

Land cover 2012



Finland 

September 2017

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Land cover 2012

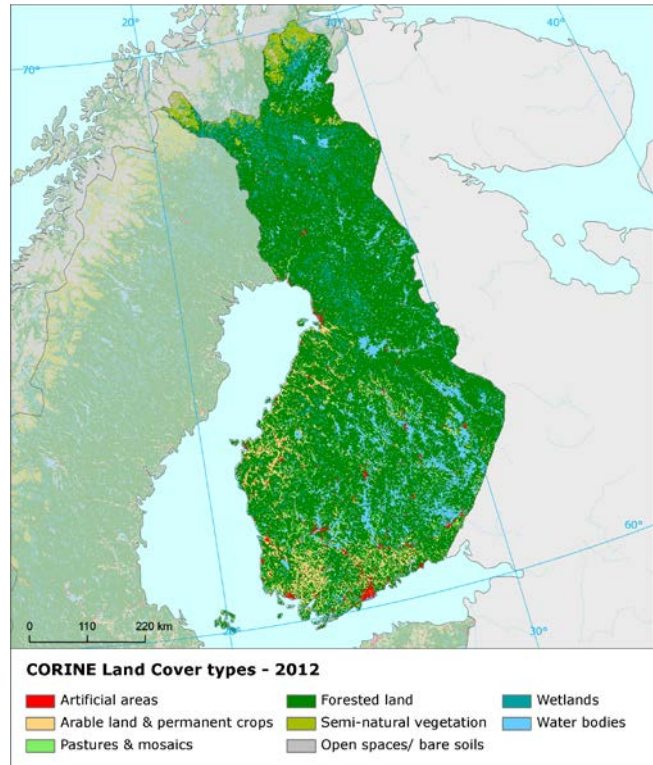
Overview of land cover & change 2006-2012

The land cover development in Finland has similar intensity and structure as in the previous period, with only slightly lower overall change rate. With a mean annual change rate of 0.35% of total area, the dynamics of development in the Finnish landscape is rather high, compared to other European countries.

The extent of forest conversions in the country is huge, which is caused by extensive forest coverage itself. These conversions will always be the most powerful driver of development of the Finnish landscape. The intensity of these internal forest flows is comparable to the previous period.

On the other hand, conversions from forested and natural land to agriculture, which were remarkable during the period 2000-2006, lost most of it intensity in the 2006-2012 period.

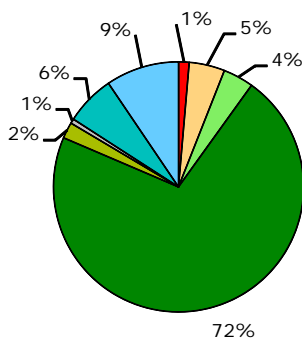
The speed of urban sprawl in Finland remains stable, with an annual artificial land take rate of about 0.4%, which is slightly above the European average. Sprawl is driven by the extension of mines and quarrying areas, as well as dump, construction and industrial or commercial sites. On the other hand, the extensions of residential and sport and leisure areas, which were major sprawl drivers in the period 2000-2006, show significant decline.



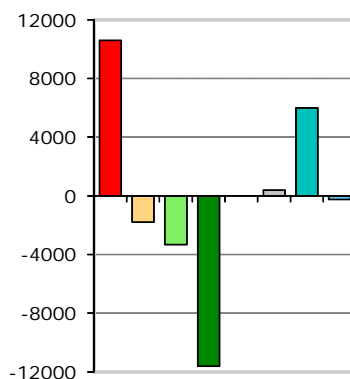
Note: The results presented here are based on a change analysis of 44 land cover types mapped consistently on a 1:100,000 scale across Europe over more than decade between 2000-2006-2012 - see Corine land cover (CLC) programme for details.

Number of years between CLC2006-CLC2012 data for Finland: 6

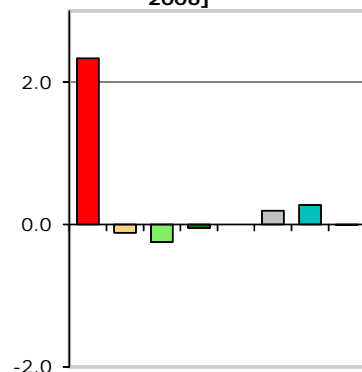
1.1. Land cover 2012 [% of total]



1.2. Net change in land cover 2006-2012 [ha]



1.3. Net change in land cover [% of initial year 2006]



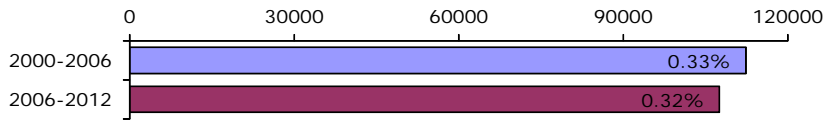
■ Artificial areas
 ■ Arable land & permanent crops
 ■ Pastures & mosaics
 ■ Forested land
■ Semi-natural vegetation
 ■ Open spaces/ bare soils
 ■ Wetlands
 ■ Water bodies

Summary balance table 2006-2012

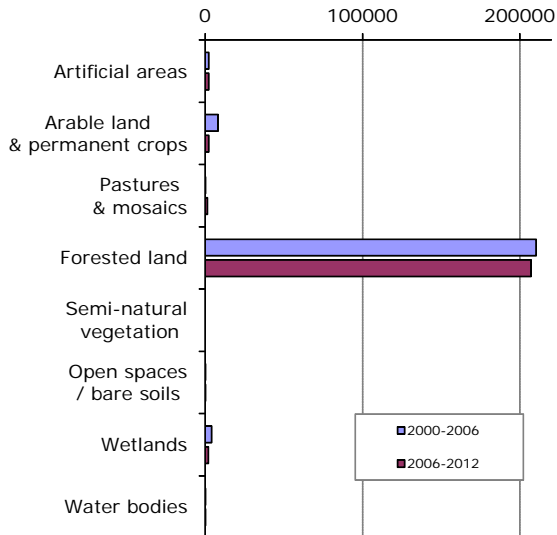
	Artificial areas	Arable land & permanent crops	Pastures & mosaics	Forested land	Semi-natural vegetation	Open spaces/ bare soils	Wetlands	Water bodies	TOTAL [hundreds ha]
Land cover 2006	4544	15633	13384	242269	7079	2006	21691	32054	338662
Consumption of initial LC	14.3	73.9	56.2	6272.3	0.0	1.8	32.2	2.5	6453
Formation of new LC	120.4	56.0	23.0	6156.1	0.0	5.7	92.1	0.0	6453
Net Formation of LC	106.1	-17.9	-33.3	-116.2	0.0	3.9	59.9	-2.5	0
<i>Net formation as % of initial year</i>	<i>2.3</i>	<i>-0.1</i>	<i>-0.2</i>	<i>0.0</i>	<i>0.0</i>	<i>0.2</i>	<i>0.3</i>	<i>0.0</i>	
Total turnover of LC	134.7	129.9	79.2	12428.4	0.0	7.5	124.3	2.5	12906
<i>Total turnover as % of initial year</i>	<i>3.0</i>	<i>0.8</i>	<i>0.6</i>	<i>5.1</i>	<i>0.0</i>	<i>0.4</i>	<i>0.6</i>	<i>0.0</i>	<i>3.8</i>
Land cover 2012	4650	15615	13351	242153	7079	2010	21751	32052	338662

Land cover trends comparison 2000-2006 vs. 2006-2012

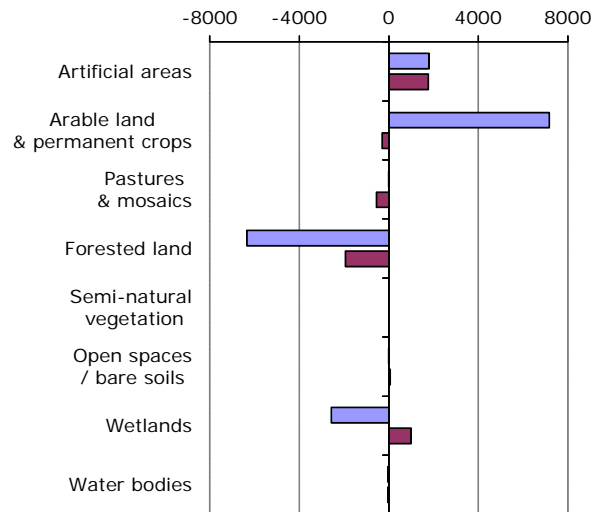
2.4. Annual land cover change
[ha/year, % of total area]



2.5. Annual turnover of LC types
[ha/year]

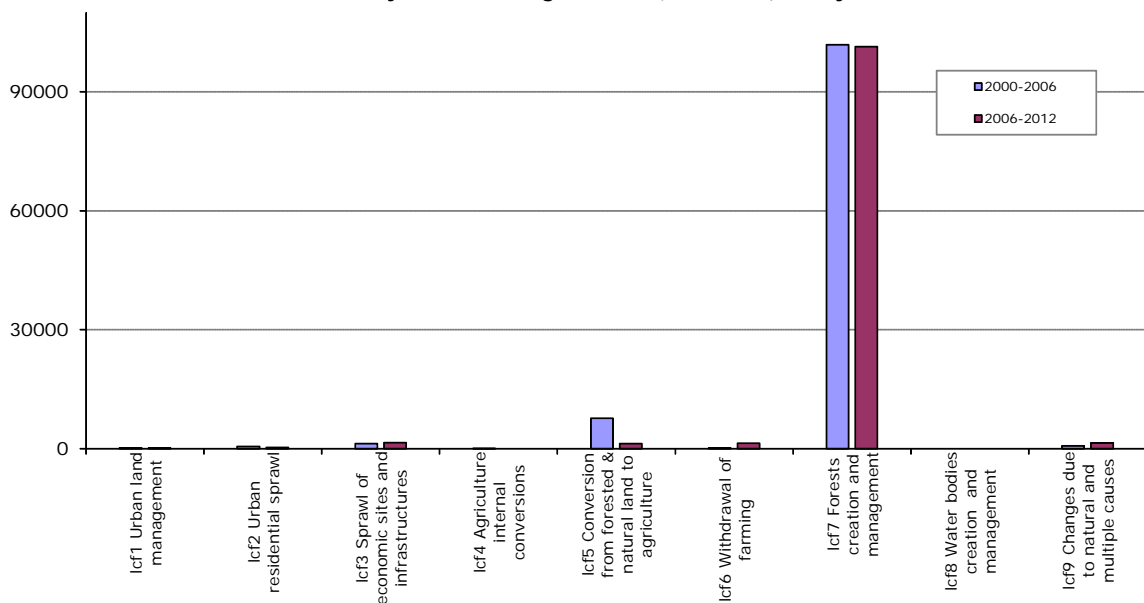


2.6. Net annual change of LC types [ha/year]

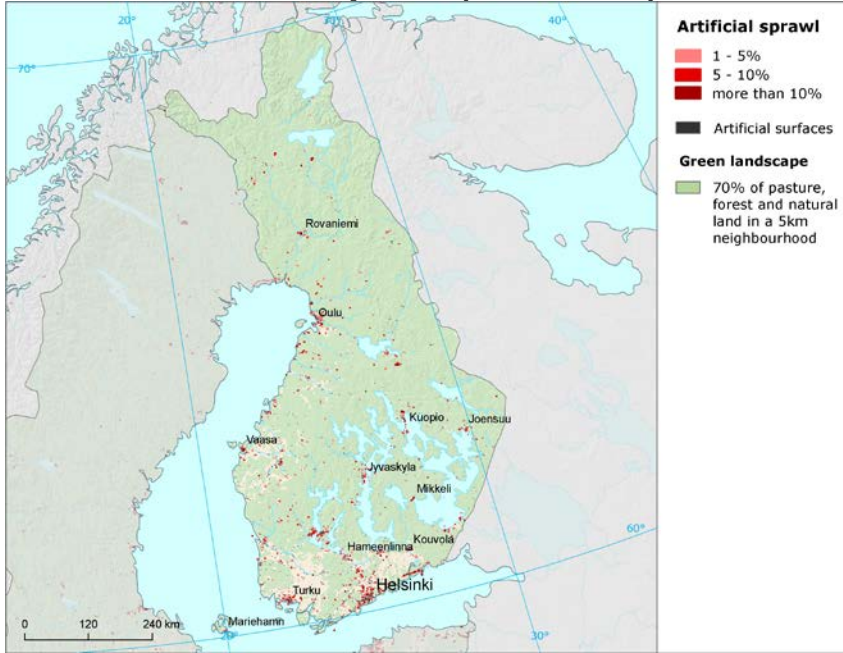


Summary trend figures		2000-2006	2006-2012
Annual land cover change [ha/year]		112389	107554
Annual land cover change as % of initial year		0.33%	0.32%
Land uptake by artificial development as mean annual change [ha/year]		1803	1851
Agricultural land uptake by urban and infrastructures development as mean annual change [ha/year]		333	223
Net uptake of forests and semi-natural land by agriculture as mean annual change [ha/year]		7474	-88
Net conversion from pasture to arable land and permanent crops as mean annual change [ha/year]		0	0
Forest & other woodland net formation as mean annual change [ha/year]		-6347	-1936
Dry semi-natural land cover net formation as mean annual change [ha/year]		-1	83
Wetlands & water bodies net formation as mean annual change [ha/year]		-2602	957

