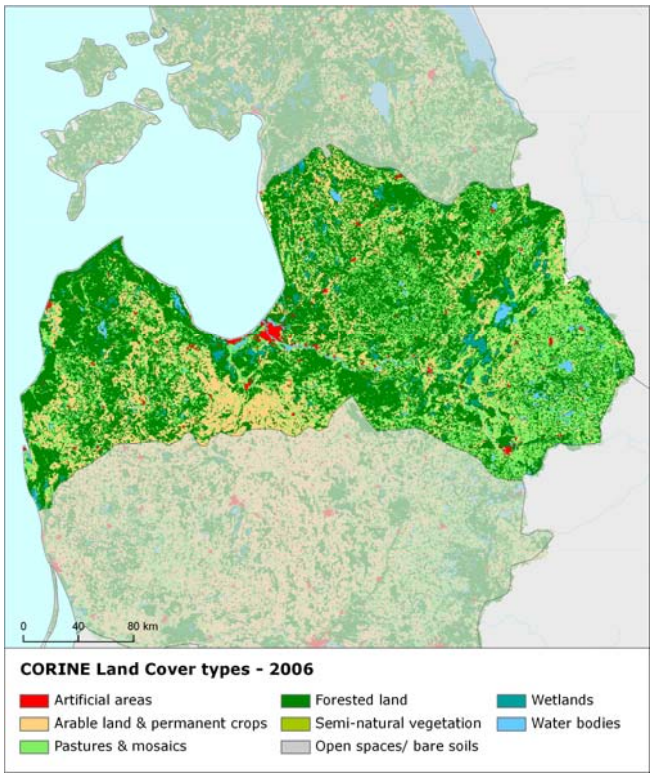
Latvia

Land cover 2006

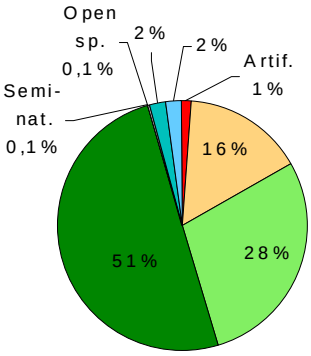
Overview of land cover & change 2000-2006

During 2000-2006 period, the situation in Latvian landscape has stabilized. Total annual change rate rapidly decreased, compared to the previous period, mainly due to stabilisation in agriculture areas with rapid decrease of intensity of agriculture internal conversions between pasture and arable/crop land. On the other hand, intensity of artificial sprawl and of forest formation increased, compared to the period 1990-2000.
After stabilisation of agricultural development, forest creation and management became the main driver of landscape change in Latvia. However, forest development has been driven mostly by internal conversions between transitional woodland and forest due to forestry activities. Besides, agriculture internal conversions remain the second most significant flow of land cover exchange in Latvia, followed by withdrawal of farming and sprawl of economics sites and infrastructures.
Both artificial surfaces and forested land have positive net change balance, together with arable/crop land. In percentual values, artificial areas have the significantly highest formation rate of all land cover types. On the other hand, significant consumption of pastures and mosaics occurs during the period, caused mainly by accelerated withdrawal of farming with woodland creation as well as by artificial sprawl.
Spatially, change areas of forested land (except recent felling and transition) are distributed mainly in the western part of Latvia. Artificial sprawl is concentrated mostly in surroundings of the capital city Riga.

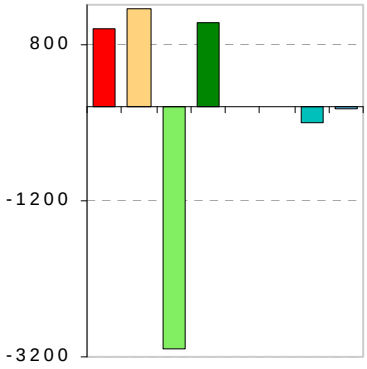


Note: The results presented here are based on a change analysis of 44 land cover types mapped consistently on a 1:100.000 scale across Europe over almost two decades 1990-2006 - see Corine land cover (CLC) programme for details.
Number of years between CLC2000-CLC2006 data for Latvia: 6

