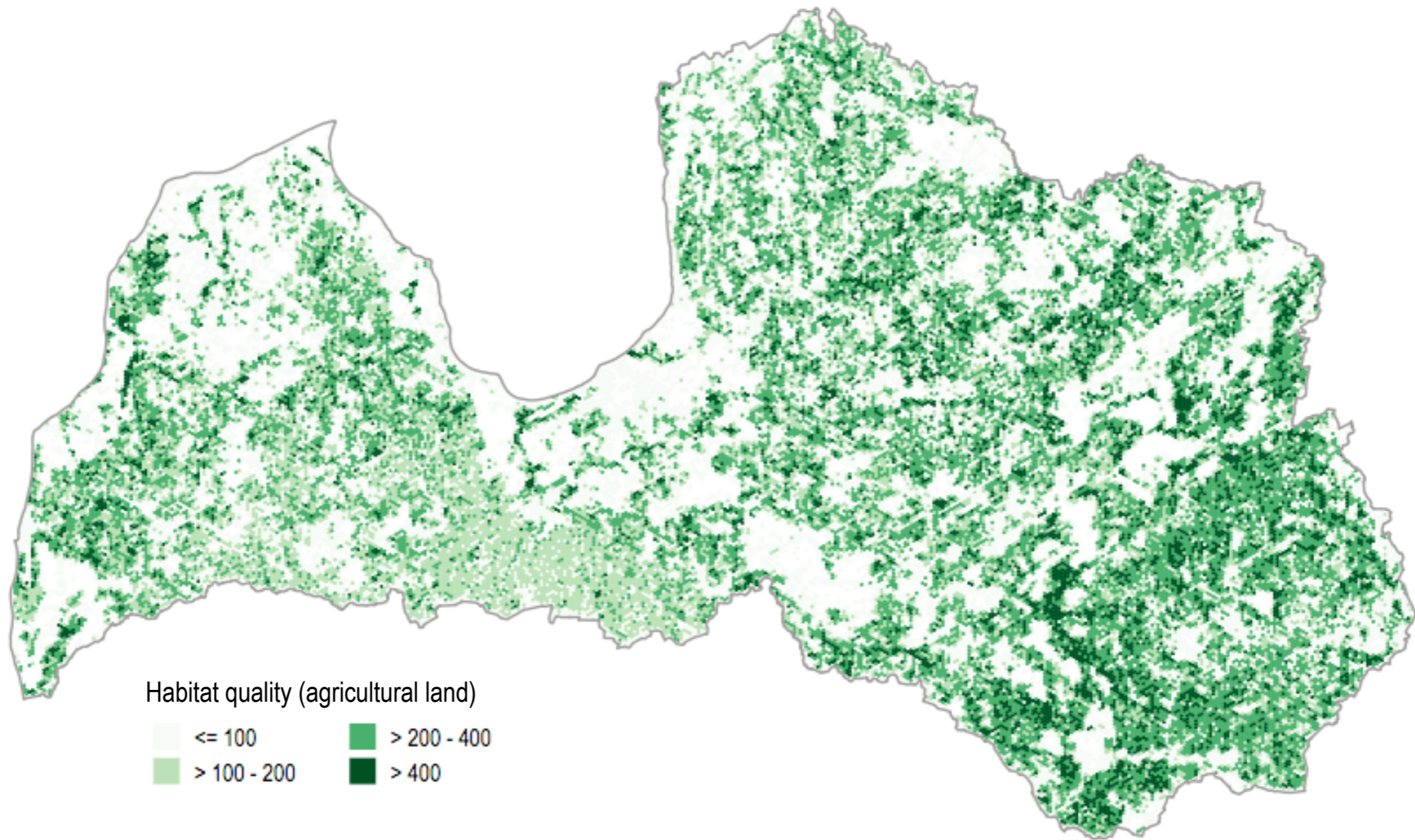
Agricultural land: Labour input



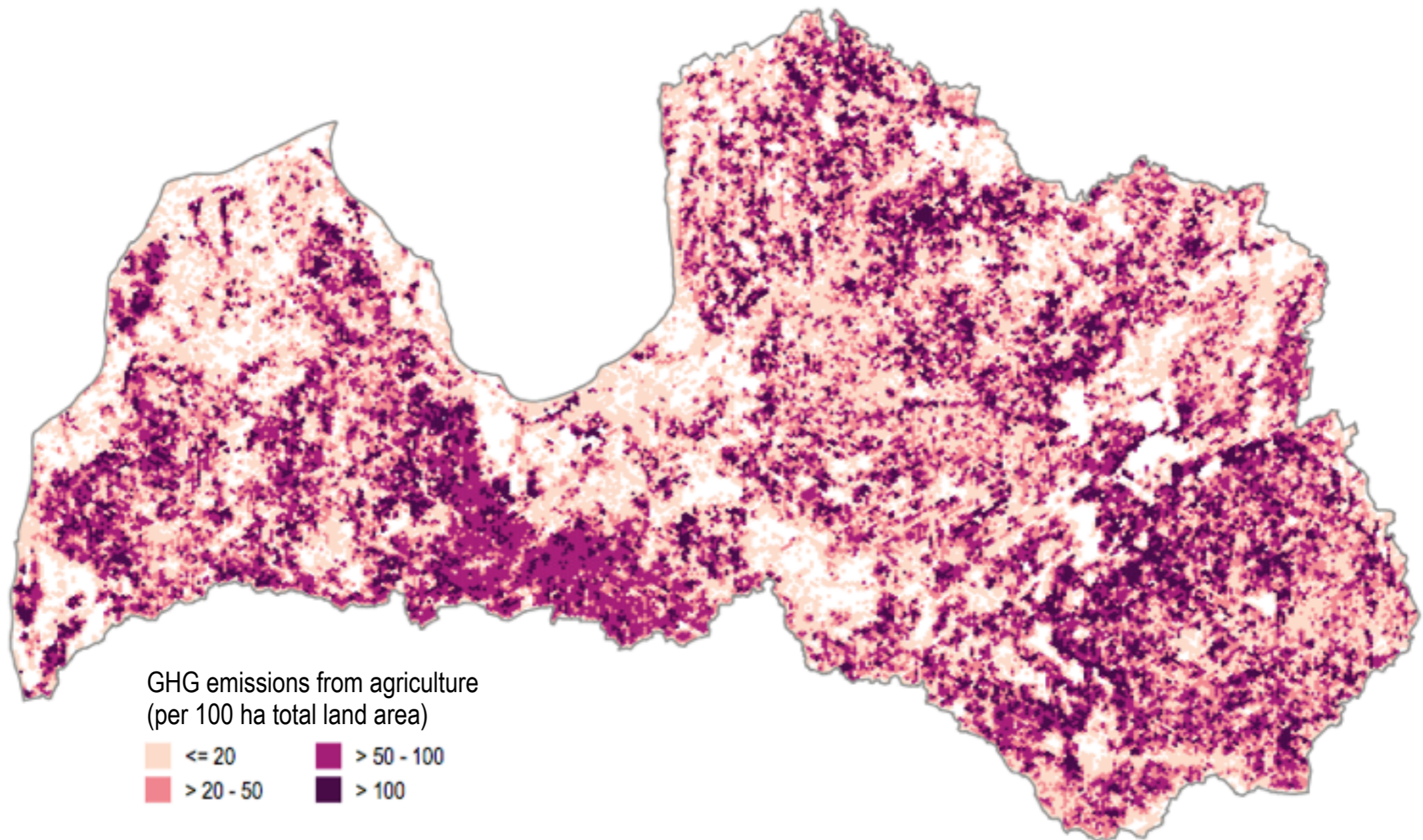
Agricultural land: Profit