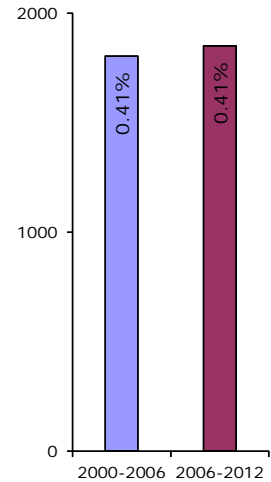
2.7. Intensity of main change drivers (LC FLOWS) [ha/year]



Artificial surfaces sprawl (2006-2012)



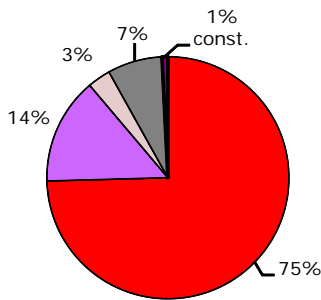
3.8. Artificial land take [ha/year, % of initial year]



Slowdown of residential and sport and leisure sprawl

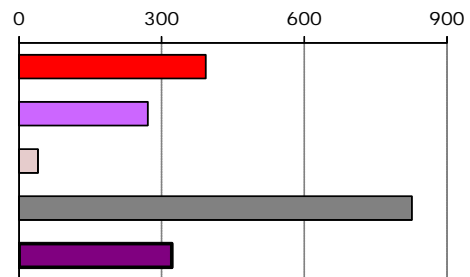
The urban sprawl rate in Finland is slightly above average, compared to other European countries, and stable in time, as it was almost identical in the 2000-2006 as in 2006-2012. Geographically, it is situated not only on the south, but around all major Finnish cities, with the highest concentration in the surroundings of capital city of Helsinki. The largest area has been taken by mines, quarries and waste dumpsites – with much more intensive formation than in previous period. Also the area of construction sites and industrial and commercial units grows much faster, compared to 2000-2006. In contrast, the sprawl of discontinuous urban fabric and sport and leisure facilities, which was the main driver of the artificial land development in the 2000-2006, continues with significantly lower intensity during the period 2006-2012. The main source for these newly built urban areas is former forested land.

3.9. Artificial surfaces 2012 [% of total area]

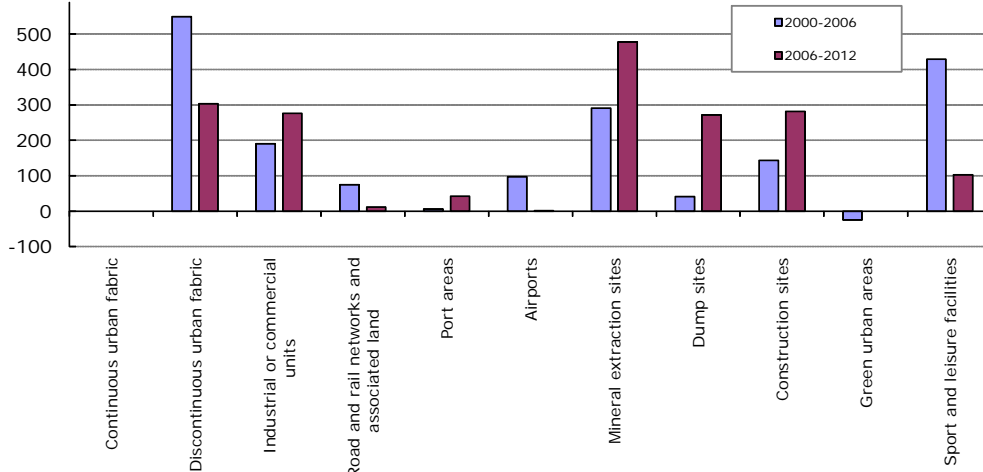


- Housing, services, recreation
- Industrial, commercial units
- Transport networks, infrastructures
- Mines, quarries, waste dumpsites
- Construction

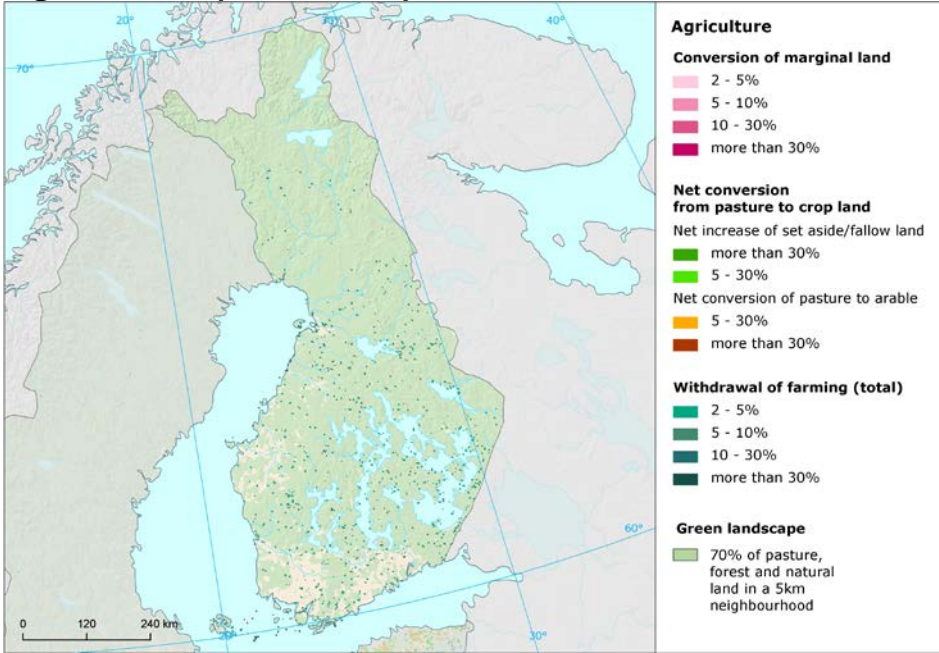
3.10. Artificial land take 2006-2012 [ha/year]



3.11. Mean annual artificial change by class [ha/year]



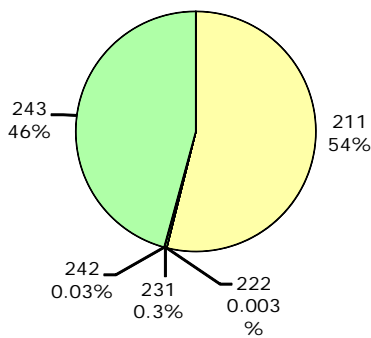
Agriculture (2006-2012)



Decrease of conversion from natural land to agriculture

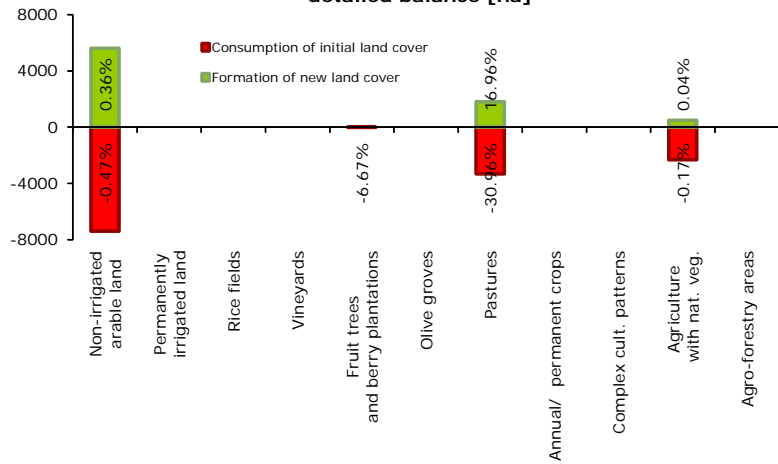
In the long term, the development of the Finnish agricultural land is driven exclusively by external exchanges with another land cover types – internal conversions of agricultural land are not observed in the country. During the previous period 2000-2006, the conversions from forest and wetlands to agriculture were frequent in Finland and caused significant formation of arable land. However, in the 2006-2012, these conversions lost most of their intensity, which means both arable and pasture land have negative net change balance, with prevailing consumption of land. There still remains some amount of conversion from transitional woodland to agriculture, which, together with opposite withdrawal of farming with transitional woodland creation, are the main drivers of the agricultural land development in Finland in the period 2006-2012.

4.12. Agricultural areas 2012 [% of total area]

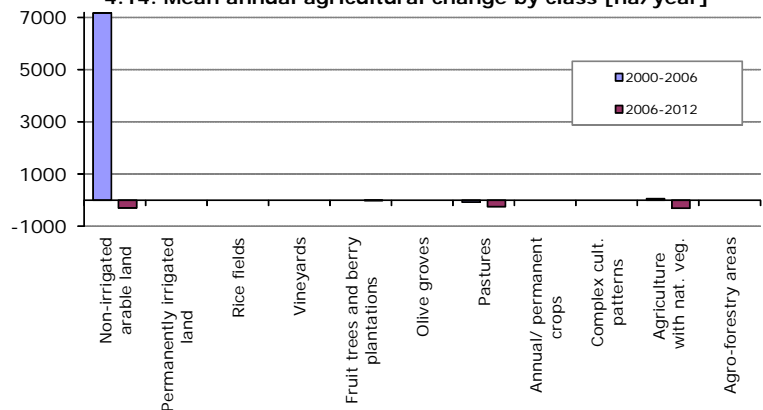


- 211 Non-irrigated arable land
- 212 Permanently irrigated land
- 213 Rice fields
- 221 Vineyards
- 222 Fruit trees and berry plantations
- 223 Olive groves
- 231 Pastures
- 241 Annual crops associated with permanent crops
- 242 Complex cultivation patterns
- 243 Agriculture land with significant areas of natural vegetation
- 244 Agro-forestry areas

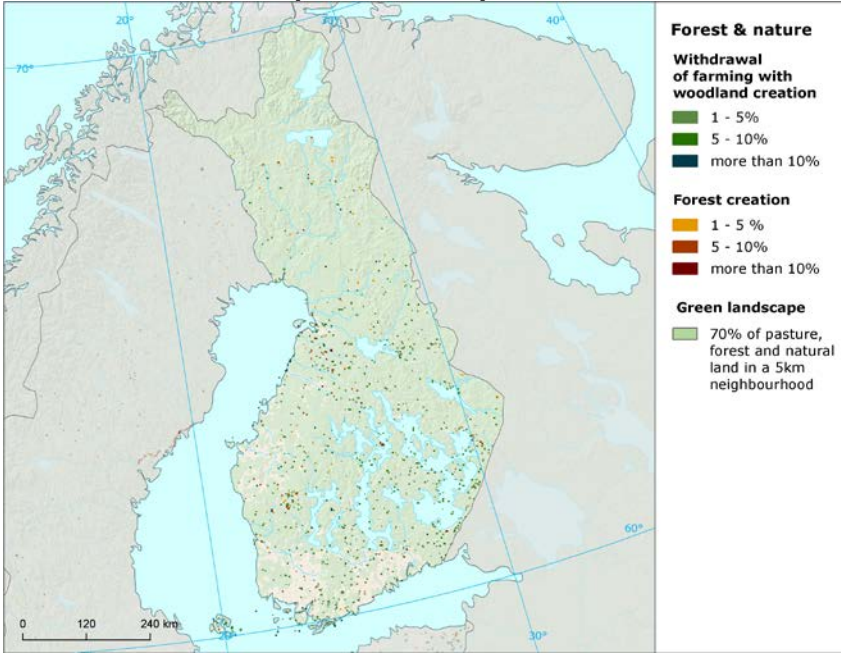
4.13. Development of agricultural areas 2006-2012 – detailed balance [ha]



