Country fact sheet

Land cover 2012

Lithuania

September 2017

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European Environment Agency

Lithuania

Land cover 2012

Overview of land cover & change 2006-2012

The land cover development in Lithuania is getting slower, compared to the previous periods. With an annual change rate of 0.18%, its speed is slightly below the European average in the 2006-2012 period. This pace was a bit higher in the period 2000-2006, with a mean annual land take rate of 0.25%. However, both these values show a significant decrease of the land cover change intensity compared to the period 1990-2000, which was characterized by a change rate of 0.48% per year.

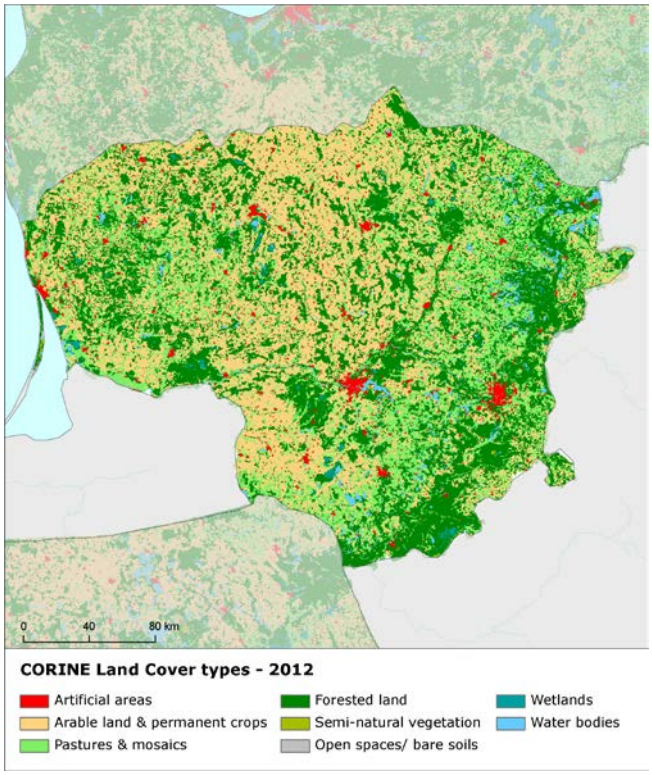
The main reason for this slowdown is the rapid decrease of the intensity of forest conversions, which were and still are the main drivers of the landscape development in the country. The intensity of both recent felling and opposite forest creation is about two times lower, compared to previous periods. In contrast, the intensity of the withdrawal of farming with woodland creation, which was rather low in the past, significantly increased and this flow plays now an important role in the Lithuanian land cover exchange.

Beside these two flows, also the internal agricultural conversions remain to be one of the main drivers of the land cover change, although several times weaker compared to the period 1990-2000, during which internal agricultural development was the most important driver of the landscape development in Lithuania.

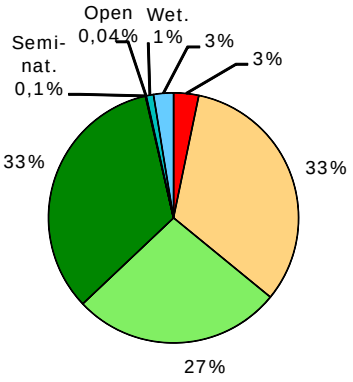
The artificial land take is concentrated mostly around three largest Lithuanian cities – Vilnius, Kaunas and Kleipeda and is driven mainly by the construction and extension of mineral extraction areas. Its intensity is not very high – with an annual artificial land take rate of 0.3%, it is slightly below the European average. It is comparable with the previous period 2000-2006, however, the sprawl intensity was significantly lower before in Lithuania – in the period 1990-2000, the annual land take rate was only 0.07%.

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.

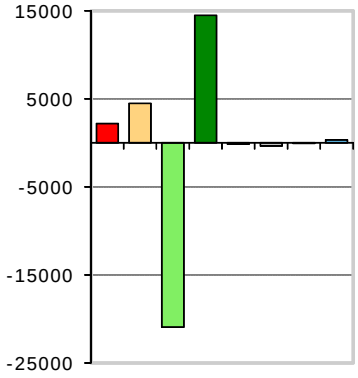
Number of years between CLC2006-CLC2012 data for Lithuania: 6



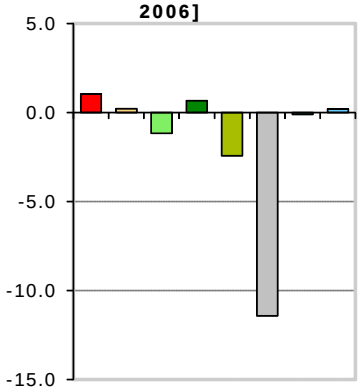
1.1. Land cover 2012 [% of total]

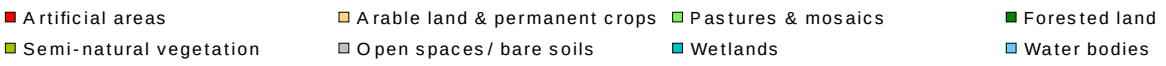


1.2. Net change in land cover 2006-2012 [ha]



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





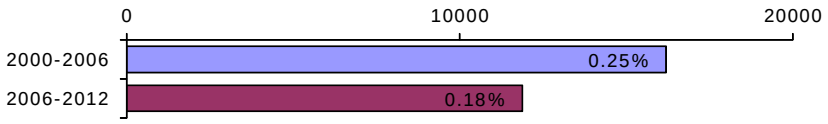
Summary balance table 2006-2012

	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	**2111**	**21391**	**17944**	**21803**	**49**	**32**	**615**	**1680**	**65625**
Consumption of initial LC	40.4	74.3	241.4	349.5	1.4	3.6	2.0	0.1	713
Formation of new LC	62.3	119.2	31.8	494.4	0.2	0.0	1.3	3.4	713
Net Formation of LC	**21.9**	**44.9**	**-209.5**	**144.9**	**-1.2**	**-3.6**	**-0.7**	**3.3**	**0**
Net formation as % of initial year	*1.0*	*0.2*	*-1.2*	*0.7*	*-2.4*	*-11.4*	*-0.1*	*0.2*	
Total turnover of LC	**102.7**	**193.6**	**273.2**	**843.9**	**1.6**	**3.6**	**3.4**	**3.5**	**1425**
Total turnover as % of initial year	*4.9*	*0.9*	*1.5*	*3.9*	*3.2*	*11.4*	*0.5*	*0.2*	*2.2*
Land cover 2012	**2133**	**21436**	**17734**	**21948**	**48**	**28**	**614**	**1684**	**65625**

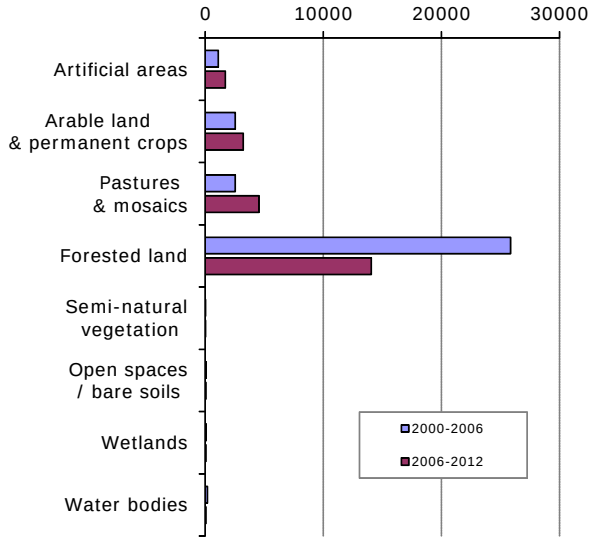
Lithuania

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

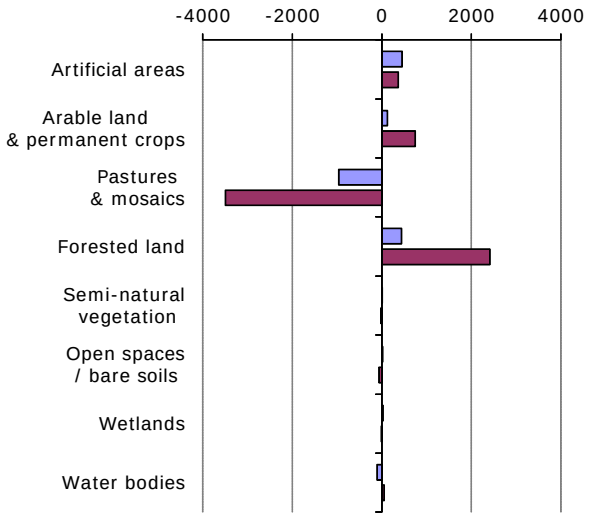
2.4. Annual land cover change [ha/year, % of total area]



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

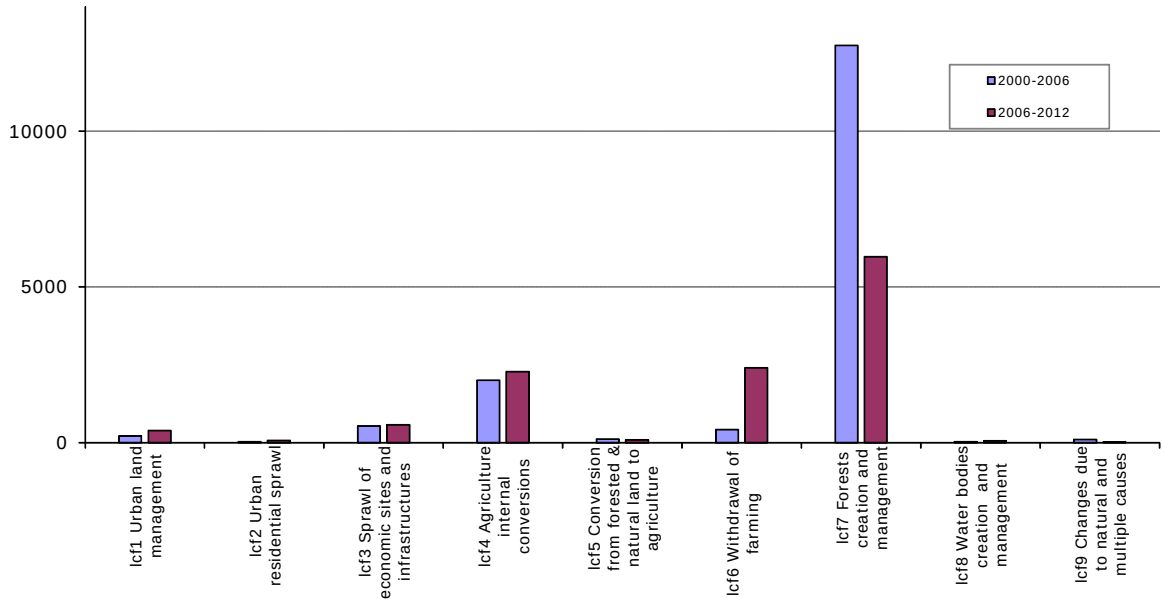


2.6. Net annual change of LC types [ha/year]



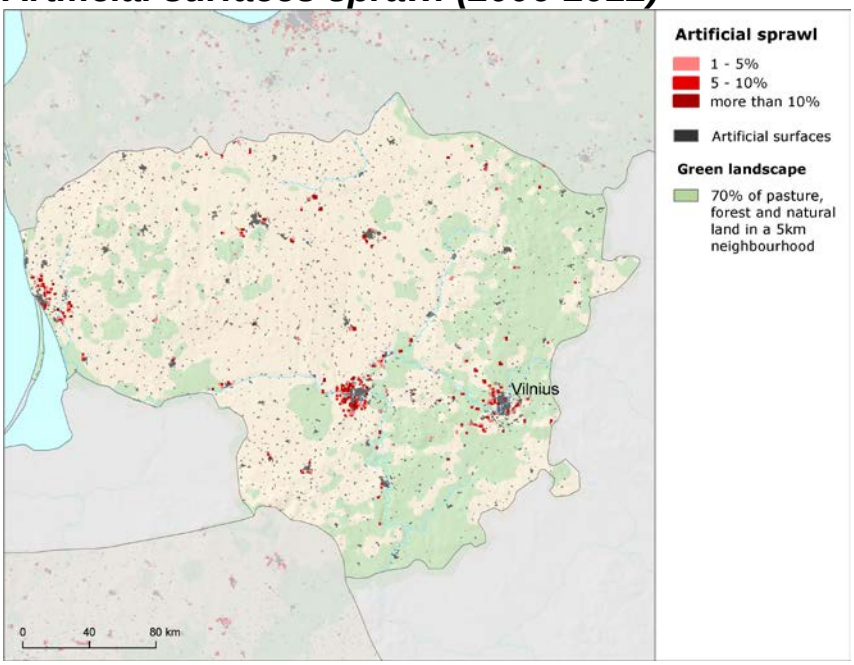
Summary trend figures	2000-2006	2006-2012
Annual land cover change [ha/year]	**16193**	**11878**
Annual land cover change as % of initial year	**0.25%**	**0.18%**
Land uptake by artificial development as mean annual change [ha/year]	563	612
Agricultural land uptake by urban and infrastructures development as mean annual change [ha/year]	543	561
Net uptake of forests and semi-natural land by agriculture as mean annual change [ha/year]	-312	-2378
Net conversion from pasture to arable land and permanent crops as mean annual change [ha/year]	797	2013
Forest & other woodland net formation as mean annual change [ha/year]	439	2415
Dry semi-natural land cover net formation as mean annual change [ha/year]	28	-80
Wetlands & water bodies net formation as mean annual change [ha/year]	-81	44