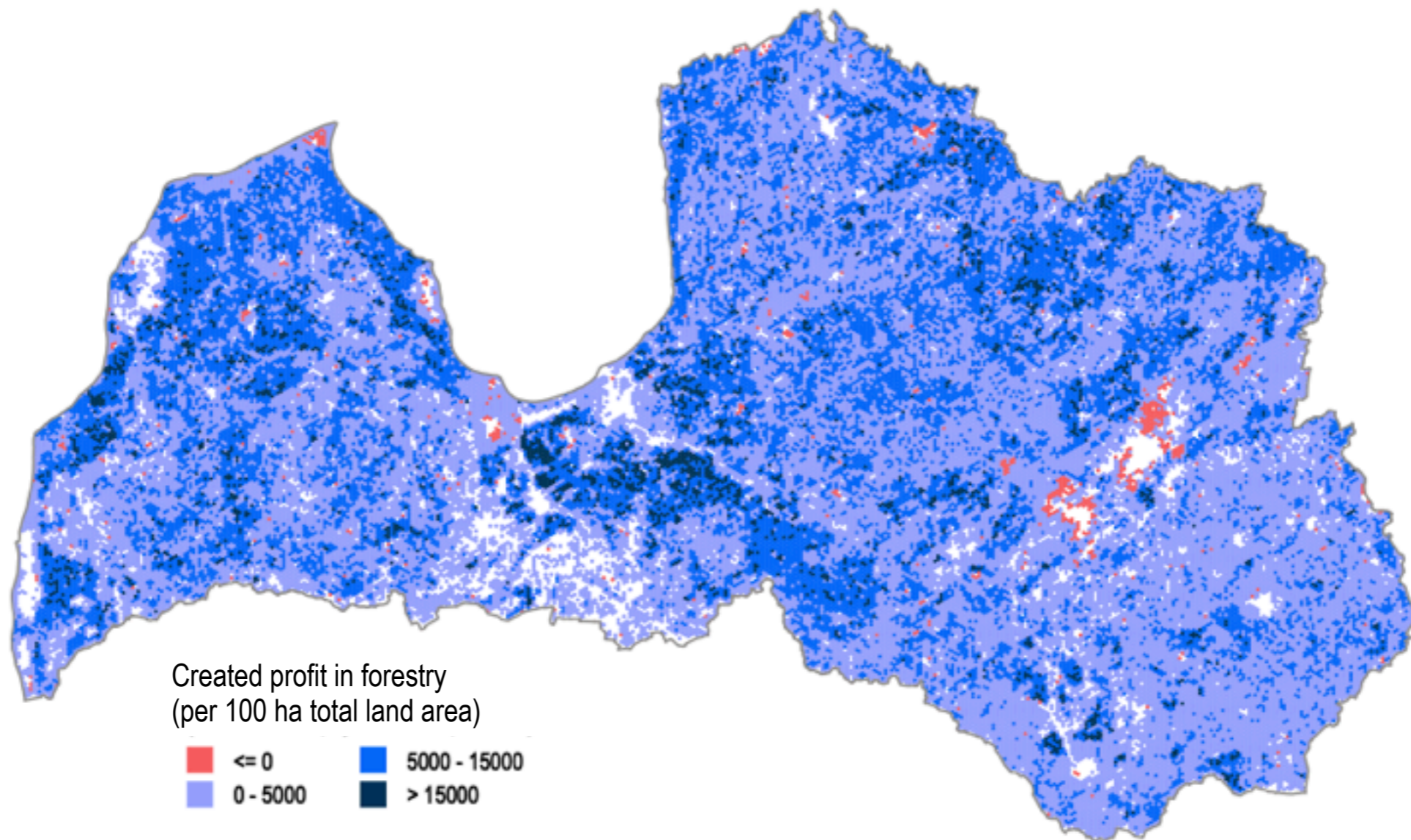
Agricultural land: Habitat quality



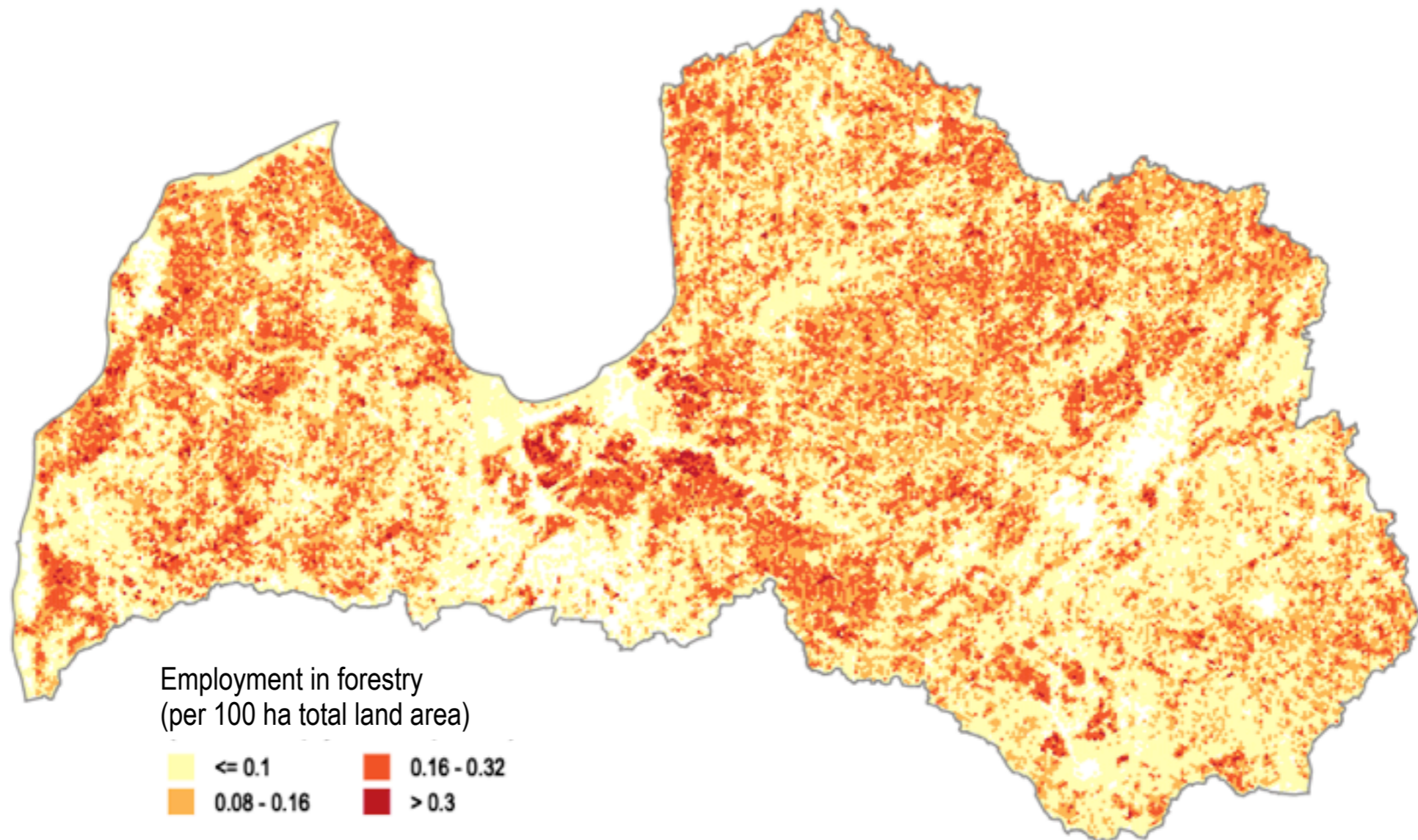
GHG emissions from agriculture



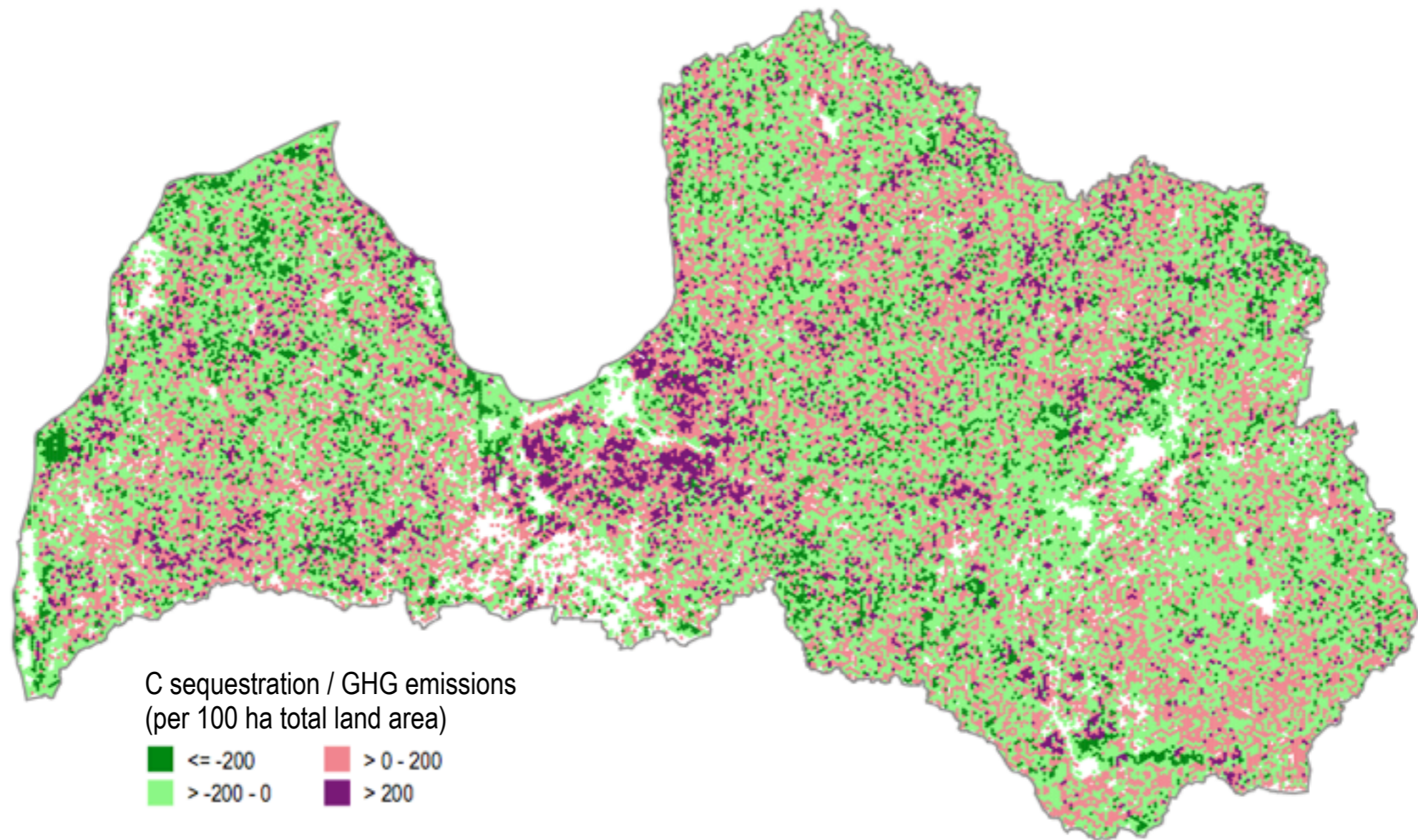