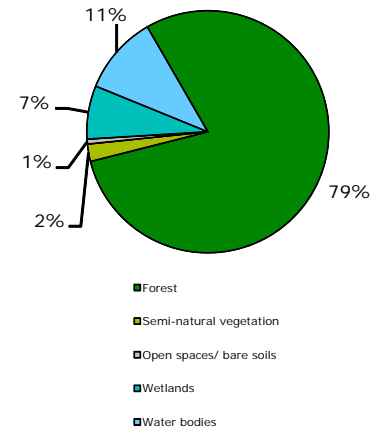
4.14. Mean annual agricultural change by class [ha/year]



Forest & nature (2006-2012)



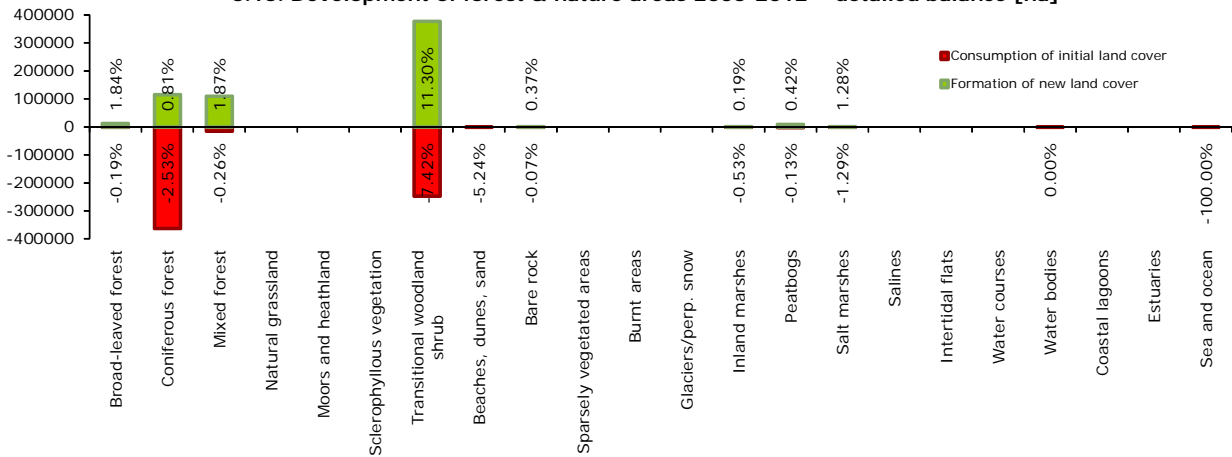
5.15. Forest & nature areas 2012 [% of total area]



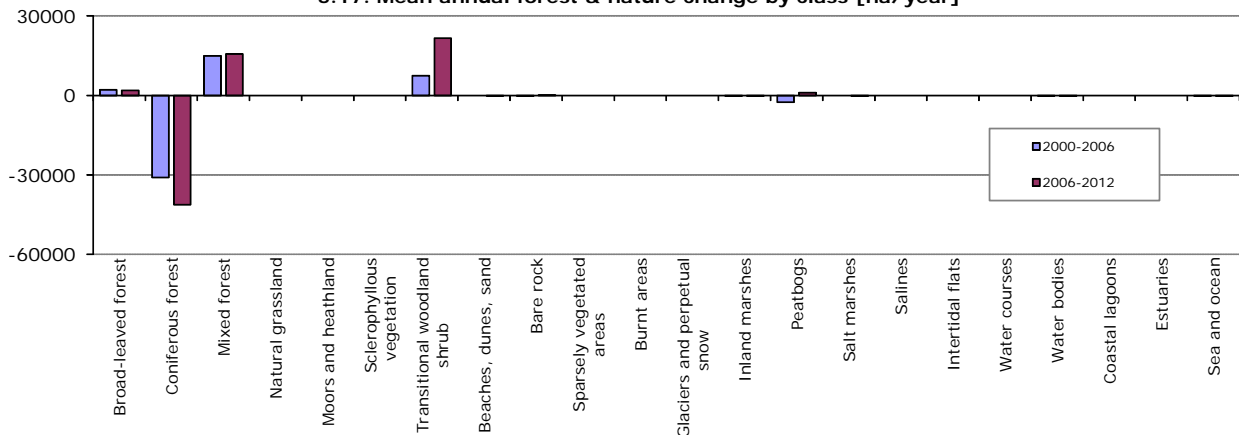
Extensive internal forest flows

About 72% of the landscape in Finland is covered by forests and therefore, changes in forested land are the main drivers of land cover development in the country, mostly represented by internal forest conversions. The intensity of these flows is comparable with the previous period, with slightly prevailing recent felling and transition over forest creation from transitional woodland, which also shows the same trend as in the 2000-2006. Net change of forested land is characterized by the consumption of coniferous forest and formation of mixed, broad-leaved forest and transitional woodland and shrub, the last one significantly higher compared with previous period. Concerning external exchange of natural land, the conversion from wetlands to agriculture, which was frequent in the period 2000-2006, almost disappeared from the Finnish landscape and the conversion from forest to agriculture occurs with significantly lower intensity. Another interesting trend in the frame of natural land development in Finland is the creation of wetlands (in particular peatbogs), mostly through the conversion from coniferous forest and arable land. This trend of peatbogs creation had been observed already during the previous period, but not through the conversion from arable land.

5.16. Development of forest & nature areas 2006-2012 – detailed balance [ha]



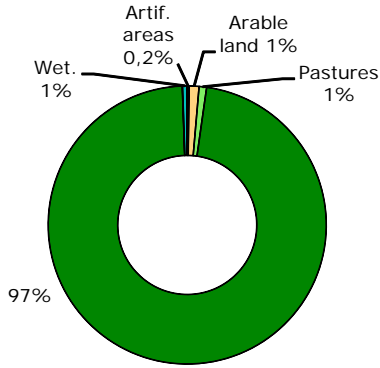
5.17. Mean annual forest & nature change by class [ha/year]



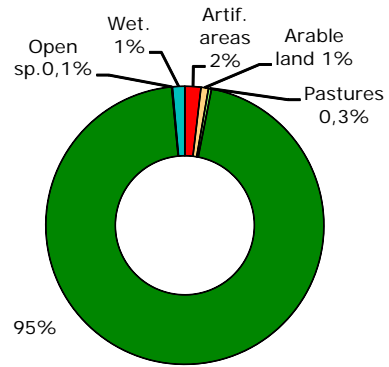
Annex: Land cover flows and trends

Land cover flows 2006-2012

6.18. Consumption of land cover 2006-2012 [% of total change area]

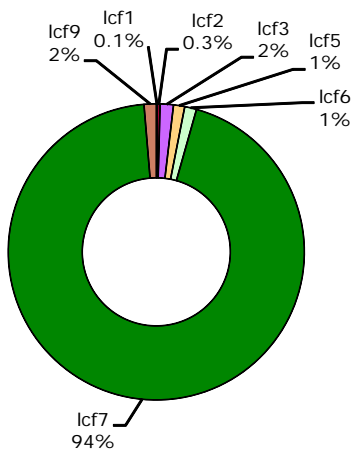


6.19. Formation of land cover 2006-2012 [% of total change area]



- Artificial areas
- Arable land & permanent crops
- Pastures & mosaics
- Forested land
- Semi-natural vegetation
- Open spaces/ bare soils
- Wetlands
- Water bodies

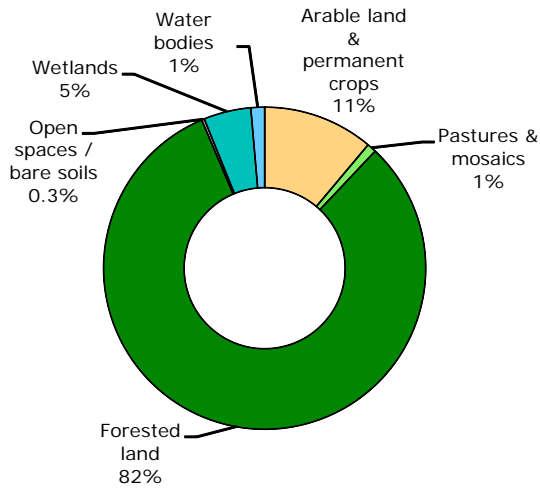
6.20. Drivers of change (LC FLOWS) 2006-2012 [% of total change area]



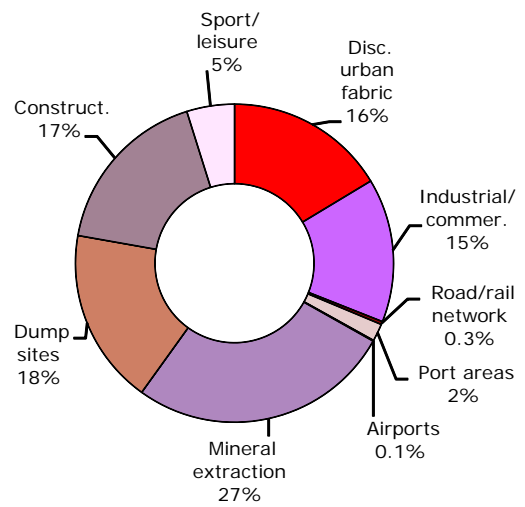
- lcf1 Urban land management
- lcf2 Urban residential sprawl
- lcf3 Sprawl of economic sites and infrastructures
- lcf4 Agriculture internal conversions
- lcf5 Conversion from forested & natural land to agriculture
- lcf6 Withdrawal of farming
- lcf7 Forests creation and management
- lcf8 Water bodies creation and management
- lcf9 Changes due to natural and multiple causes

Artificial areas

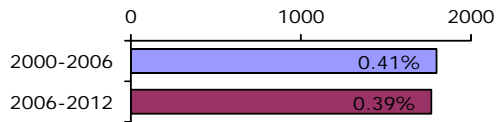
7.21. Consumption by artificial land take 2006-2012 [% of total]



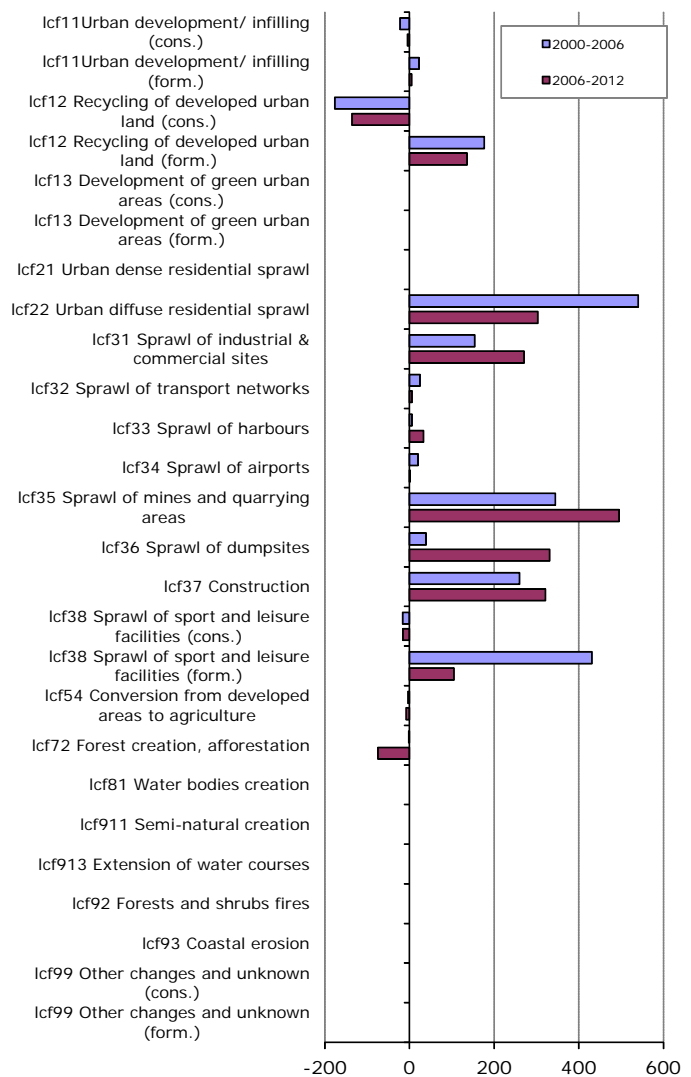
7.22. Formation by artificial land take 2006-2012 [% of total]