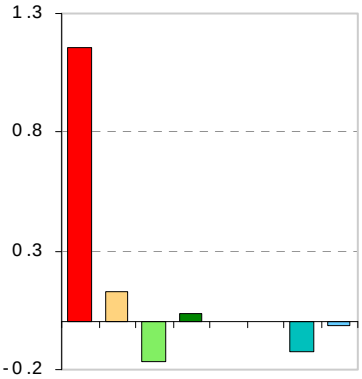
1.1. Land cover 2006 [% of total]



1.2. Net change in land cover 2000-2006 [ha]



1.3. Net change in land cover [% of initial year 2000]



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

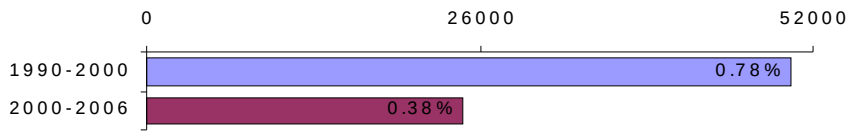
Summary balance table 2000-2006

	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 2000	**852**	**10002**	**18328**	**32549**	**53**	**54**	**1579**	**1190**	**64608**
Consumption of initial LC	2	12	40	1420	0	0	2	0	1477
Formation of new LC	11	25	9	1431	0	0	0	0	1477
Net Formation of LC	**10**	**13**	**-31**	**11**	**0**	**0**	**-2**	**0**	**0**
Net formation as % of initial year	*1.2*	*0.1*	*-0.2*	*0.0*	*0.0*	*0.0*	*-0.1*	*0.0*	
Total turnover of LC	**13**	**37**	**49**	**2851**	**0**	**0**	**3**	**1**	**2953**
Total turnover as % of initial year	*1.5*	*0.4*	*0.3*	*8.8*	*0.0*	*0.0*	*0.2*	*0.1*	*4.6*
Land cover 2006	**862**	**10015**	**18297**	**32560**	**53**	**54**	**1577**	**1190**	**64608**

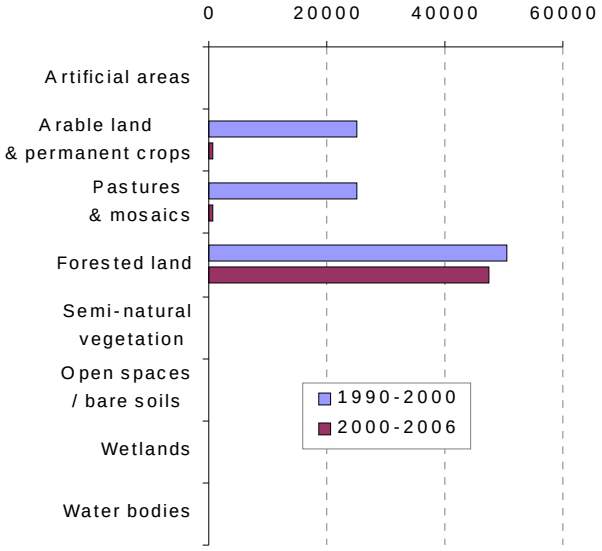
Latvia

Land cover trends comparison 1990-2000 vs. 2000-2006

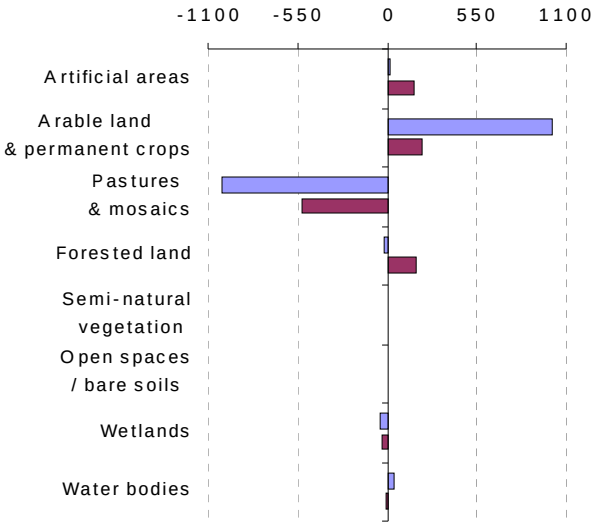
2.4. Annual land cover change [ha/year, % of total area]