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

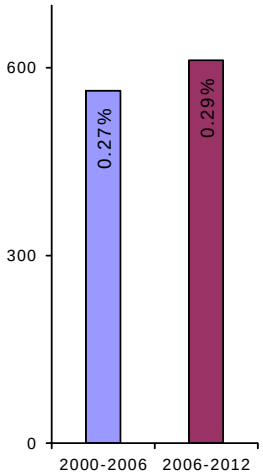


Lithuania

Artificial surfaces sprawl (2006-2012)



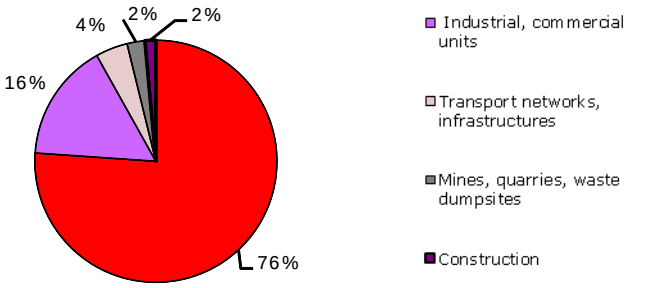
3.8. Artificial land take [ha/year, % of initial year]



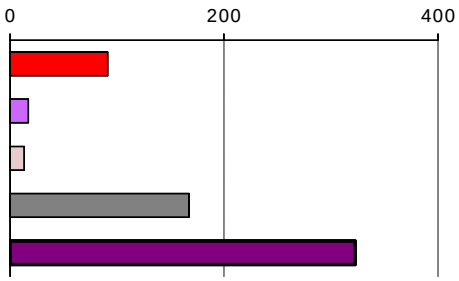
Formation of residential fabric culminates

The recent rate of artificial land take in Lithuania is comparable to the previous period 2000-2006, in contrast to the net formation rate of artificial land, which decreased a bit. It indicates that not only the sprawl, but also the consumption of artificial surfaces (represented by afforestation or agricultural land creation over former mineral extraction sites) occurs in Lithuania. Recycling of developed urban land is the most extensive flow in the frame of artificial development in the country. A formation of discontinuous urban fabric, which was the main driver of the artificial development already in previous periods, continues with almost doubled intensity in the period 2006-2012. However, this residential area formation is realized mainly through finalization of units, which were under construction already during the previous period. The land take itself is driven mainly by new construction, together with the extension of mines and quarry areas. The sprawl is concentrated mostly in the surroundings of the capital city Vilnius (mostly recycling of developed urban land with residential units formation) and also of two other major Lithuanian cities – Kaunas and Klaipeda.

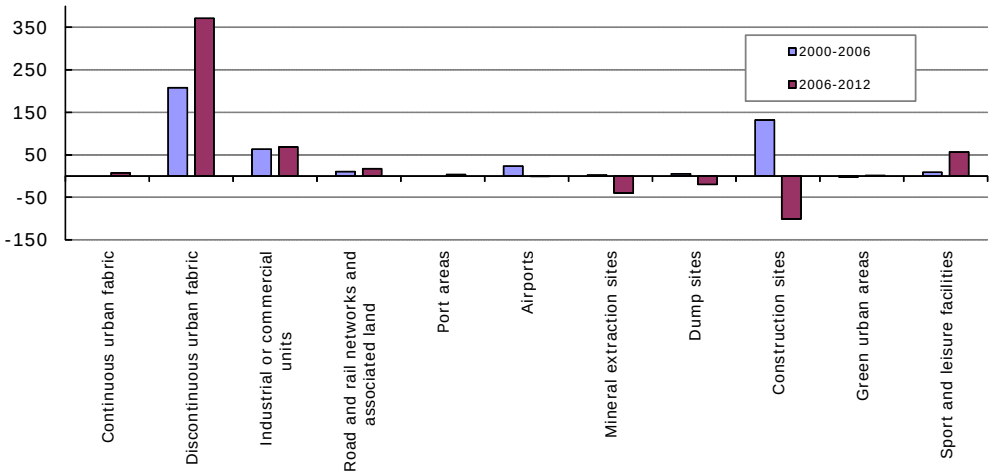
3.9. Artificial surfaces 2012 [% of total area]



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

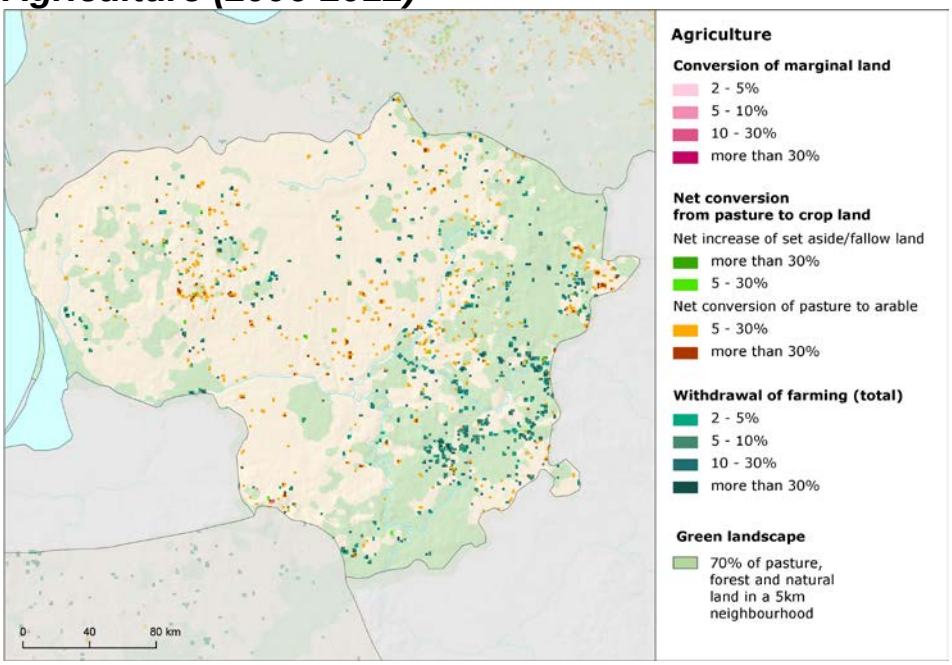


3.11. Mean annual artificial change by class [ha/year]



Lithuania

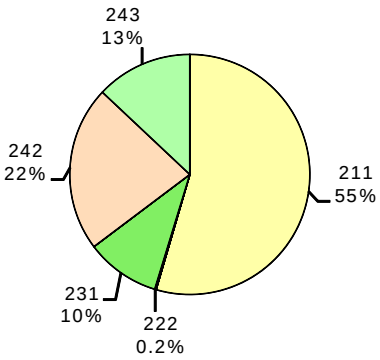
Agriculture (2006-2012)

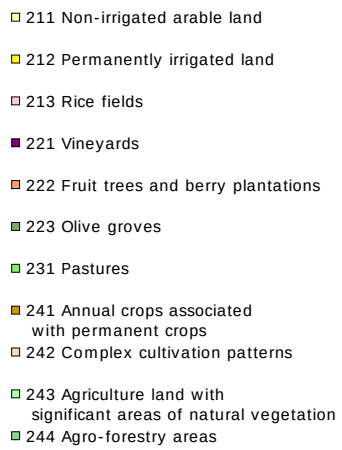


Rapid increase of withdrawal of farming

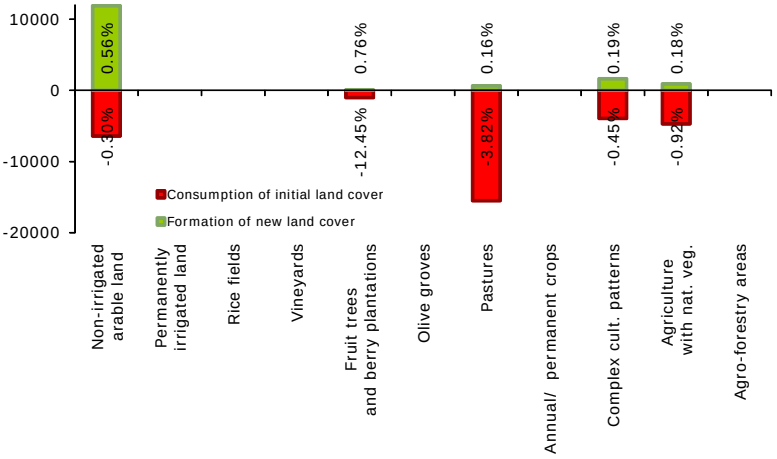
The overall dynamics of agricultural development in Lithuania is high, and agricultural conversions belong to the major forces in the frame of land cover exchanges. The two most significant conversions of the Lithuanian agricultural land are the internal conversion from pasture to arable and also the withdrawal of farming with transitional woodland creation. While the first one was obvious already during the previous period, withdrawal of farming is much stronger in the 2006-2012 and became the second most extensive flow in Lithuania. Concerning the spatial distribution of these transitions, conversion from pasture to arable is uniformly scattered over most of the country, while the majority of the withdrawal of farming is concentrated in the eastern part of Lithuania. As a result of this development, pastures and agriculture with natural vegetation have negative balance of net change, in contrast to the arable land, with prevailing formation of area. Agricultural land is also consumed by the sprawl of economic sites and infrastructures, mostly by the extension of construction sites.

4.12. Agricultural areas 2012 [% of total area]

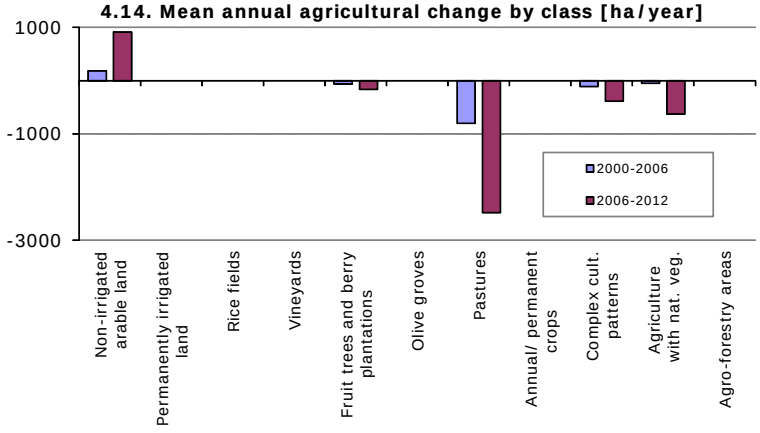




4.13. Development of agricultural areas 2006-2012 – detailed balance [ha]

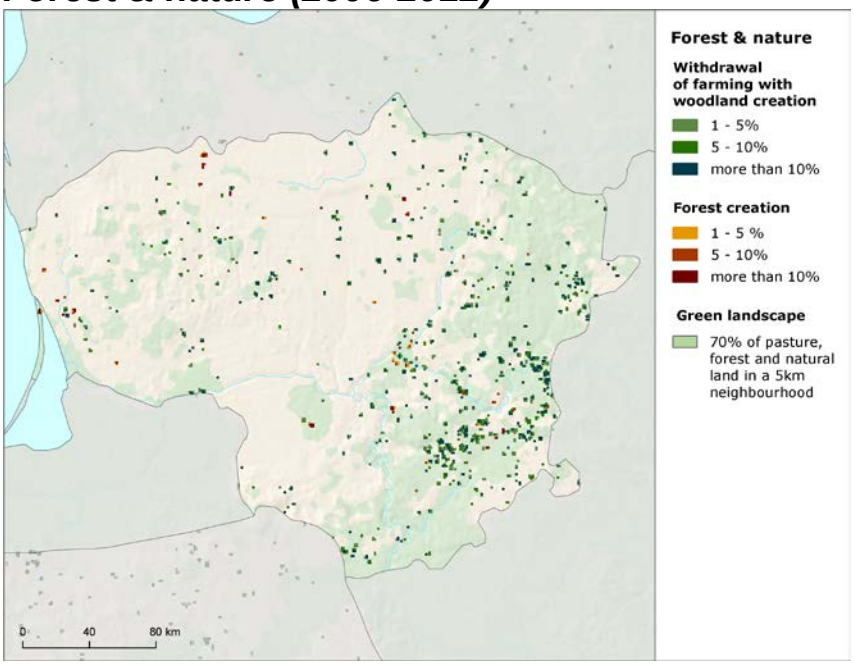


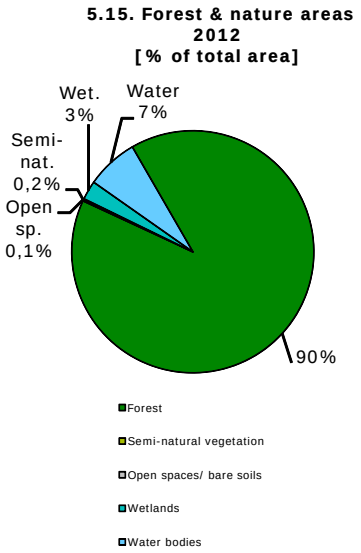
4.14. Mean annual agricultural change by class [ha/year]