7.23. Net formation of artificial area [ha/year, % of initial year]

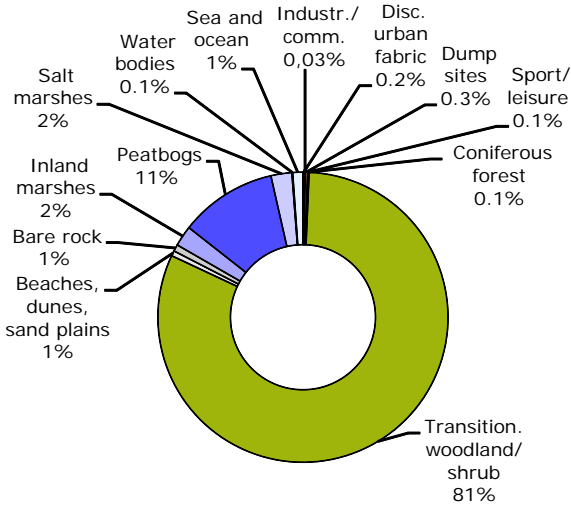


7.24. Artificial development by change drivers (LC FLOWS) [ha/year]

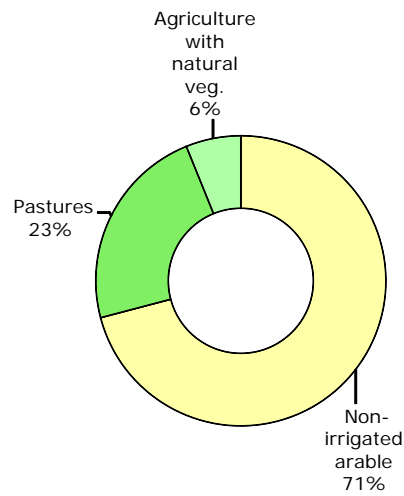


Agriculture

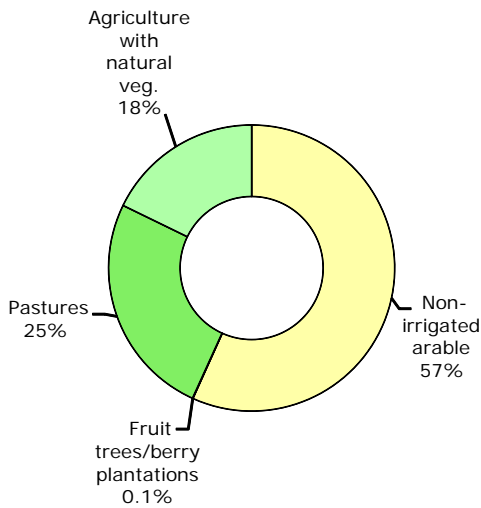
8.25. LC consumed by agriculture 2006-2012 [% of total]



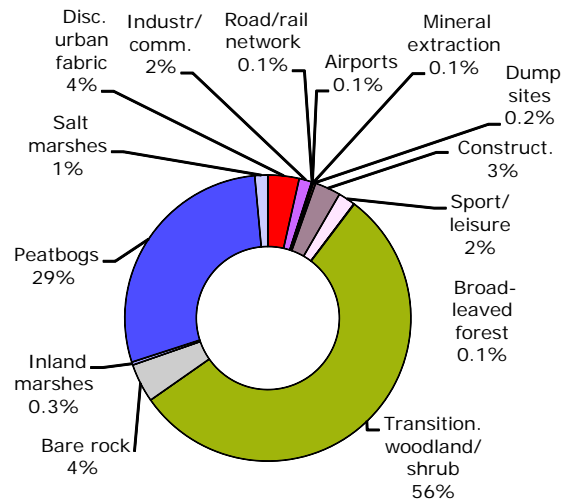
8.26. Formation of agricultural land from non-agriculture 2006-2012 [% of total]



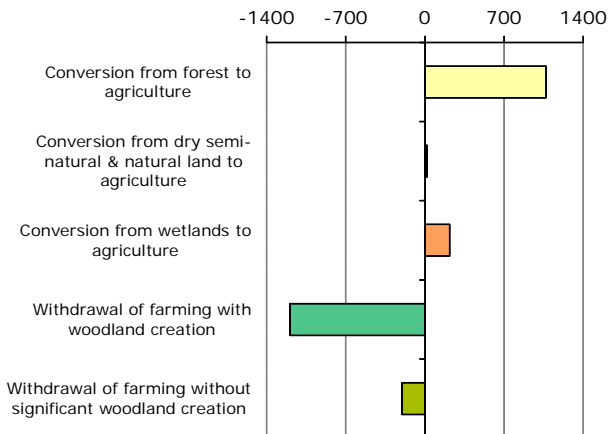
8.27. Consumption of agricultural land by non-agriculture 2006-2012 [% of total]



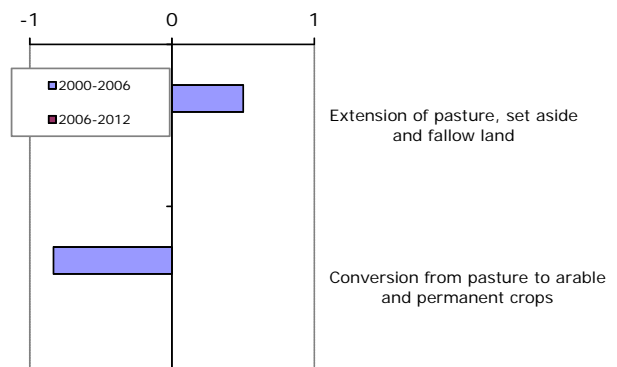
8.28. Formation of non-agricultural land from agriculture 2006-2012 [% of total]