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

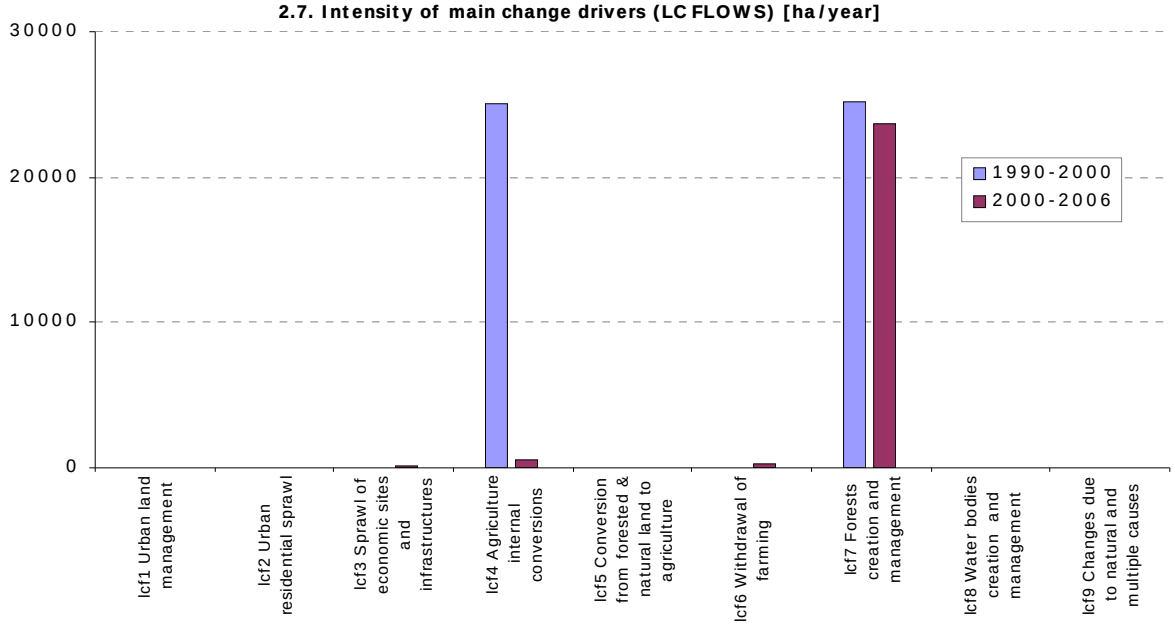


2.6. Net annual change of LC types [ha/year]



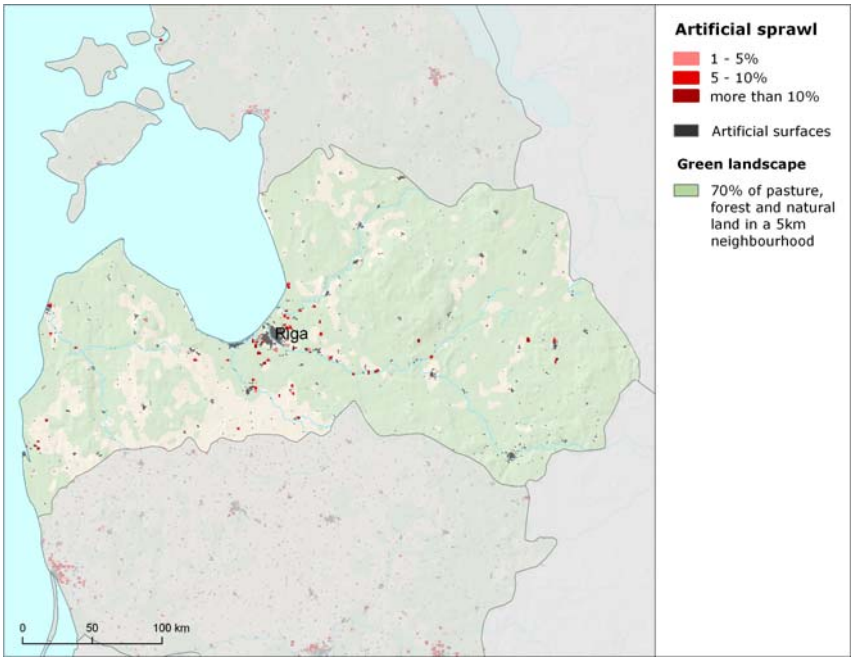
Summary trend figures	1990-2000	2000-2006
Annual land cover change [ha/year]	**50348**	**24610**
Annual land cover change as % of initial year	**0.78%**	**0.38%**
Land uptake by artificial development as mean annual change [ha/year]	23	173
Agricultural land uptake by urban and infrastructures development as mean annual change [ha/year]	0	113
Net uptake of forests and semi-natural land by agriculture as mean annual change [ha/year]	-20	-217
Net conversion from pasture to arable land and permanent crops as mean annual change [ha/year]	1012	240
Forest & other woodland net formation as mean annual change [ha/year]	-16	180
Dry semi-natural land cover net formation as mean annual change [ha/year]	0	0
Wetlands & water bodies net formation as mean annual change [ha/year]	0	-37

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

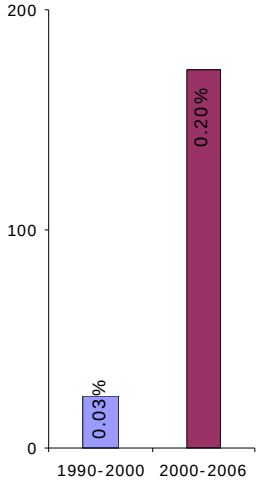


Latvia

Artificial areas



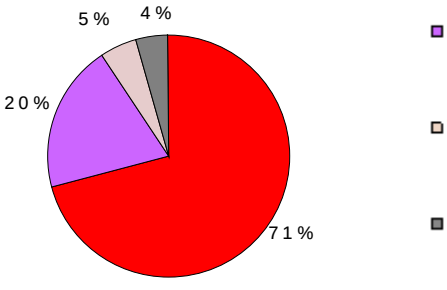
3.8. Artificial land take [ha/year, % of initial year]