Lithuania

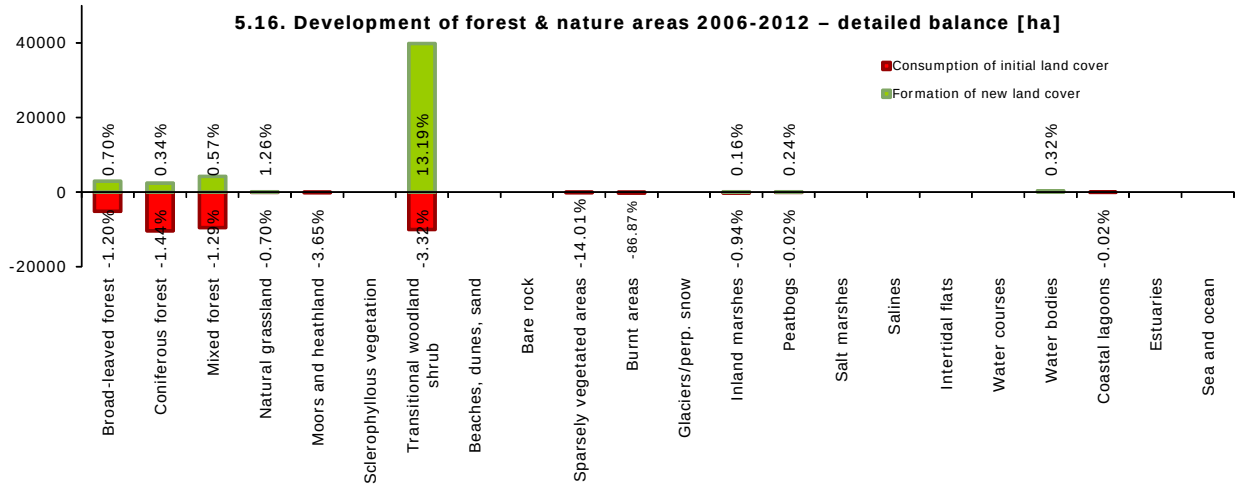
Forest & nature (2006-2012)

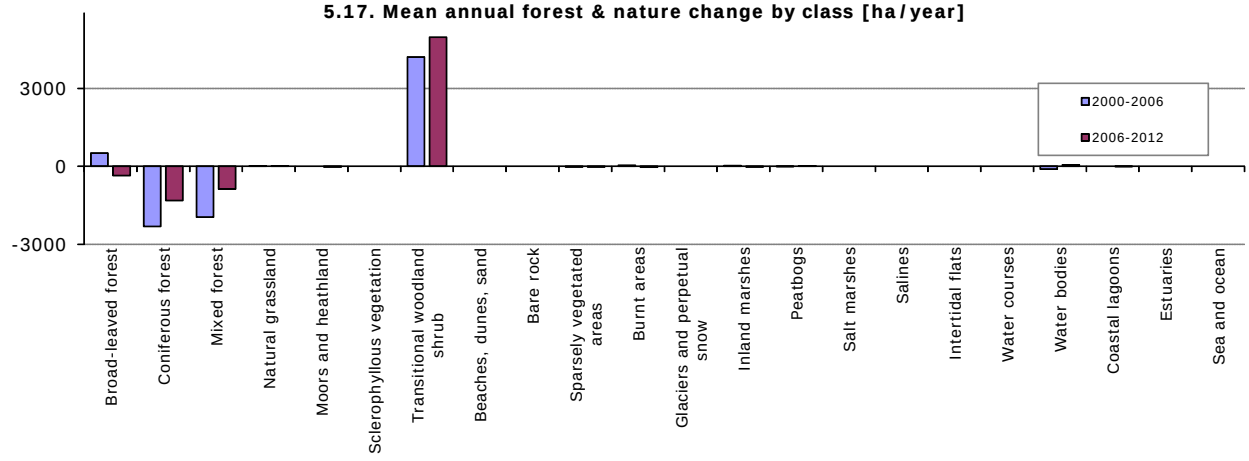




Woodland creation becomes an important driver

Compared to the previous period, the intensity of the internal forest conversions significantly decreased, in contrast to the withdrawal of farming with forest creation, which became much stronger in the 2006-2012 period. Mostly, transitional woodland and shrub has been created in the frame of this flow. The overall balance of forested and natural land shows consumption of all forested types (broad-leaved, coniferous and mixed forest) and formation of transitional woodland and shrub – this balance is caused by both recent felling and transitional woodland formation over mainly pasture land. The geographical distribution of forest land conversion shows a similar pattern as in previous period with major concentration of withdrawal of farming located into the eastern part of the country. An interesting process which occurs in Lithuanian landscape is the abandonment of former mineral extraction sites with transitional woodland creation.

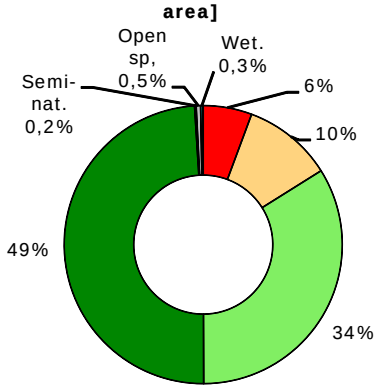




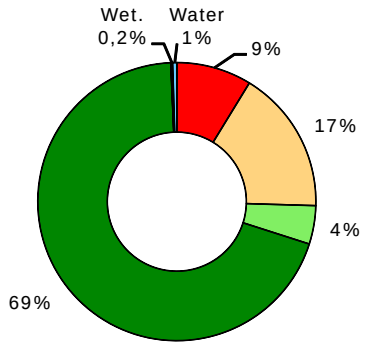
Annex: Land cover flows and trends

Land cover flows 2006-2012

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

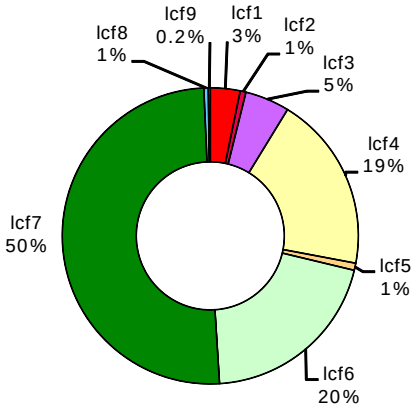


6.19. Formation of land cover 2006-2012 [% of total change area]



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]

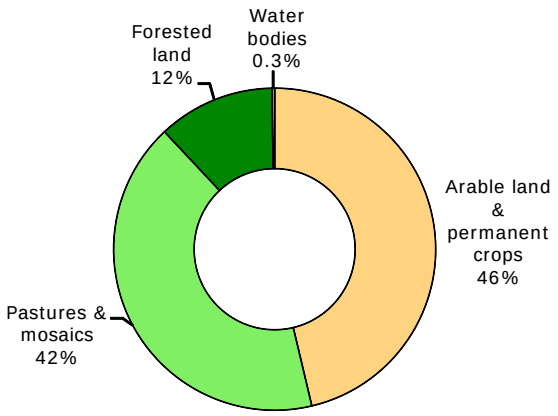


lcf1 Urban land management
lcf2 Urban residential sprawl
lcf3 Sprawl of economic sites and infrastructures
lcf4 Agriculture internal conversions
lcf5 Conversion from forested & natural land to agriculture
lcf6 Withdrawal of farming
lcf7 Forests creation and management
lcf8 Water bodies creation and management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

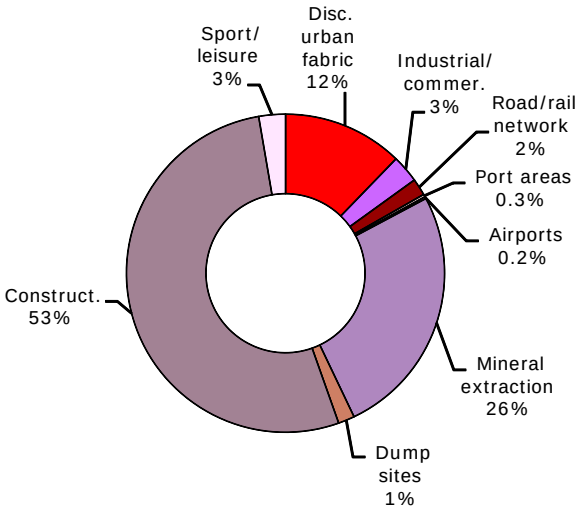
Lithuania

Artificial areas

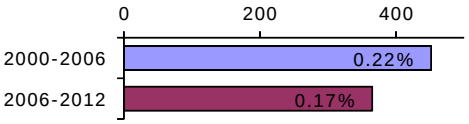
7.21. Consumption by artificial land take 2006-2012 [% of total]



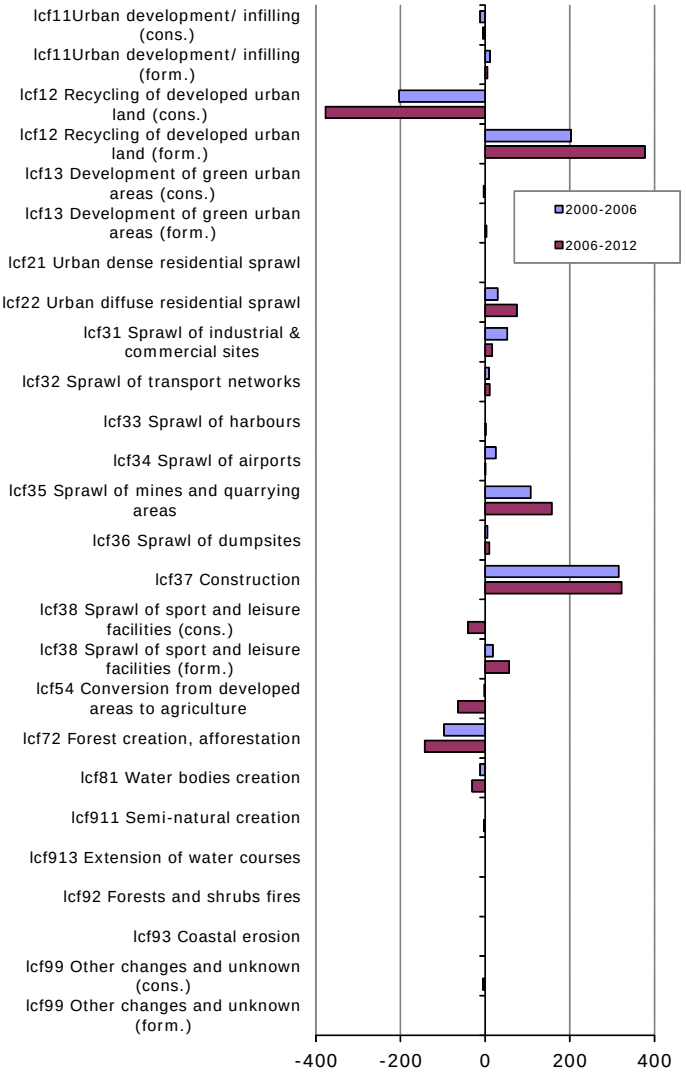
7.22. Formation by artificial land take 2006-2012 [% of total]