8.29. Main annual conversions between agriculture and forests & semi-natural land 2006-2012 [ha/year]

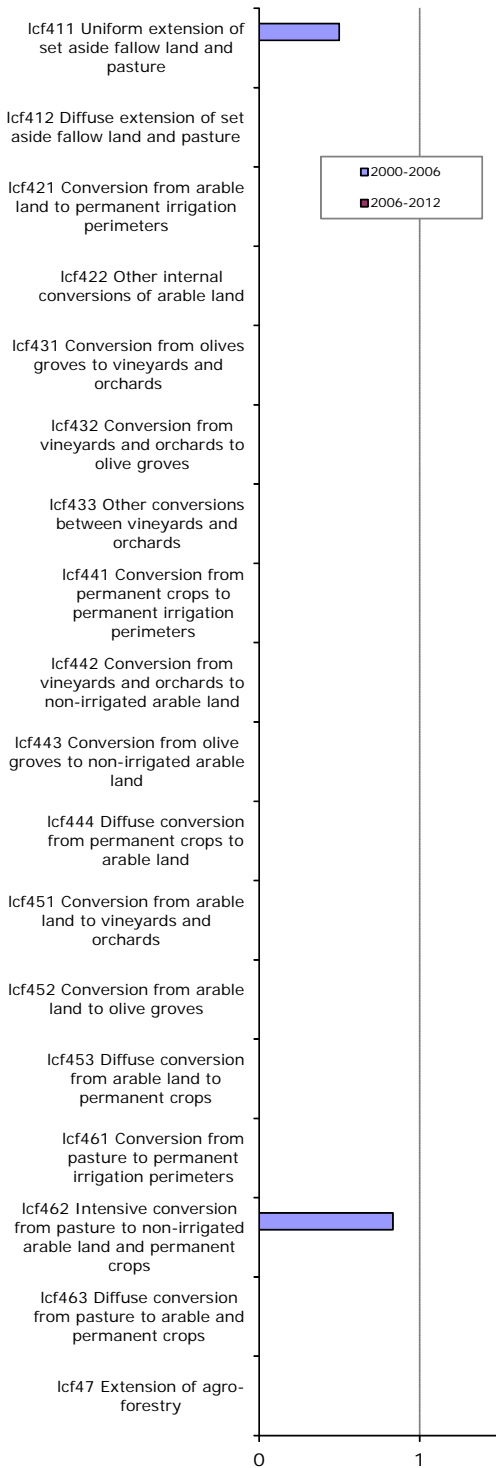


8.30. Mean annual conversion between arable land and pasture [ha/year]

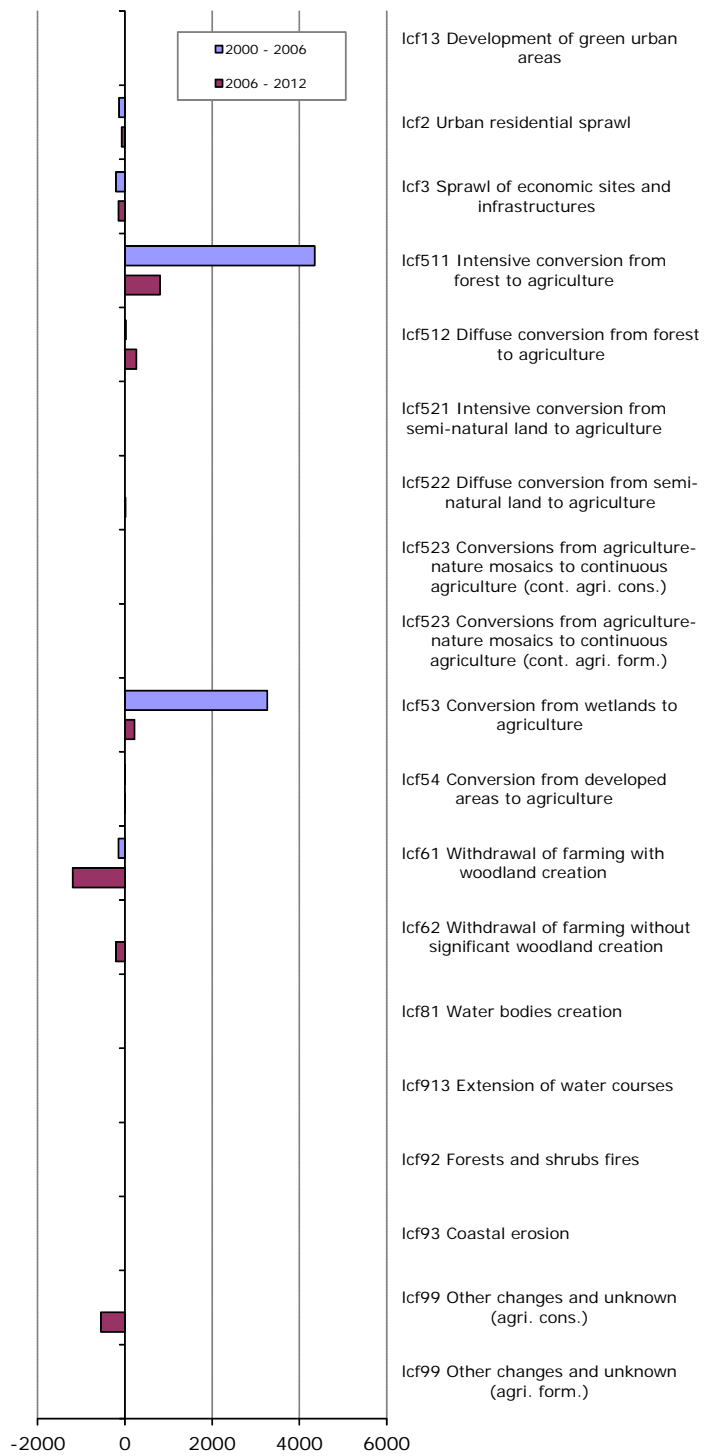


Finland

9.31. Mean annual agriculture internal conversions [ha/year]

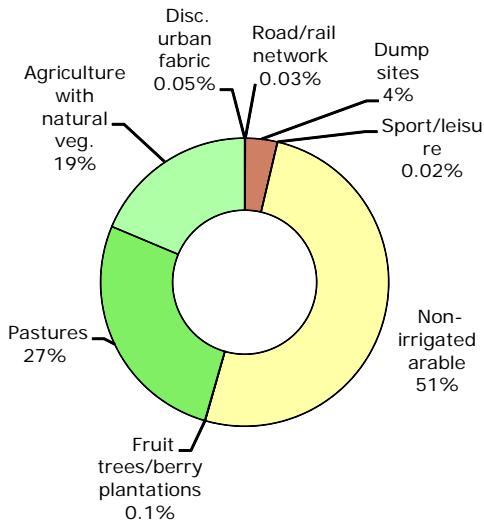


9.32. Mean annual conversions between agriculture and other LC types [ha/year]

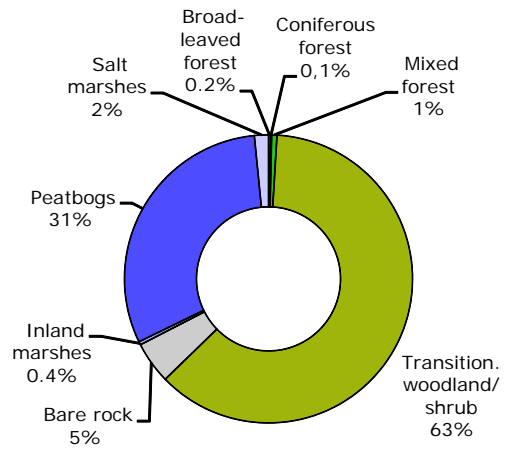


Forest & nature

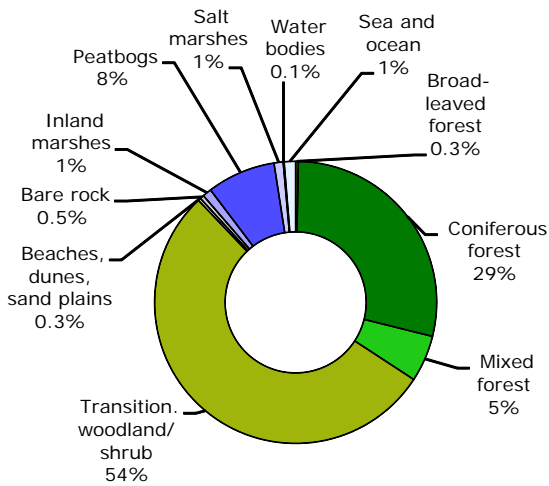
10.33. LC consumed by forest & nature 2006-2012 [% of total]



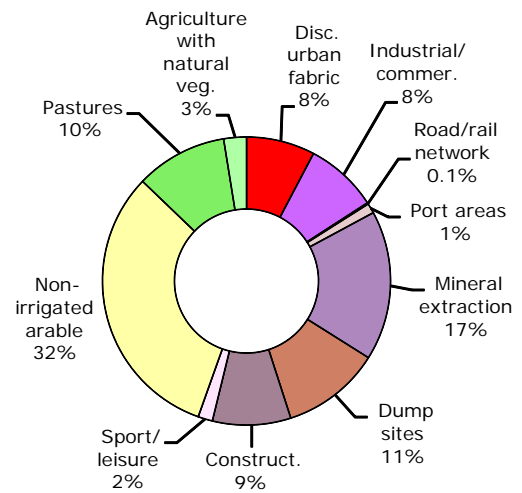
10.34. Formation of forest & nature land from non-forest /nature 2006-2012 [% of total]



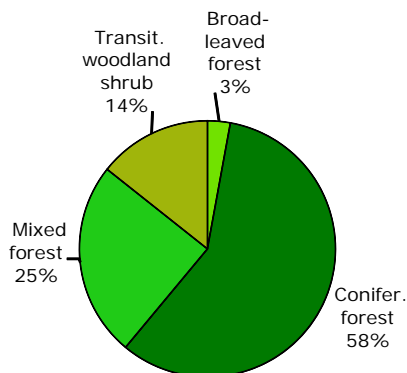
10.35. Consumption of forest & nature land by non-forest/nature 2006-2012 [% of total]



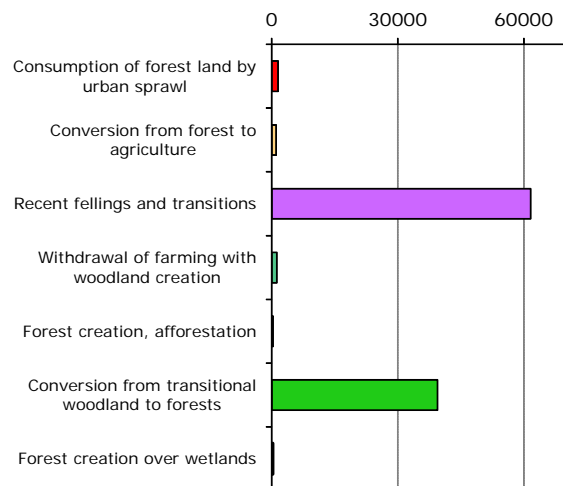
10.36. Formation of non-forest/nature land from forest & nature 2006-2012 [% of total]



10.37. Forested land 2012 [% of total area]

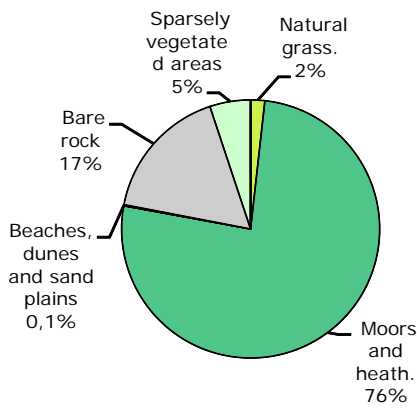


10.38. Main trends in woodland & forests consumption/formation 2006-2012 [ha/year]

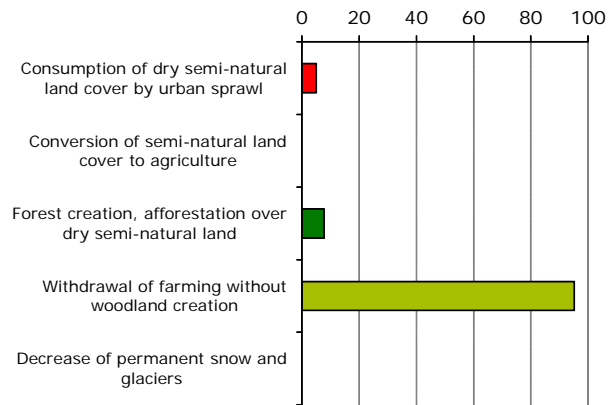


Finland

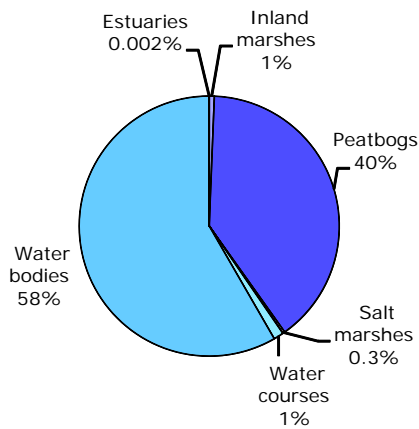
11.39. Dry semi-natural areas 2012
[% of total area]



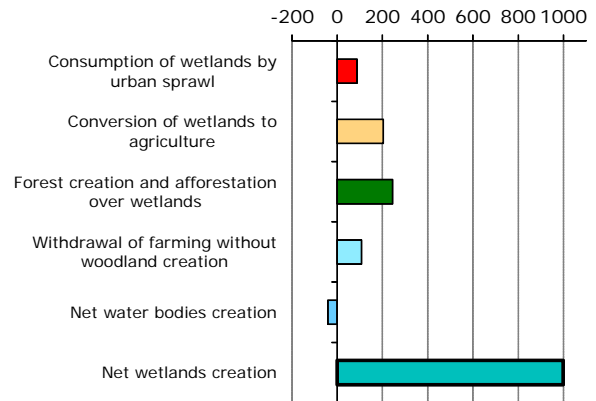
11.40. Main trends in dry semi-natural land consumption/formation 2006-2012
[ha/year]



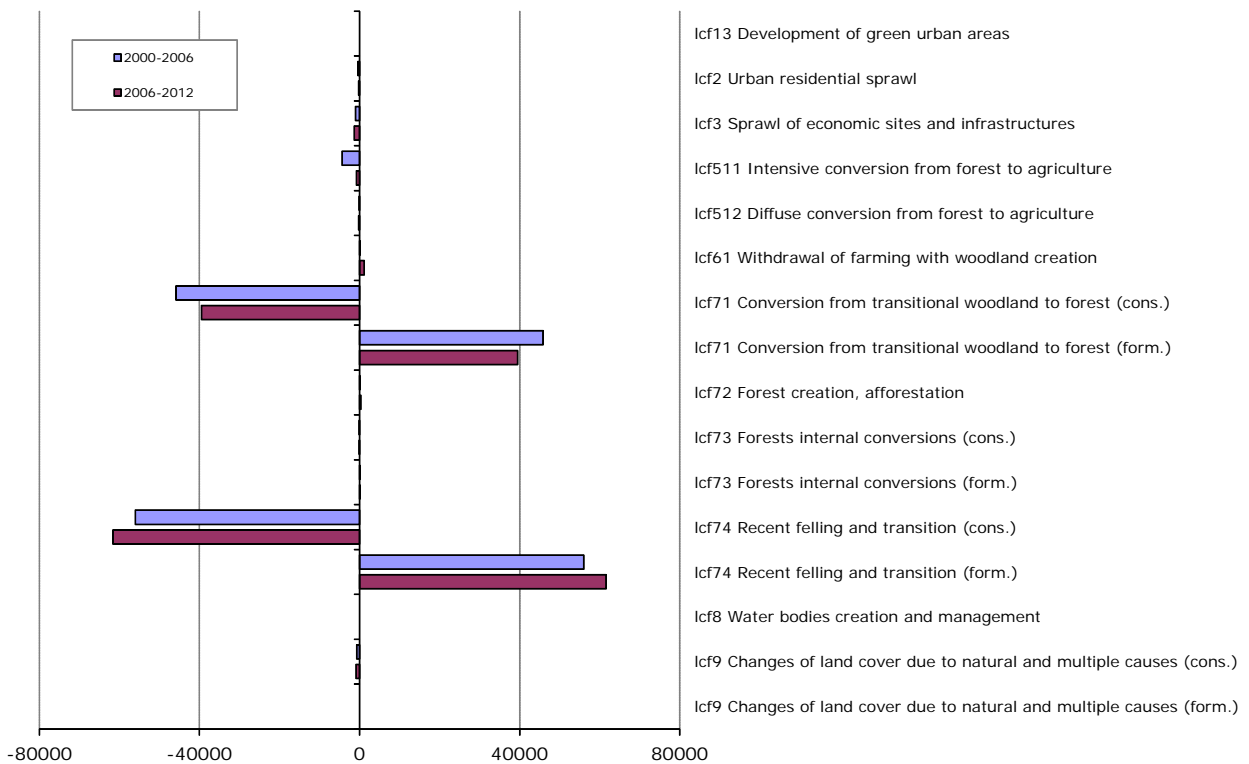
11.41. Wetlands & water 2012
[% of total area]