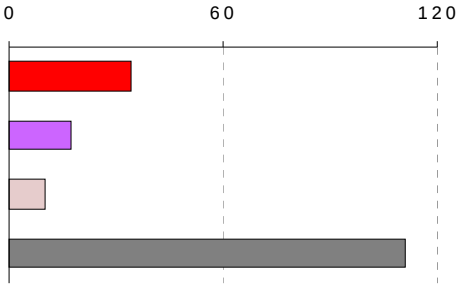
Rapid acceleration of artificial sprawl in surroundings of capital city

Artificial development is still relatively low, but accelerated rapidly during 2000-2006. Various urban classes showed rapid development in contrast to previous period, when the only driver of artificial formation was extension of mineral extraction sites. Nevertheless, accelerated sprawl of mineral extraction sites still remains the main driver of land take (33%), together with sprawl of construction sites (31%), followed by extension of discontinuous urban fabric (16%) and to lesser extent by sprawl of commercial and industrial sites (10%), transportation networks (6%) and sport and leisure facilities (4%).
Agriculture land (65%)with predominant share of pastures (46%), together with forested areas (35%) has been taken by sprawl of artificial land. Beside the formation of new artificial surfaces over agricultural and forested land, also recycling of developed urban land has significant share of the total artificial change. Spatially, sprawl of artificial surfaces occurs mainly in surrounding region of the capital city Riga.