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



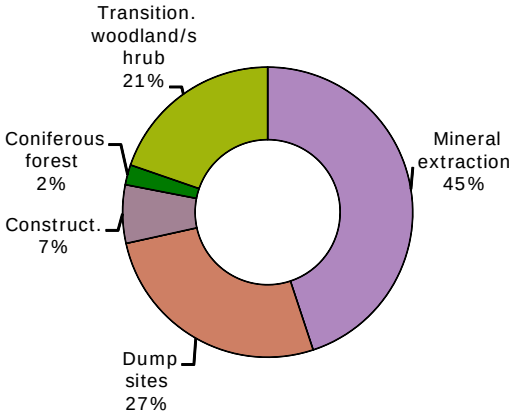
7.24. Artificial development by change drivers (LC FLOWS) [ha/year]



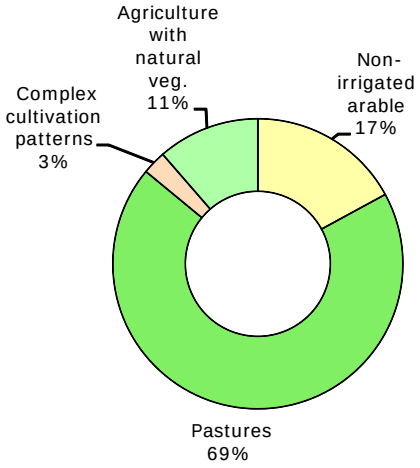
Lithuania

Agriculture

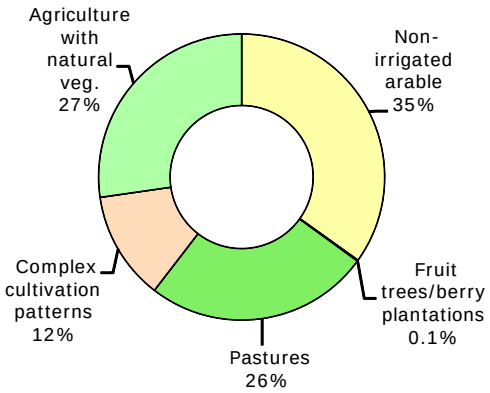
8.25. LC consumed by agriculture 2006-2012 [% of total]



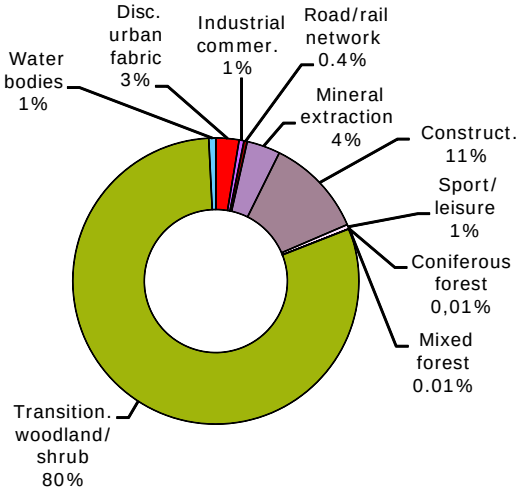
8.26. Formation of agricultural land from non-agriculture 2006-2012 [% of total]



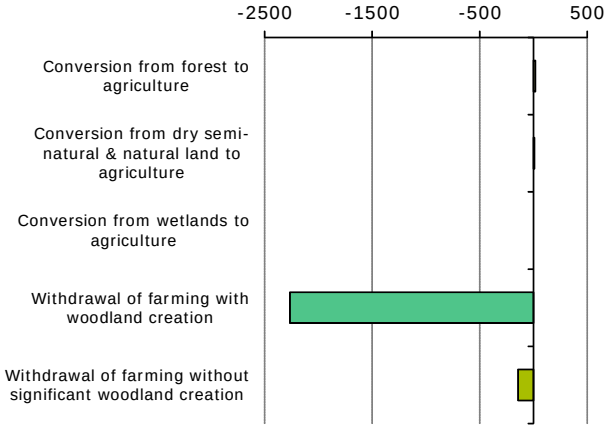
8.27. Consumption of agricultural land by non-agriculture 2006-2012 [% of total]



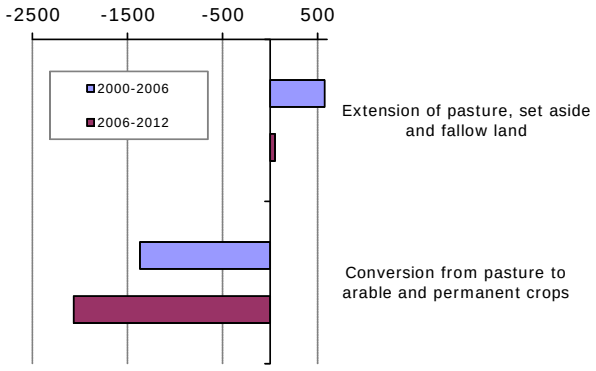
8.28. Formation of non-agricultural land from agriculture 2006-2012 [% of total]



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

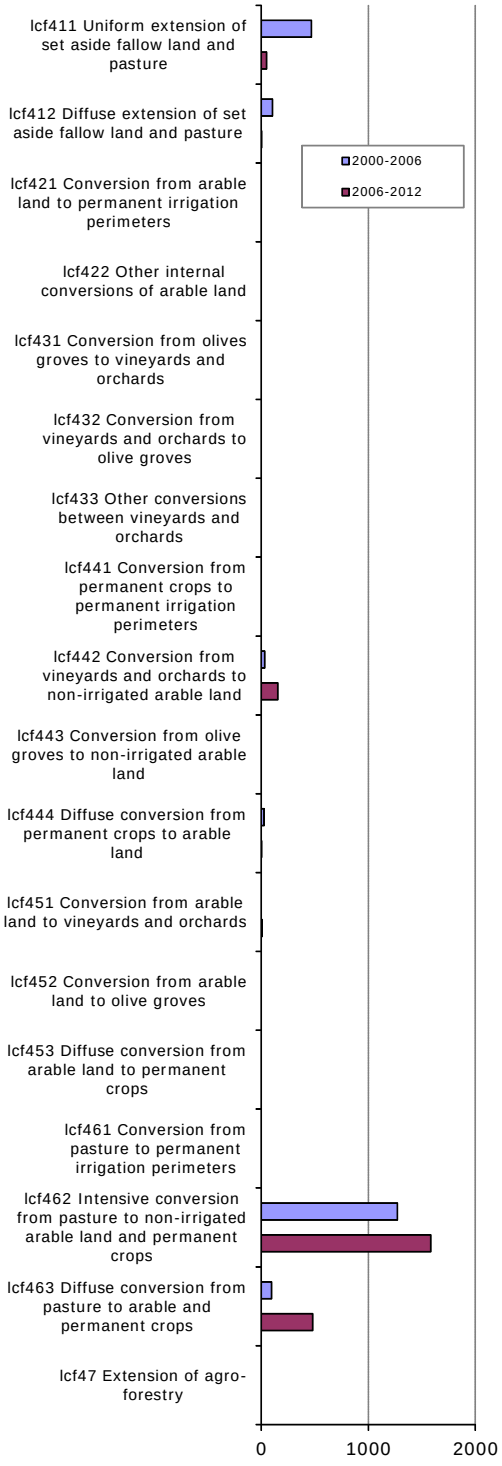


8.30. Mean annual conversion between arable land and pasture [ha/year]

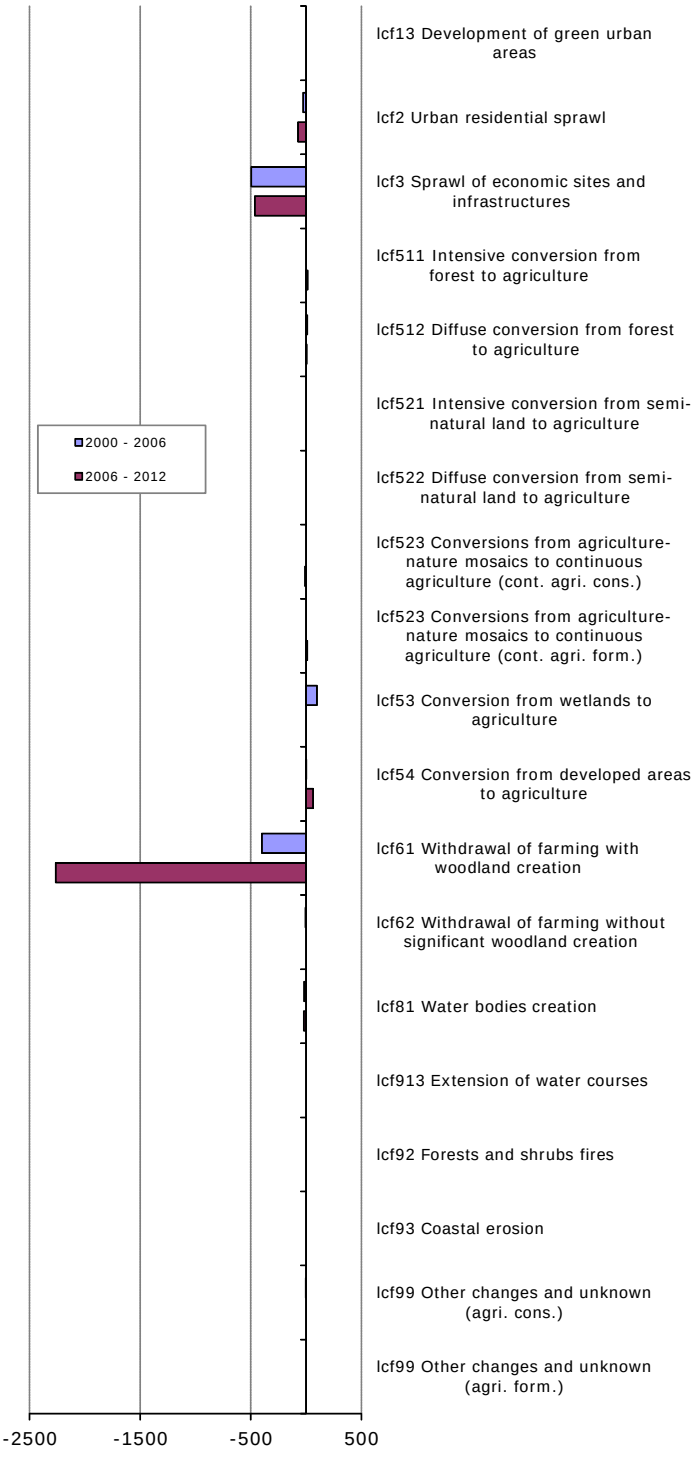


Lithuania

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



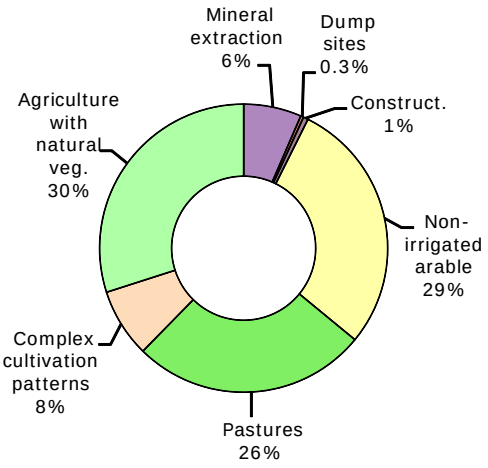
9.32. Mean annual conversions between agriculture and other LC types [ha/year]