Forest land: Profit



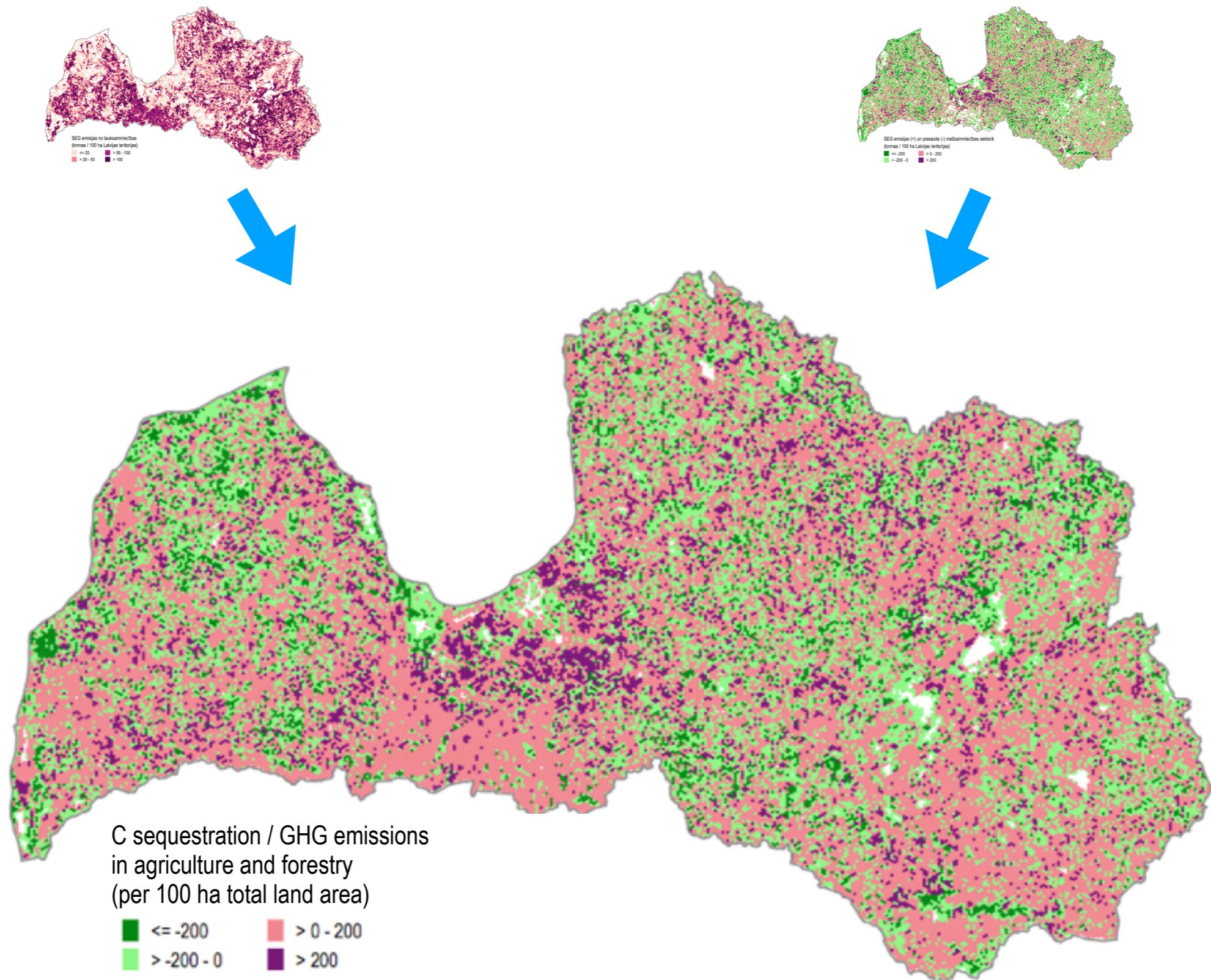
Forest land: Employment



Forest land: Climate dimension



Climate dimension (agriculture + forestry)



Thank you

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[orgbalt](https://www.youtube.com/orgbalt)

The project “Demonstration of climate change mitigation potential of nutrients rich organic soils in Baltic States and Finland” (LIFE OrgBalt, LIFE18 CCM/LV/001158) has received funding from the LIFE Programme of the European Union and the State Regional Development Agency of Latvia. www.orgbalt.eu

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