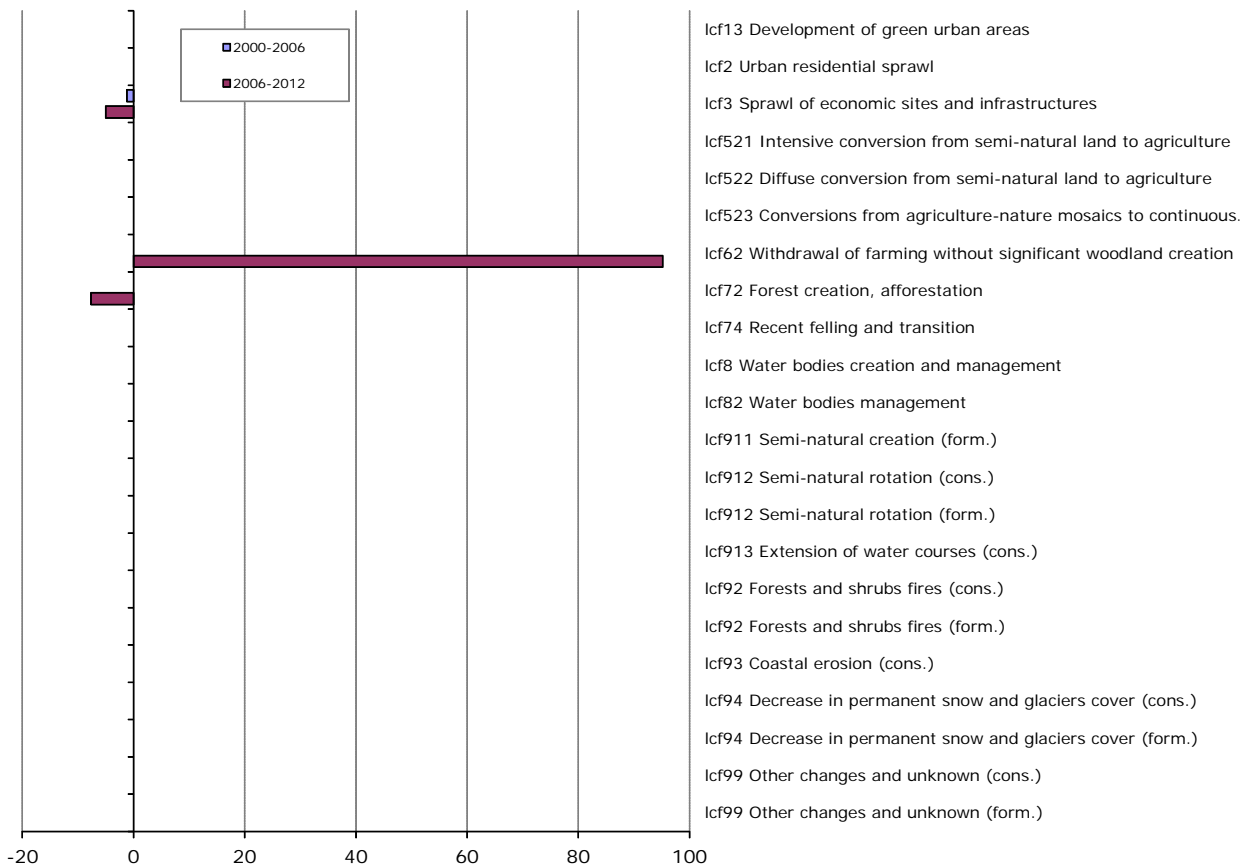
11.42. Main trends in wetlands & water consumption/formation 2006-2012
[ha/year]