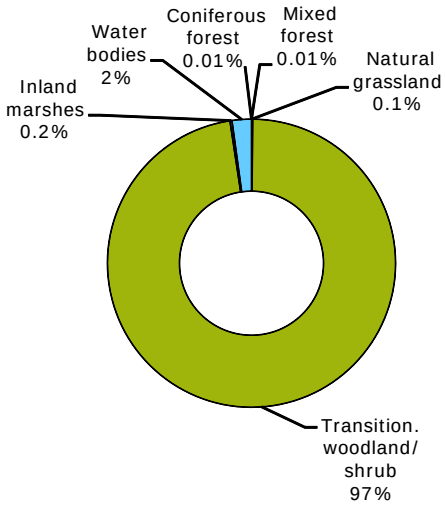
Lithuania

Forest & nature

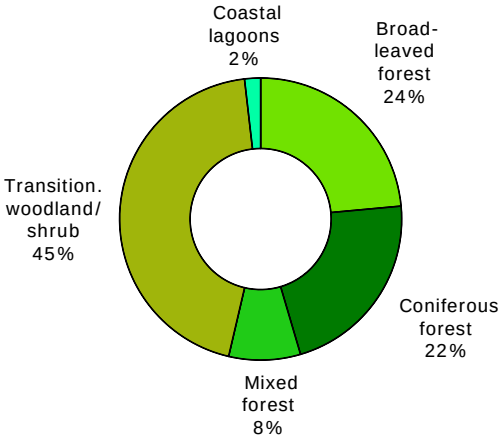
10.33. LC consumed by forest & nature 2006-2012 [% of total]



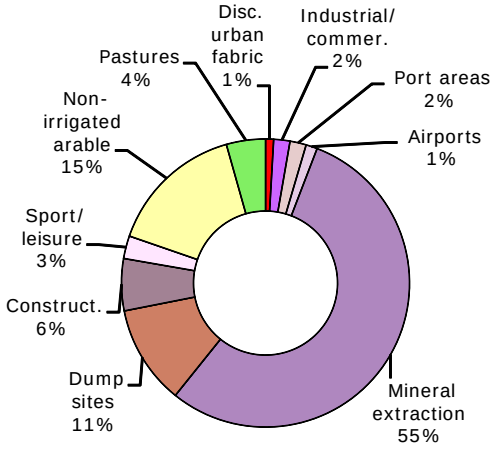
10.34. Formation of forest & nature land from non-forest /nature 2006-2012 [% of total]



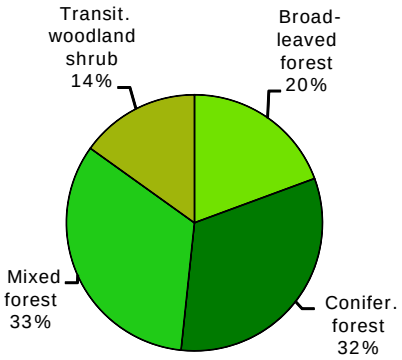
10.35. Consumption of forest & nature land by non-forest/nature 2006-2012 [% of total]



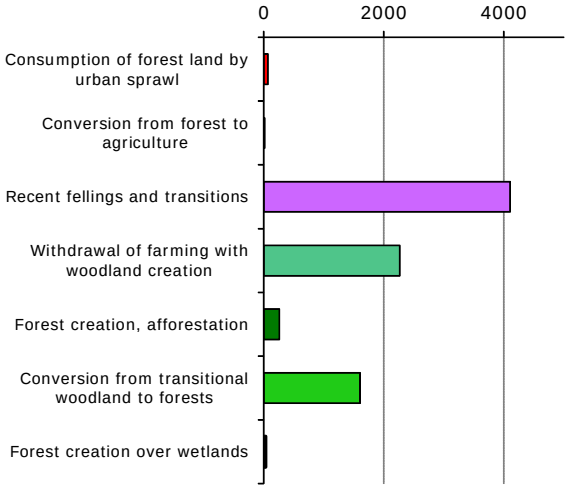
10.36. Formation of non-forest/nature land from forest & nature 2006-2012 [% of total]



10.37. Forested land 2012 [% of total area]



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



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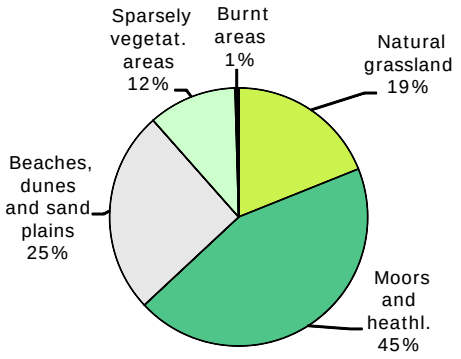
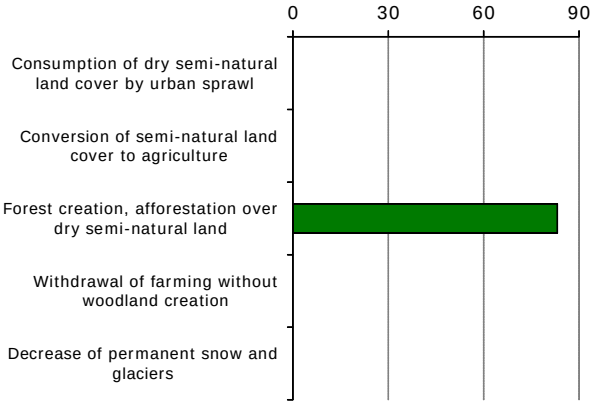
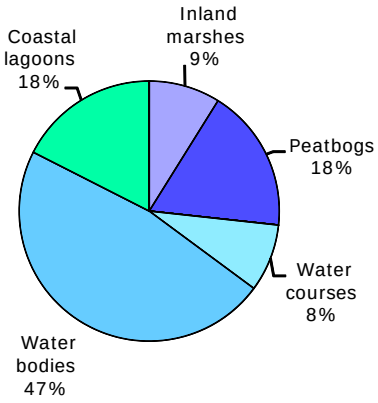
11.39. Dry semi-natural areas 2012 [% of total area]



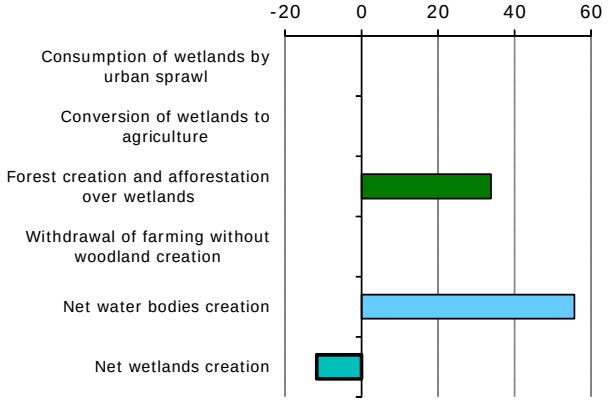
11.40. Main trends in dry semi-natural land consumption/formation 2006-2012 [ha/year]



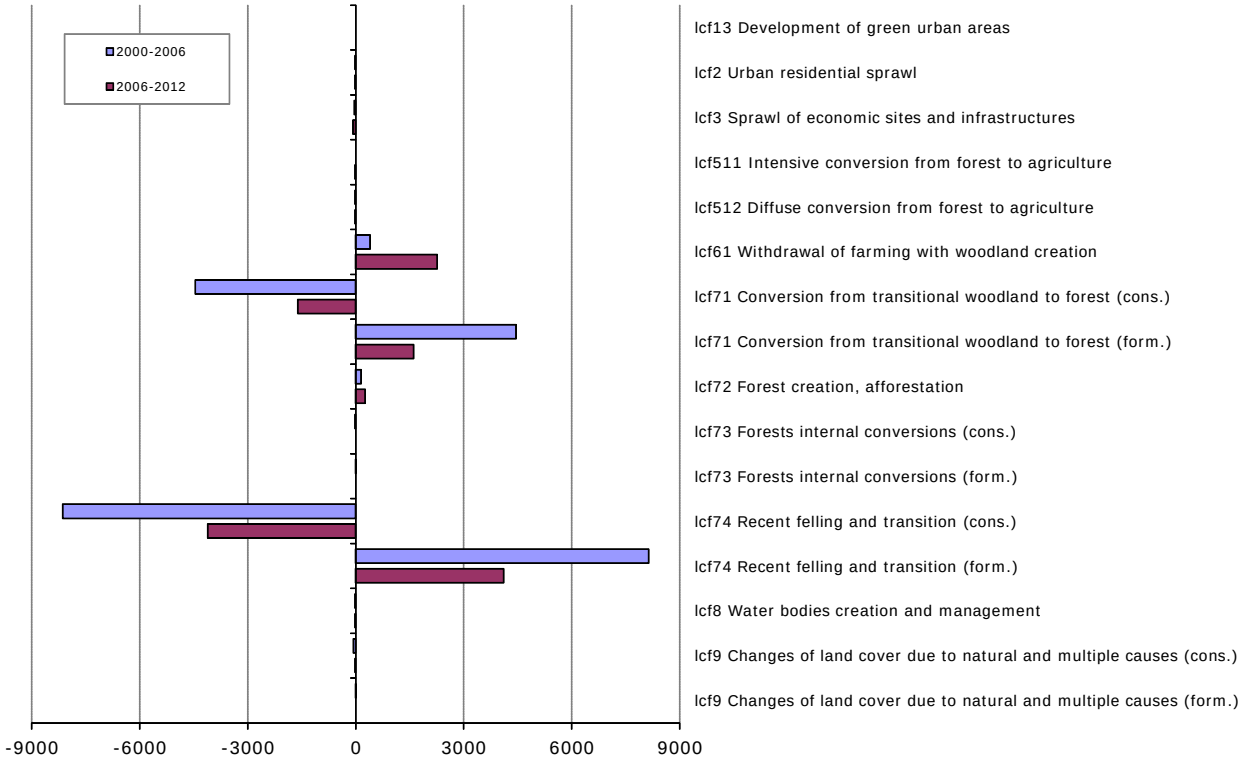
11.41. Wetlands & water 2012 [% of total area]



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



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



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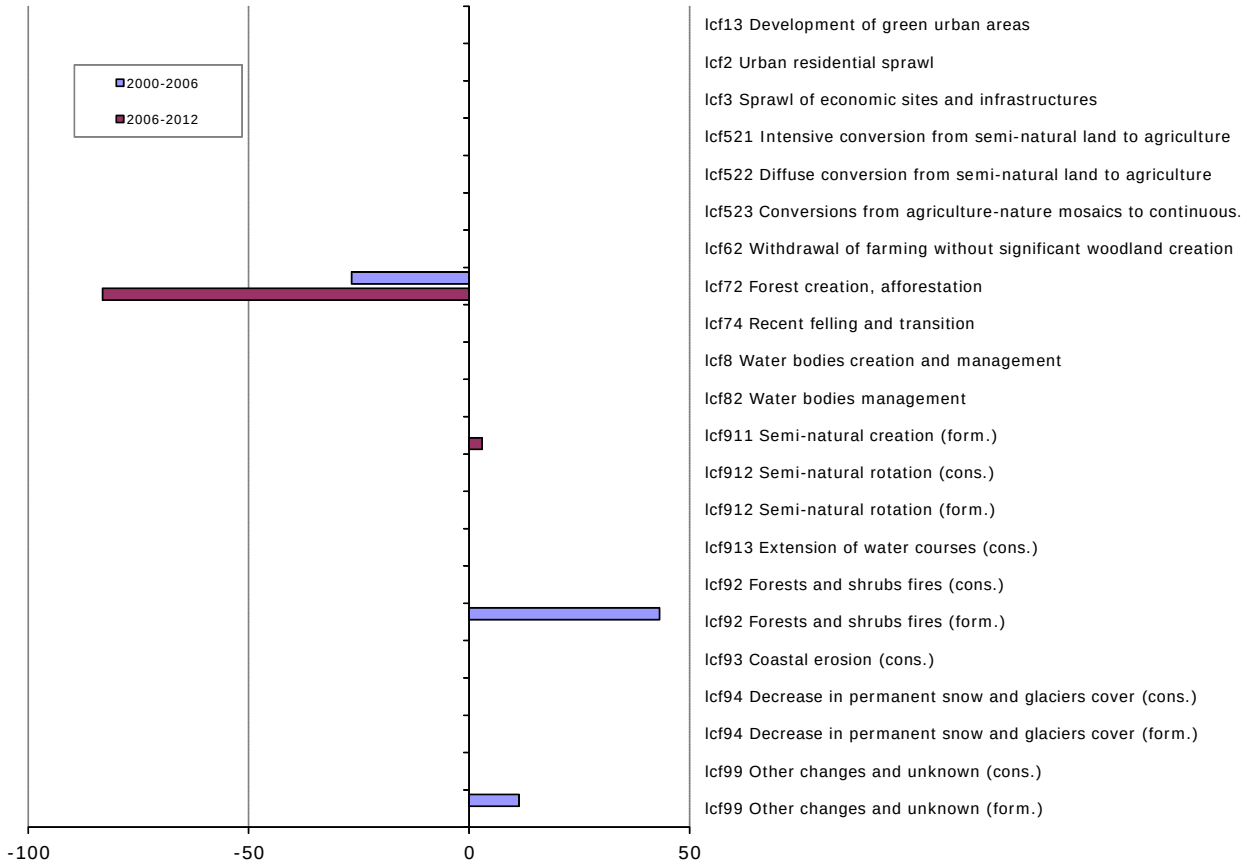
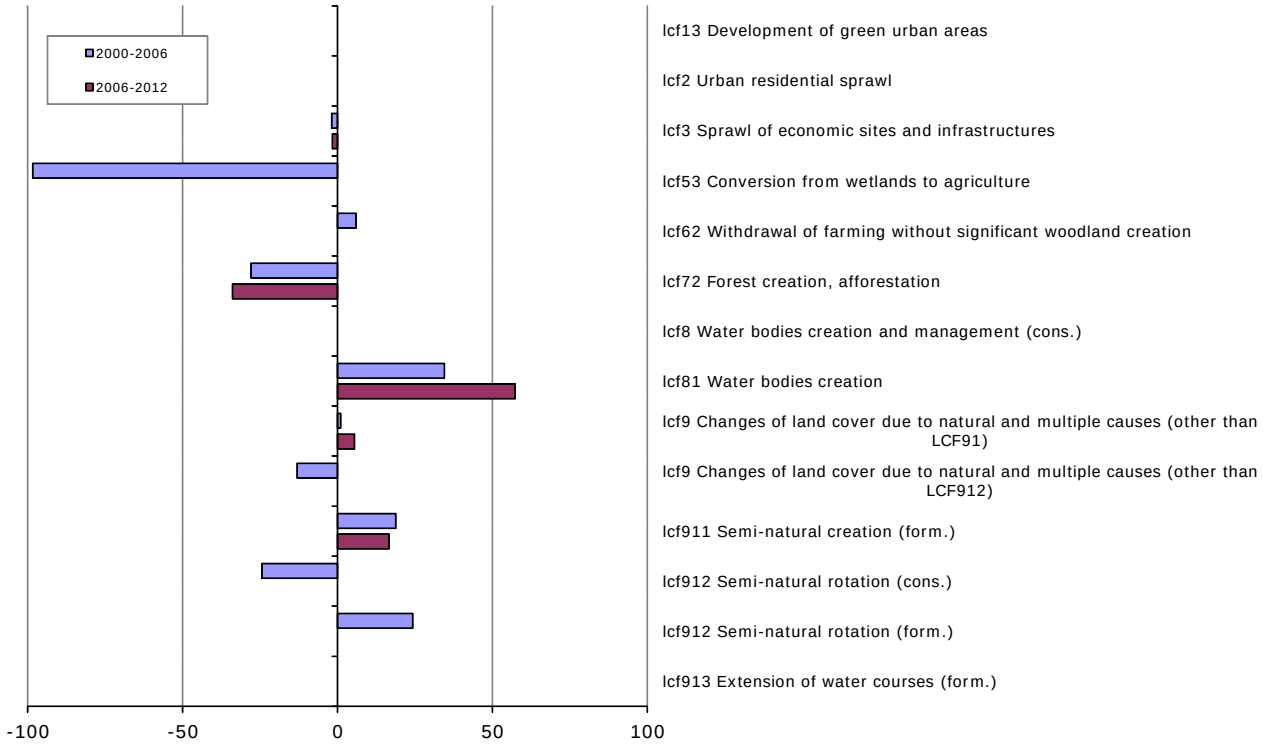
12.44. Mean annual conversions of dry semi-natural LC [ha/year]



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



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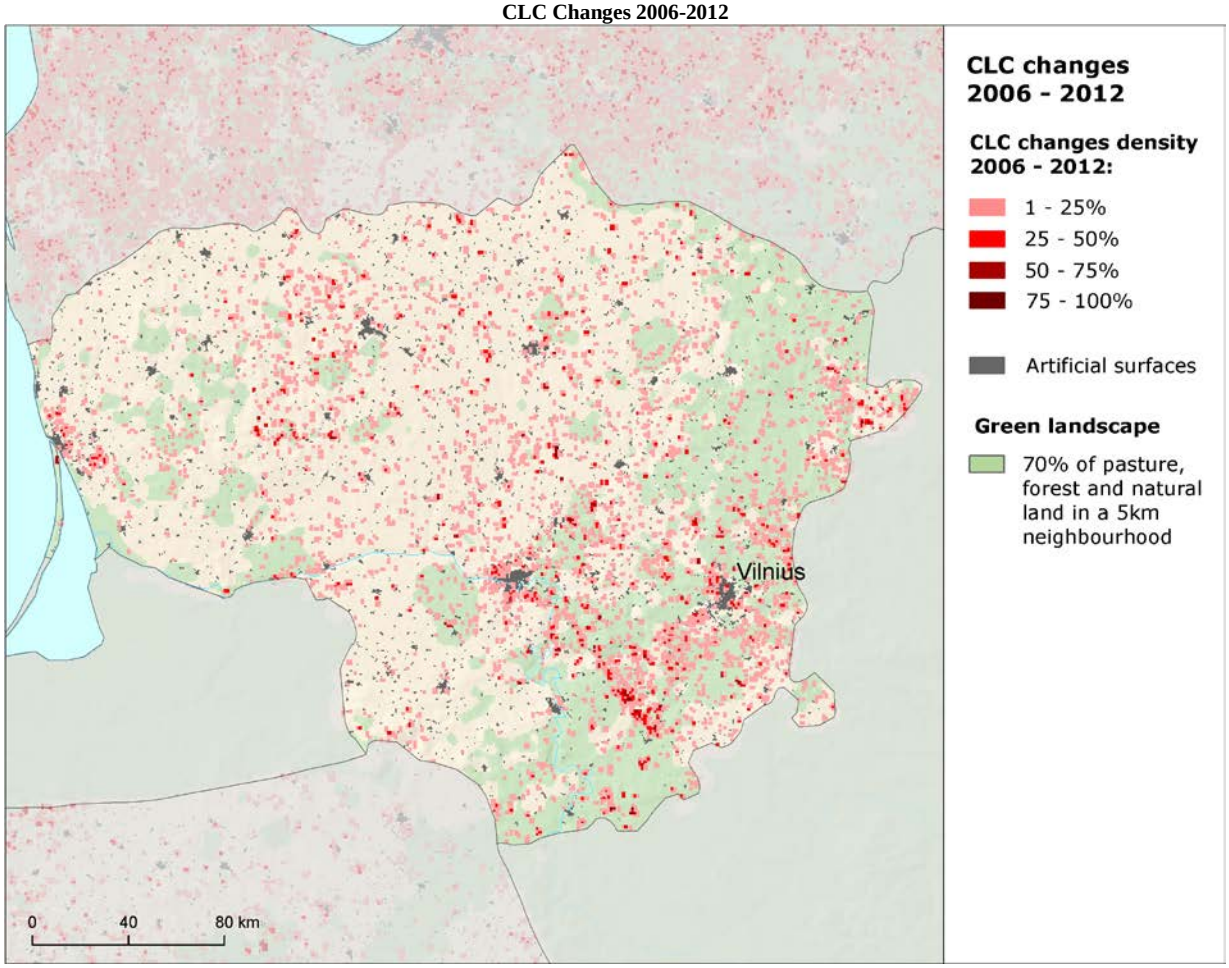
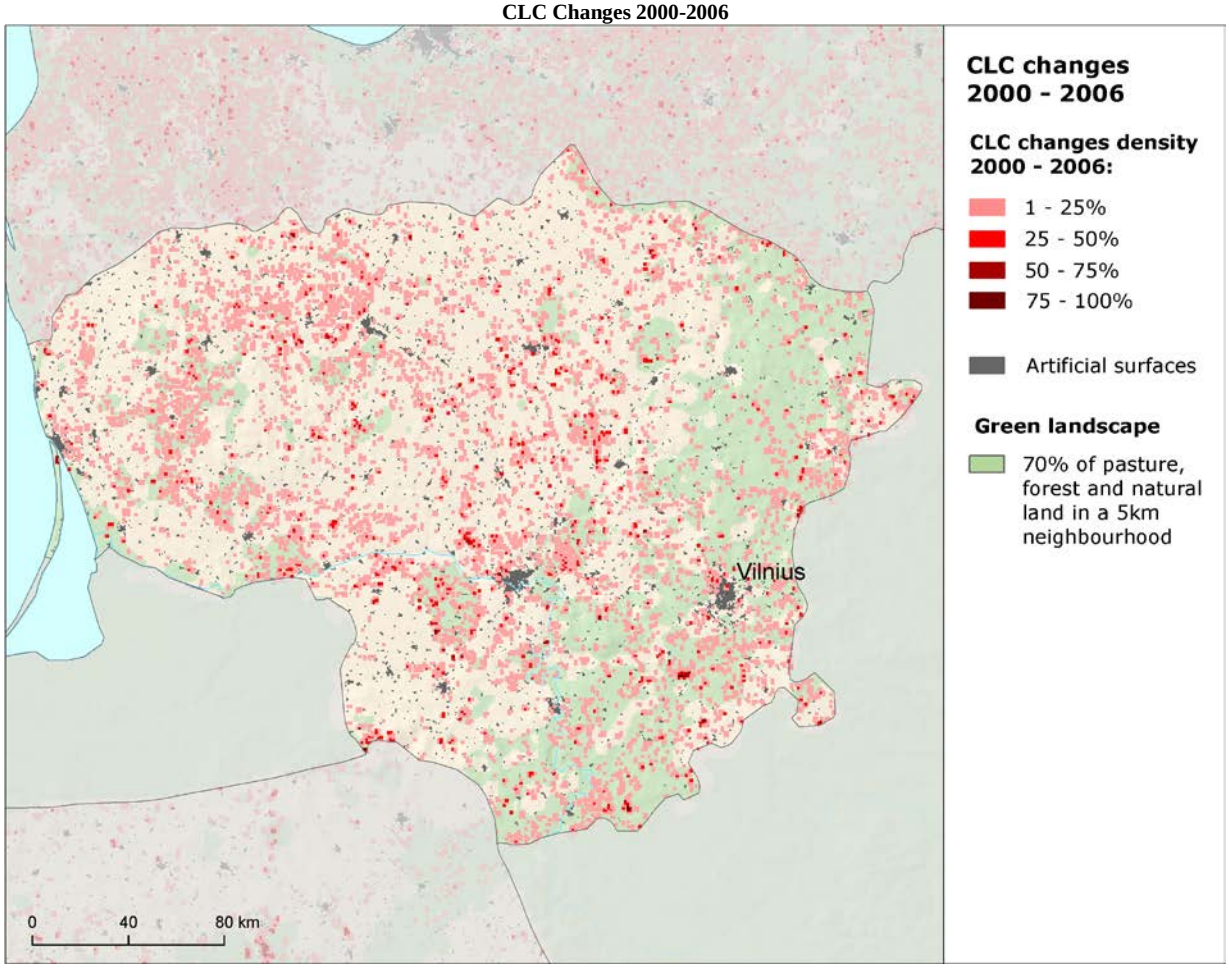
CLC Changes 2006-2012