11.43. Mean annual conversions of forest & other woodland
[ha/year]



12.44. Mean annual conversions of dry semi-natural LC [ha/year]

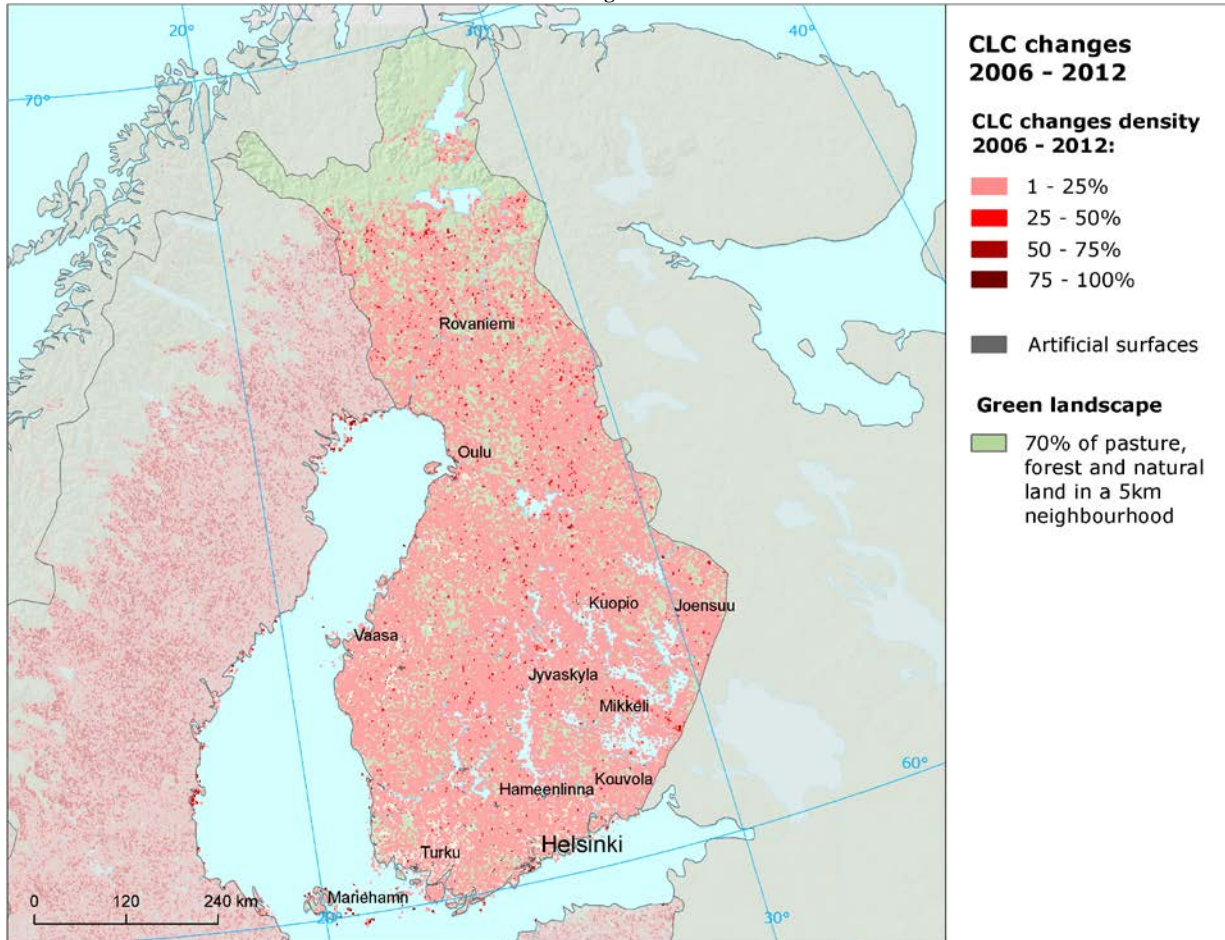


12.45. Mean annual conversions of wetlands and water LC [ha/year]

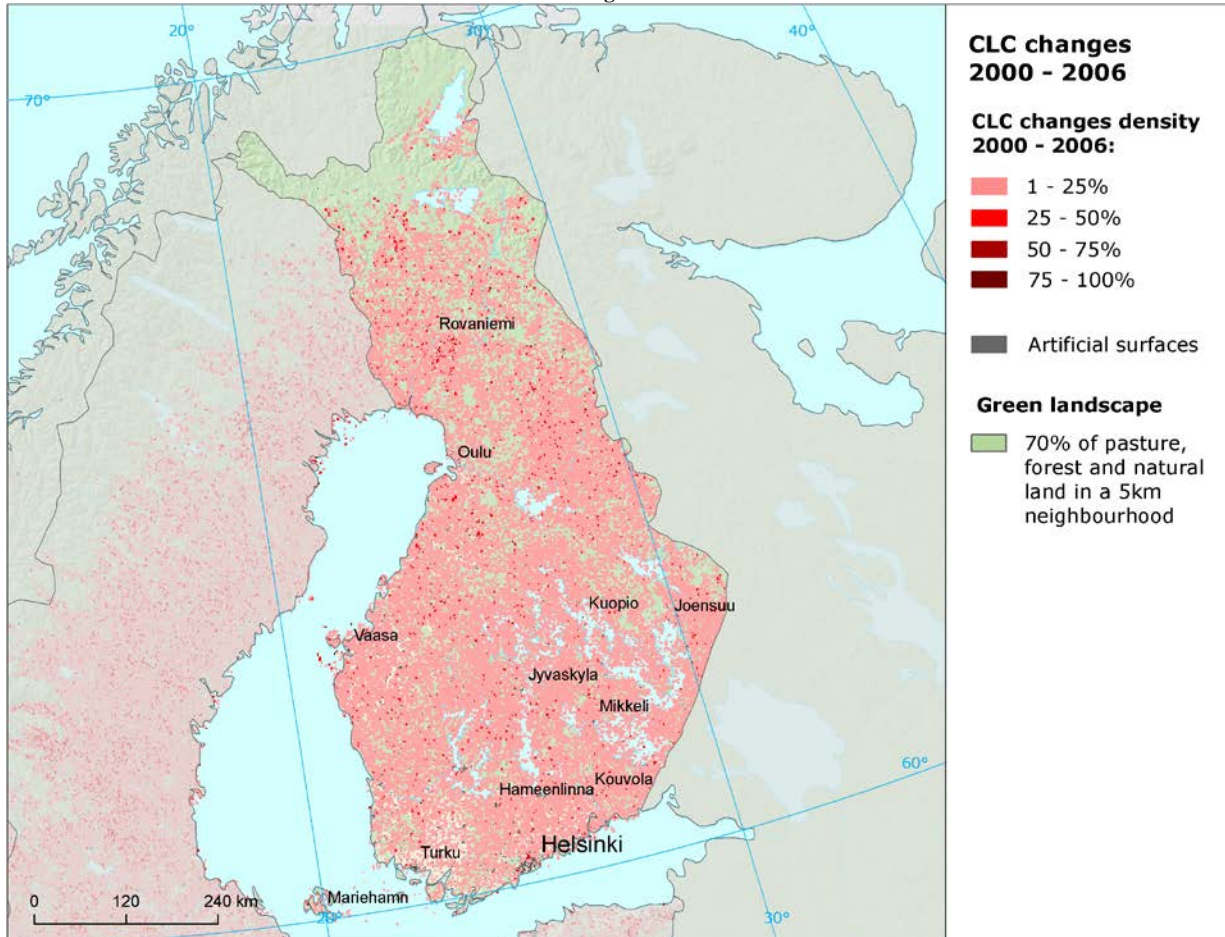


Finland

CLC Changes 2006-2012

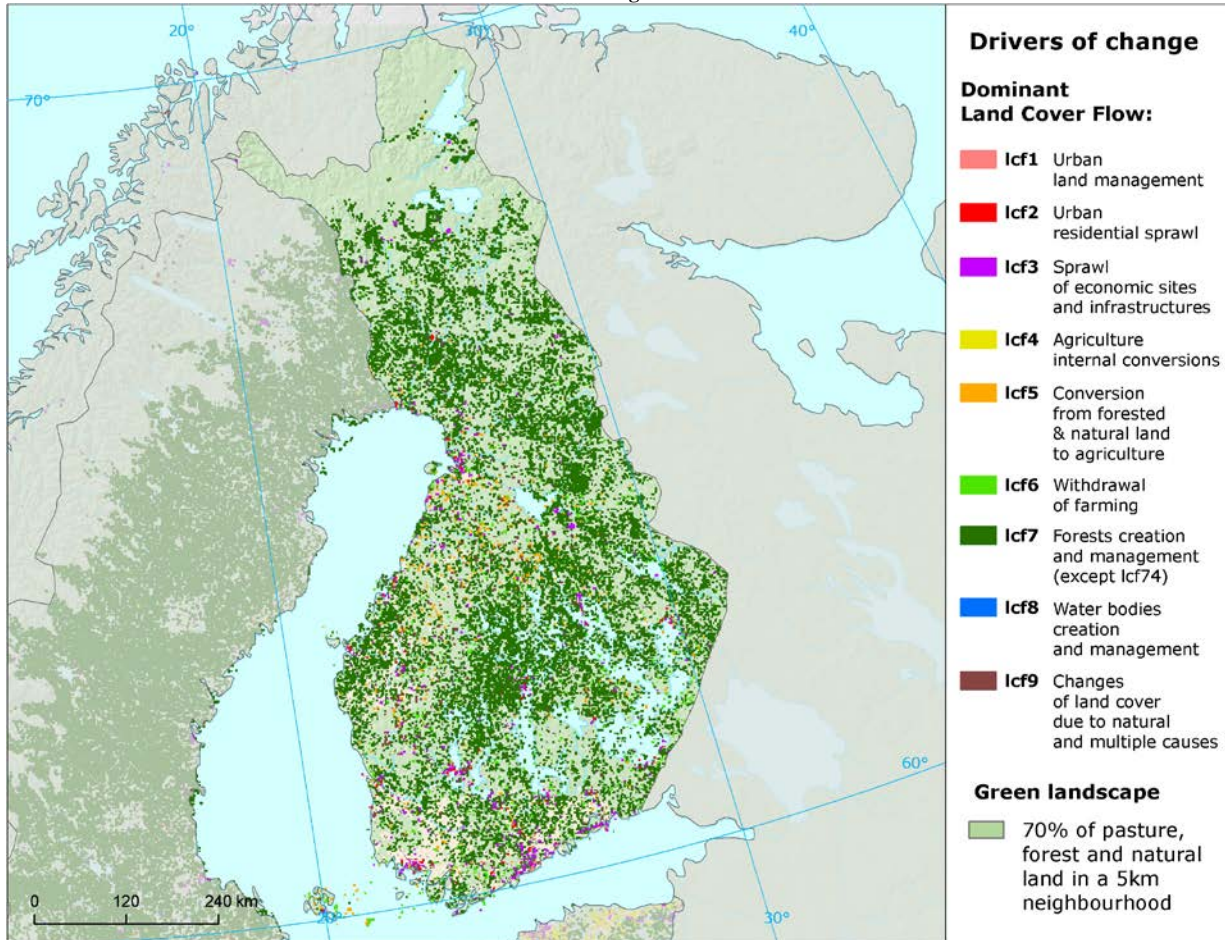


CLC Changes 2000-2006

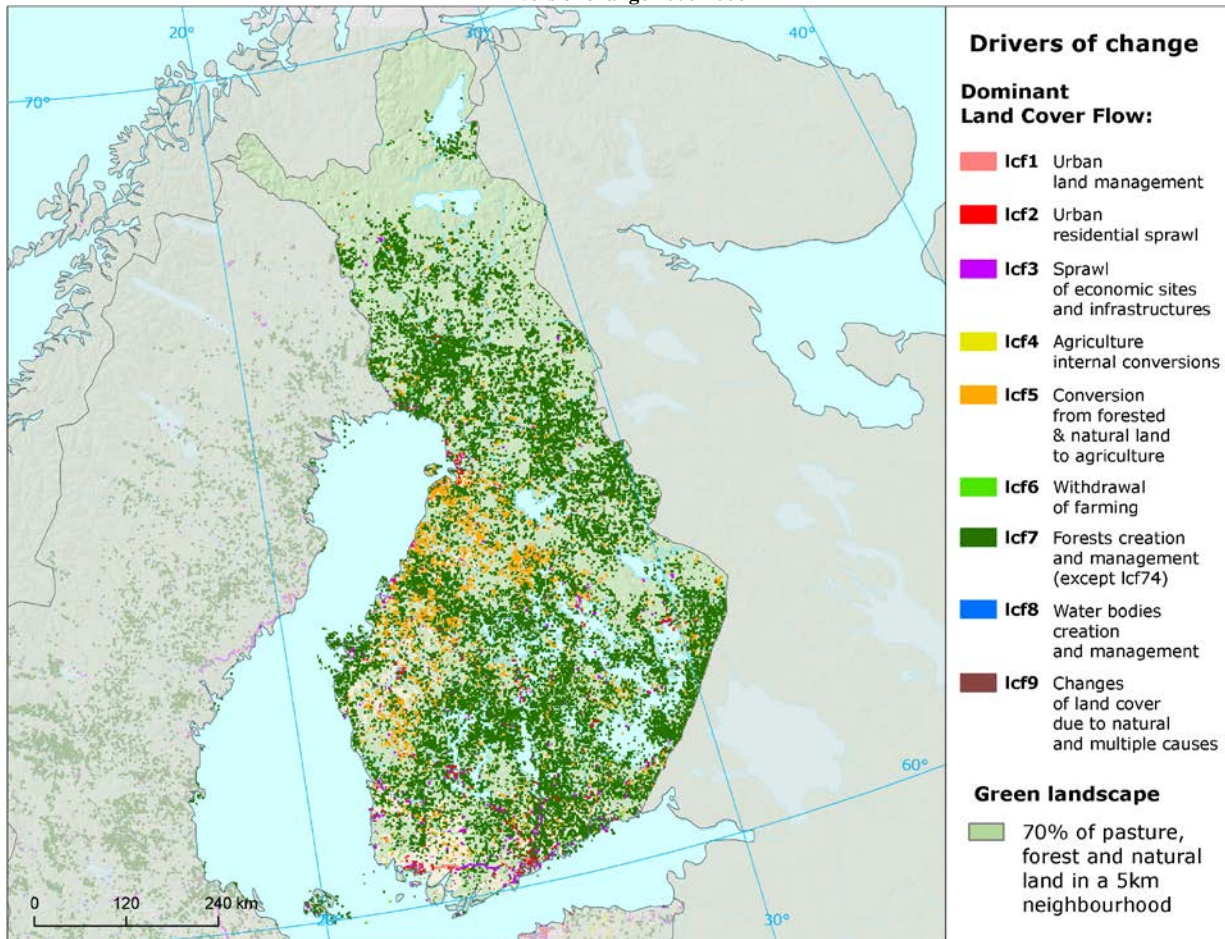


Finland

Drivers of change 2006-2012