CLC Changes 2000-2006



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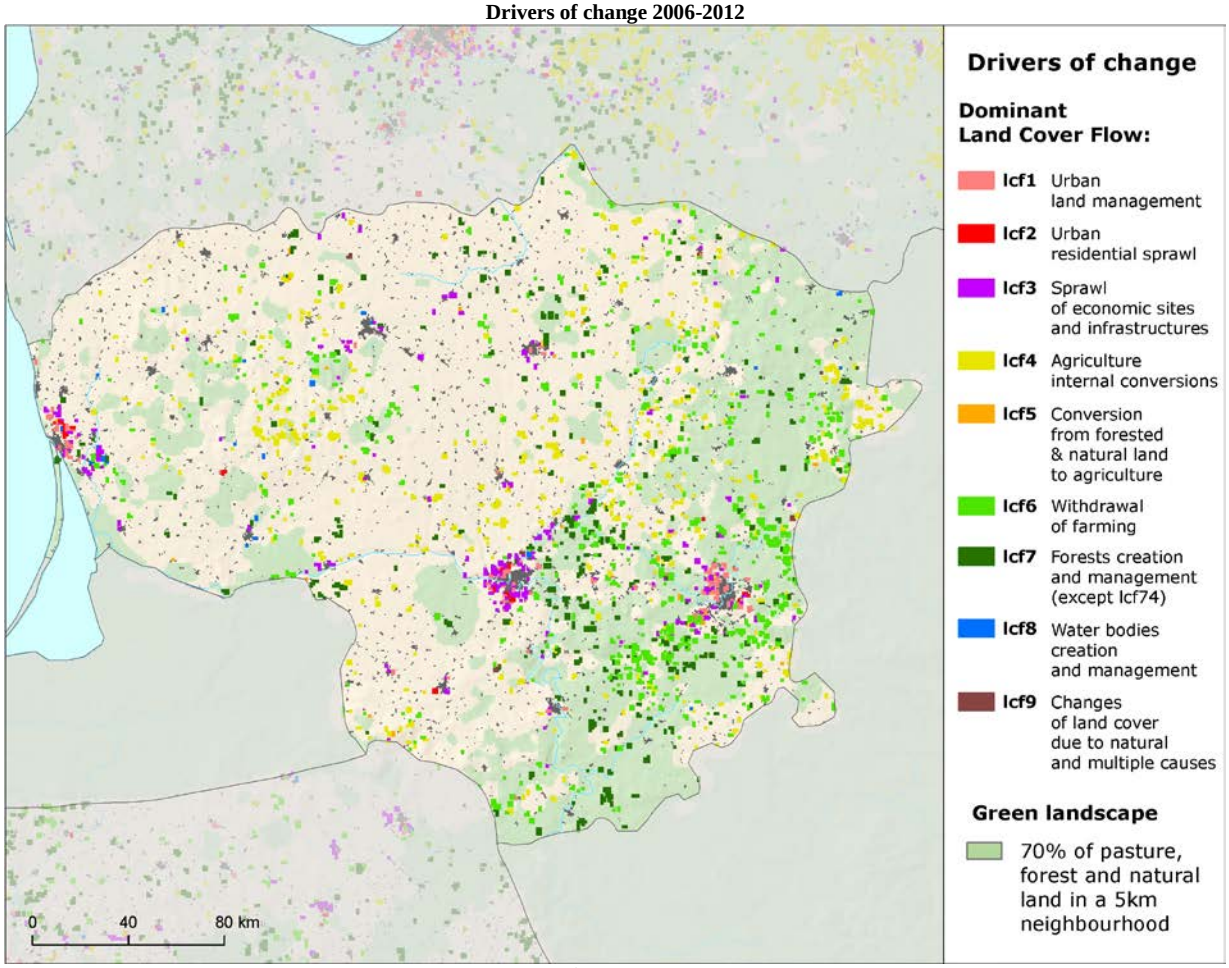
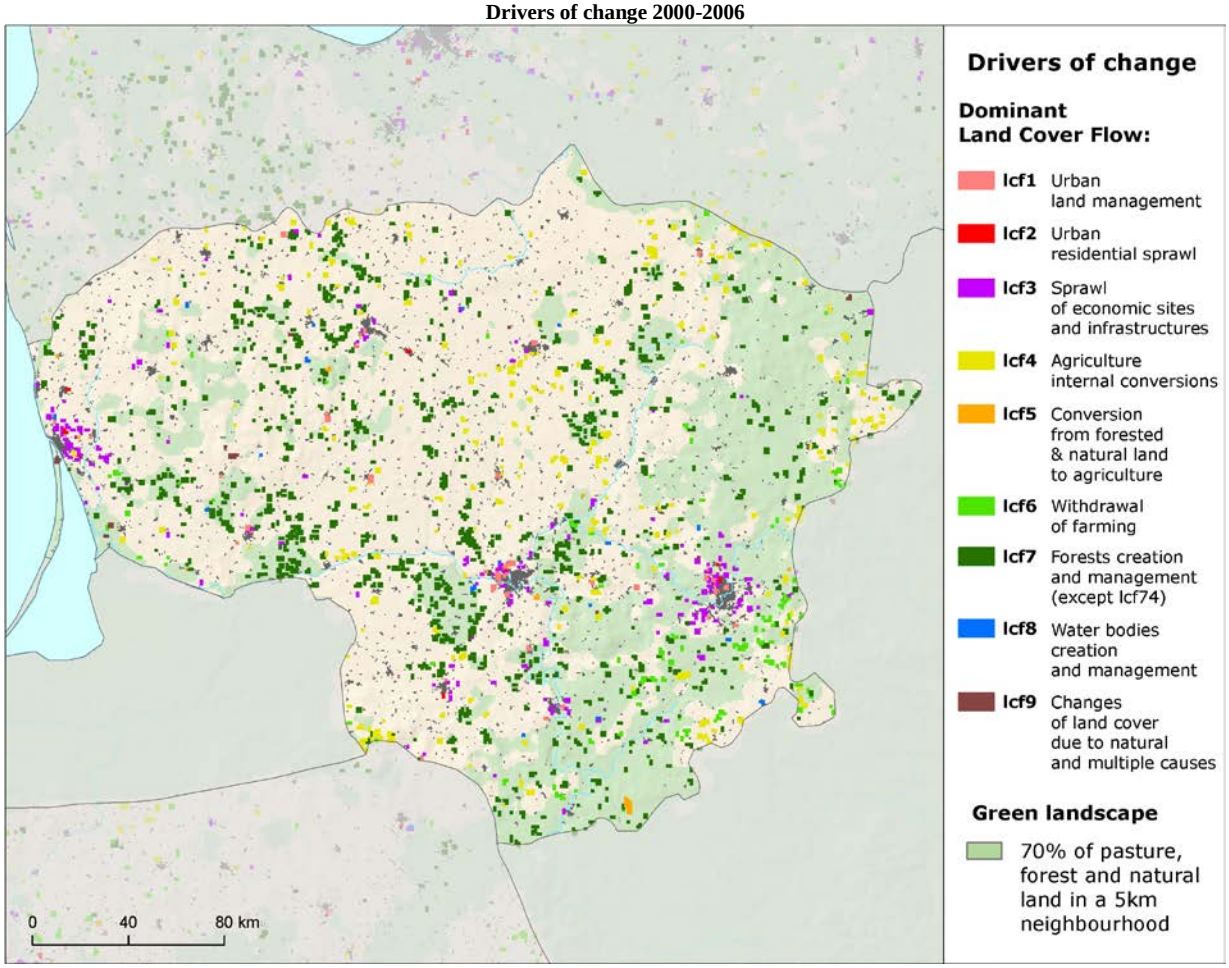
Drivers of change 2006-2012



Drivers of change 2000-2006



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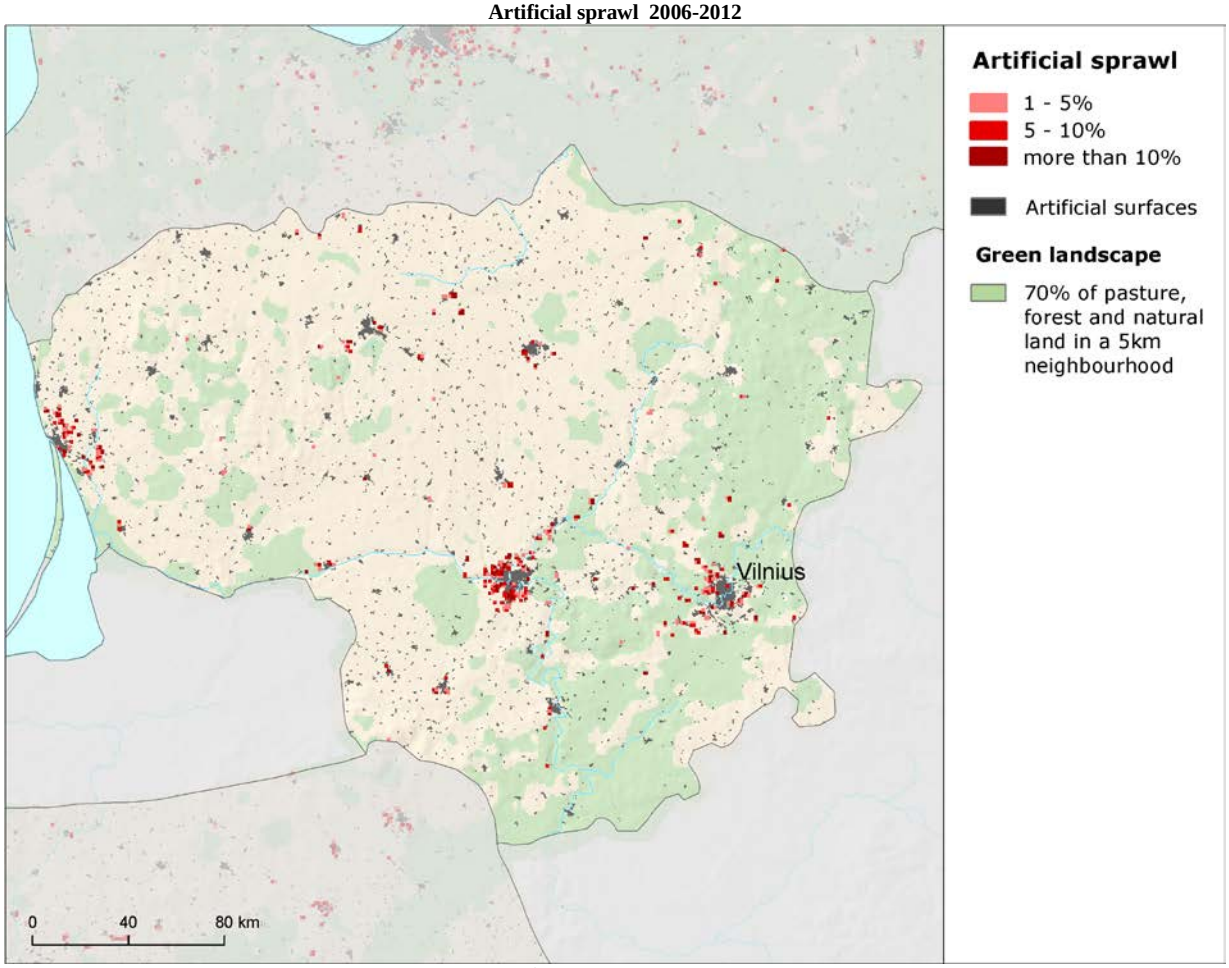
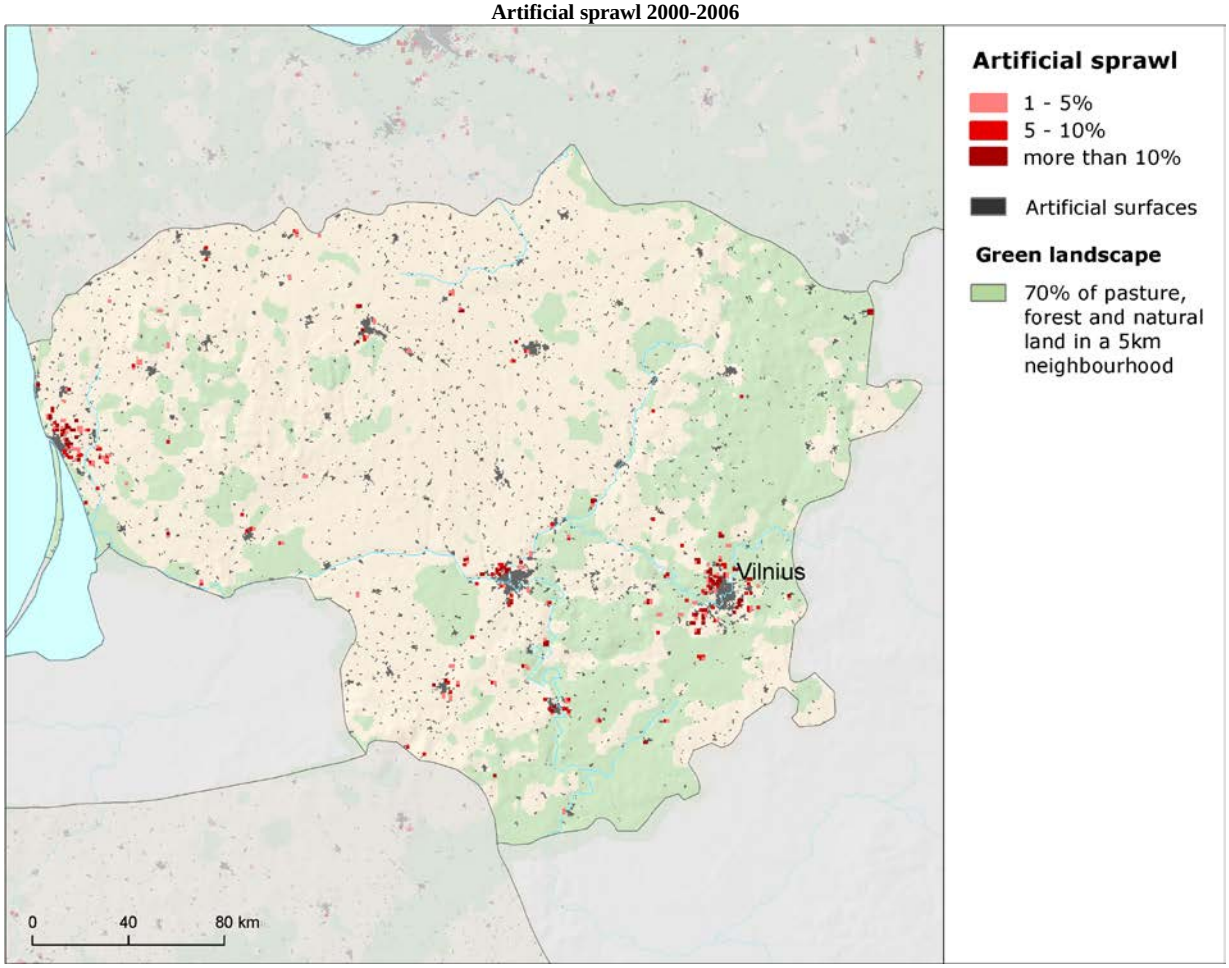
Artificial sprawl 2006-2012

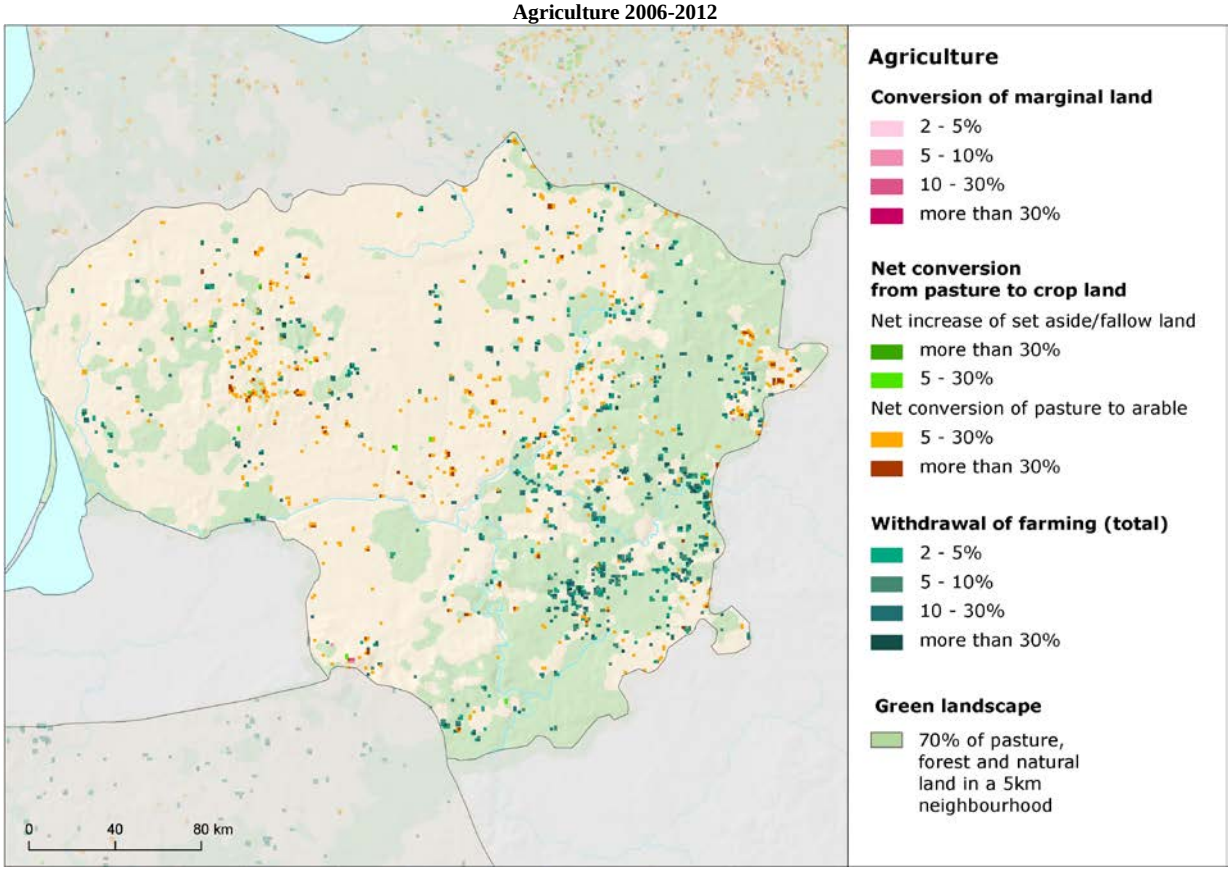


Artificial sprawl 2000-2006

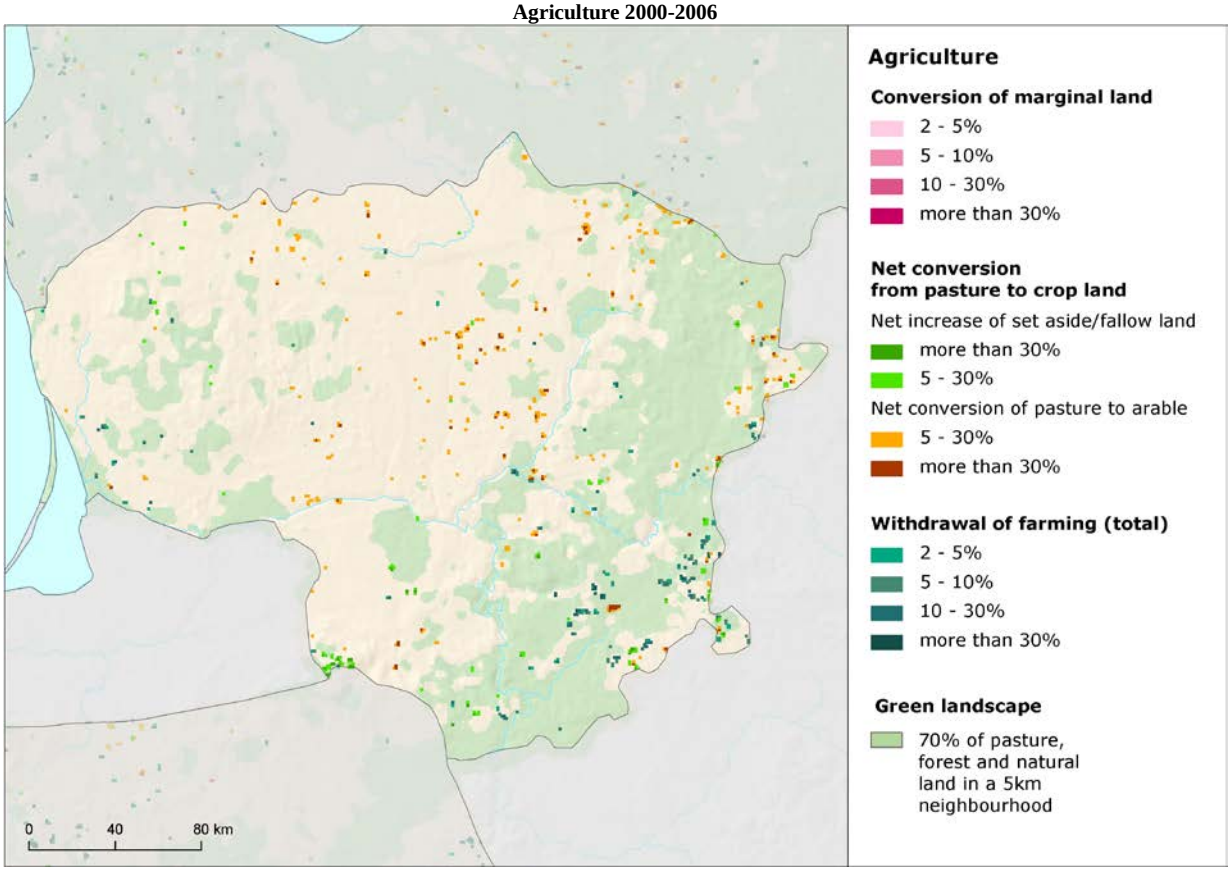


Lithuania

Agriculture 2006-2012



Agriculture 2000-2006



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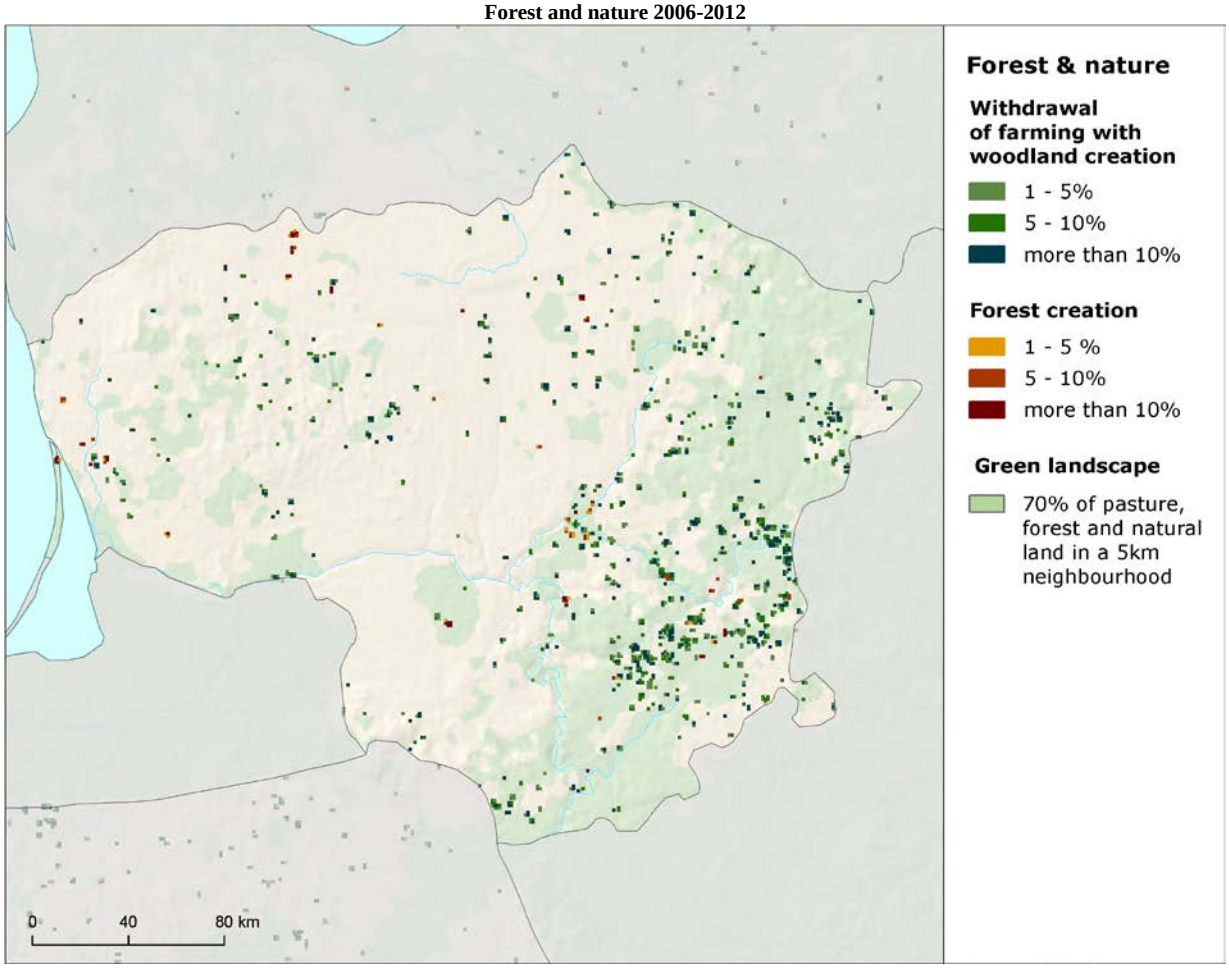
Forest and nature 2006-2012



Forest and nature 2000-2006