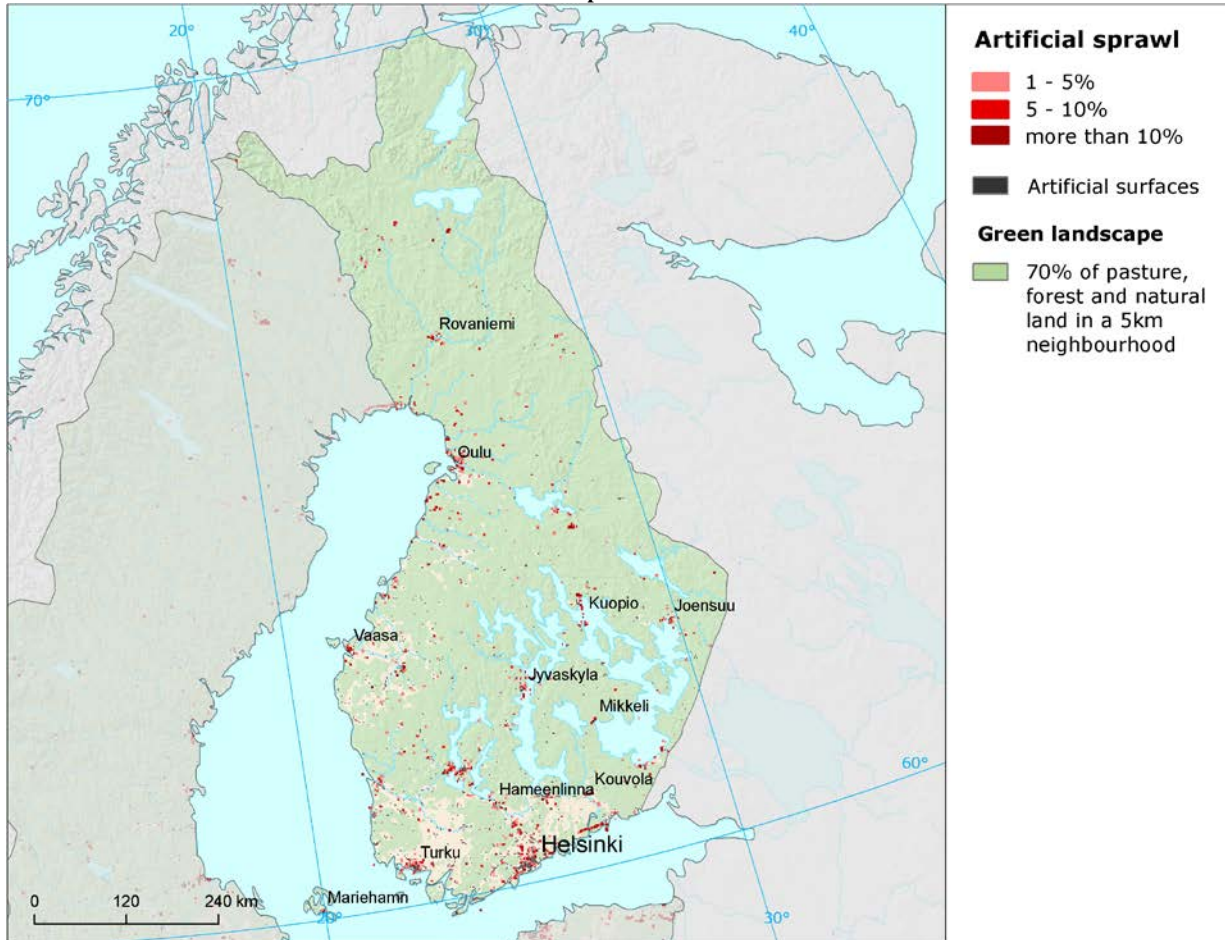


Drivers of change 2000-2006

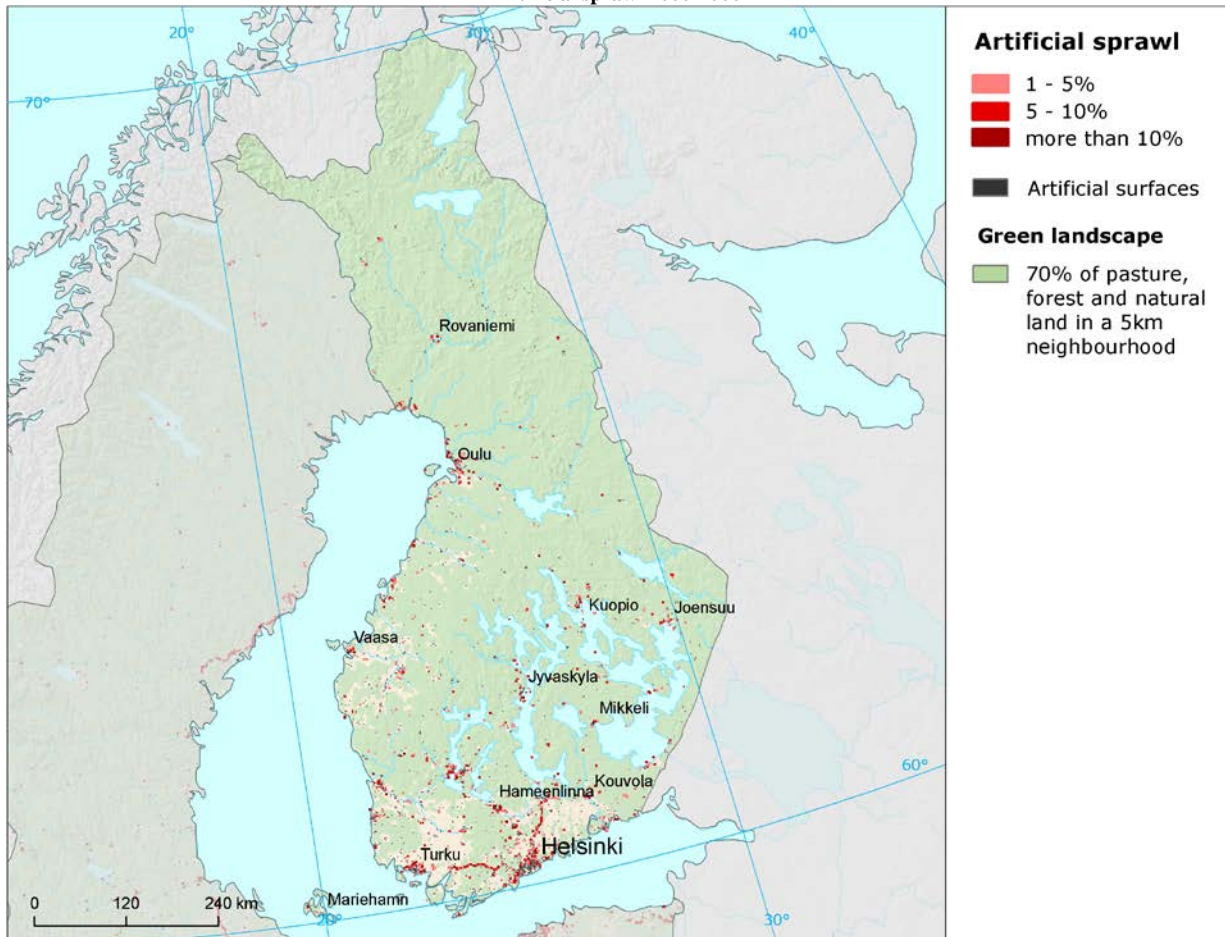


Finland

Artificial sprawl 2006-2012

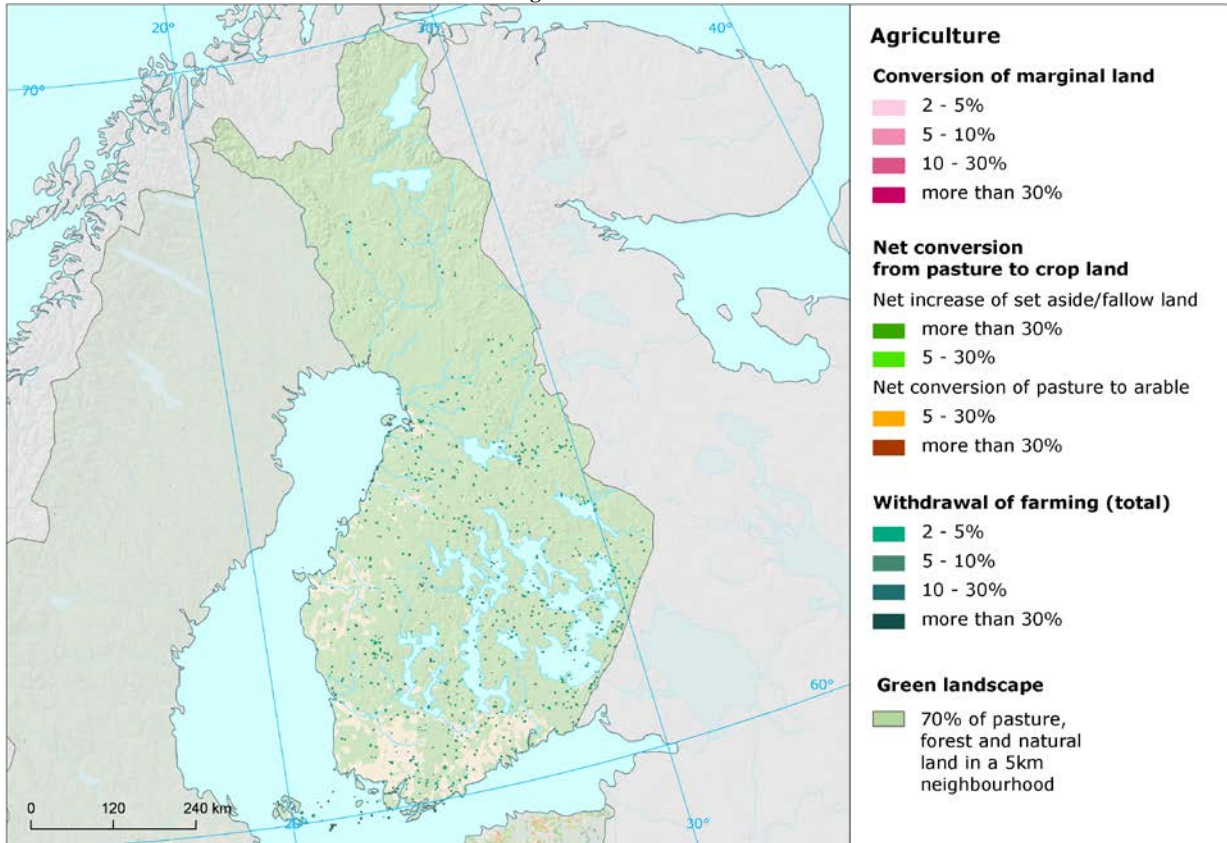


Artificial sprawl 2000-2006

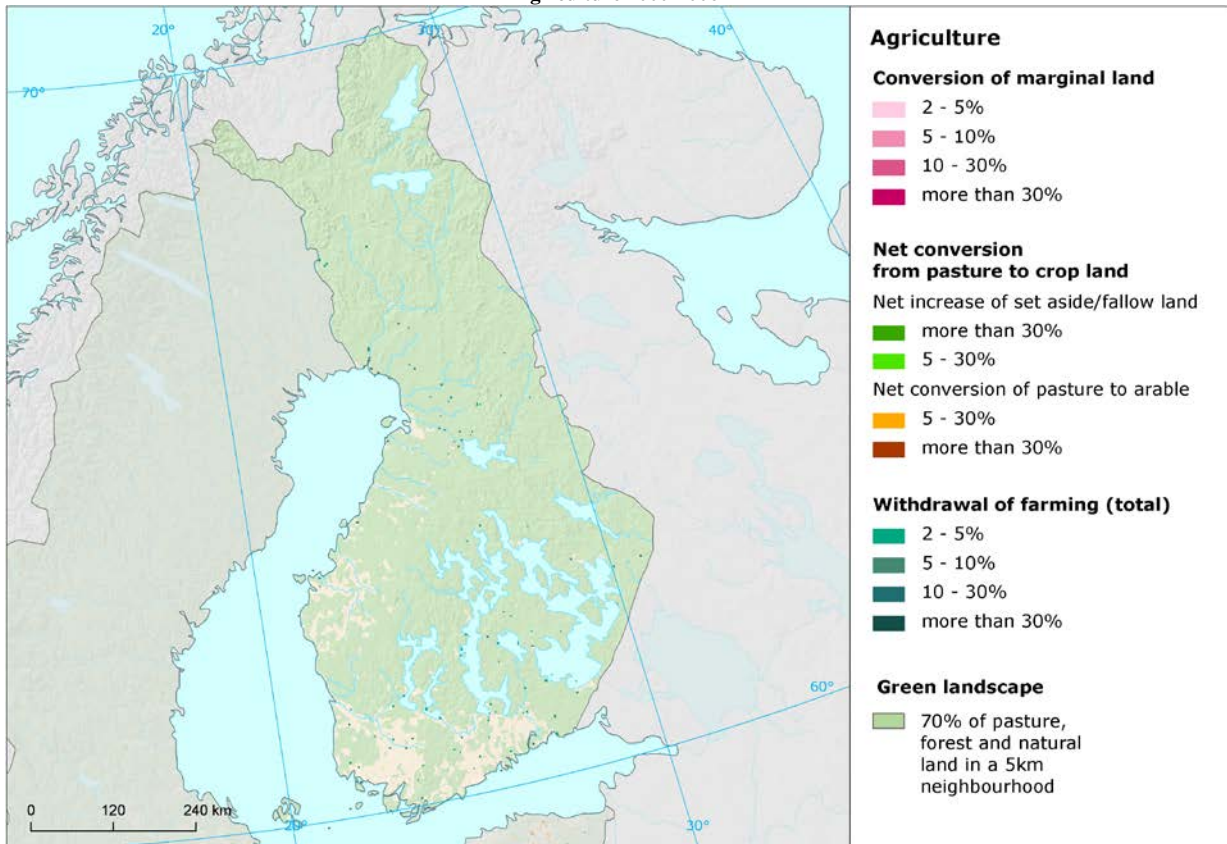


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Agriculture 2006-2012

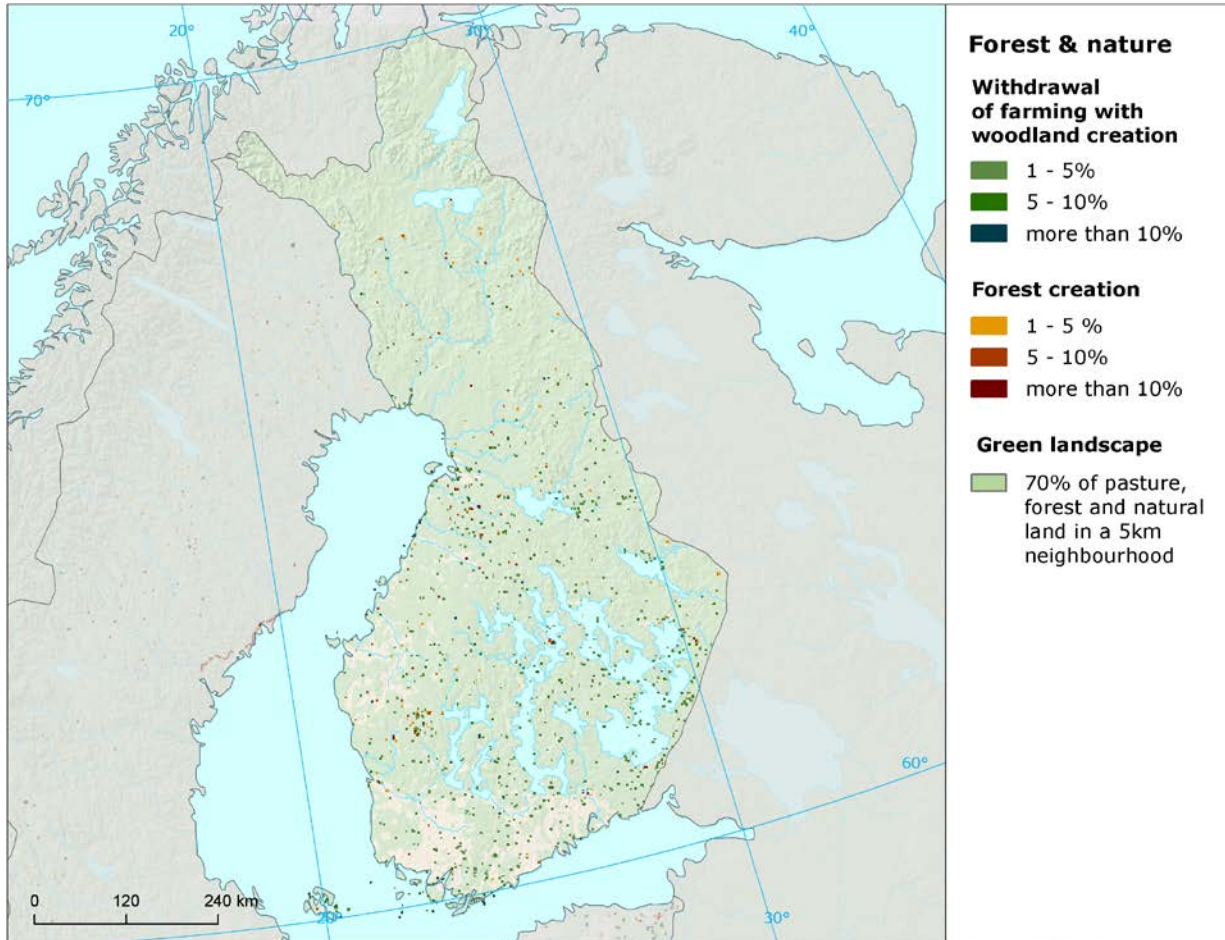


Agriculture 2000-2006



Finland

Forest and nature 2006-2012



Forest and nature 2000-2006