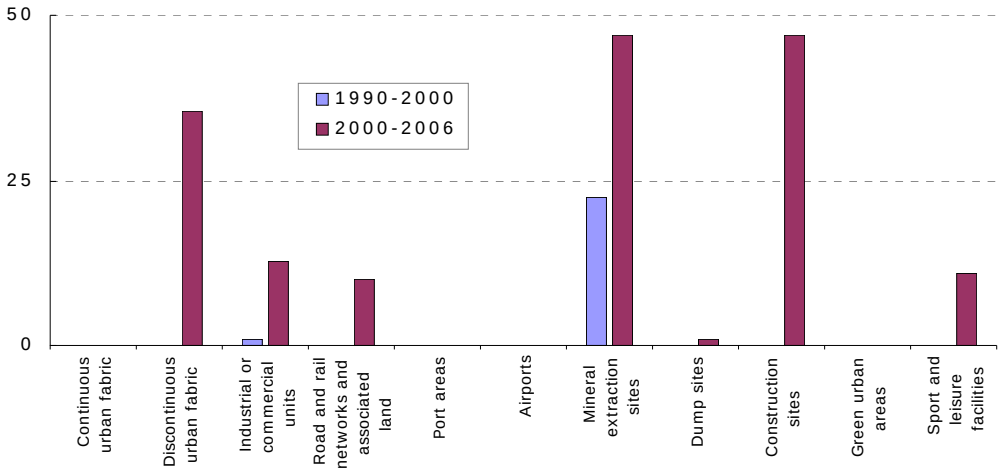
3.9. Artificial surfaces 2006 [% of total area]



3.10. Artificial land take 2000-2006 [ha/year]

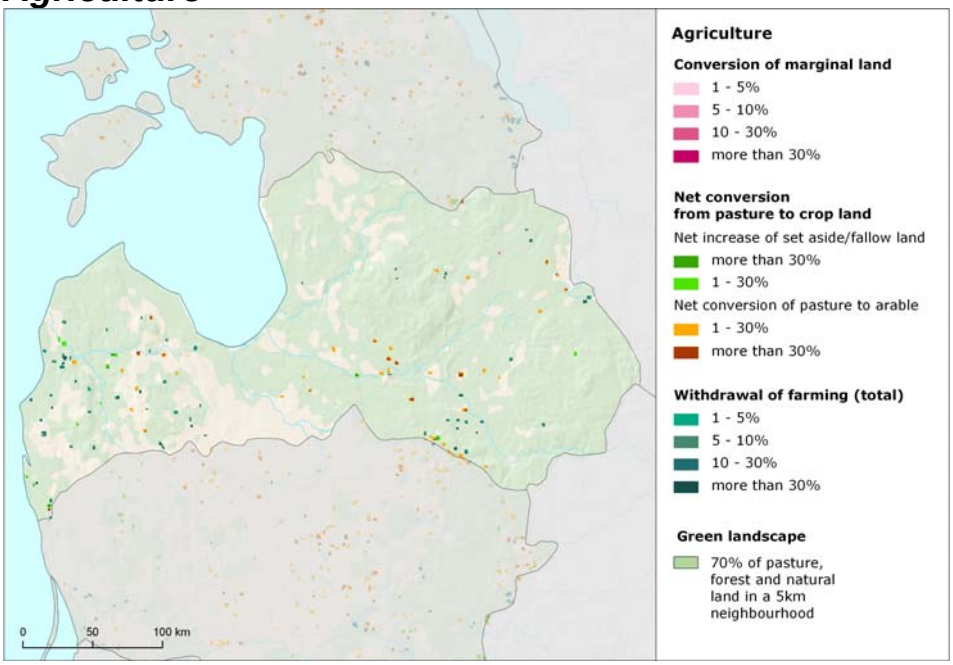


3.11. Mean annual artificial change by class [ha/year]



Latvia

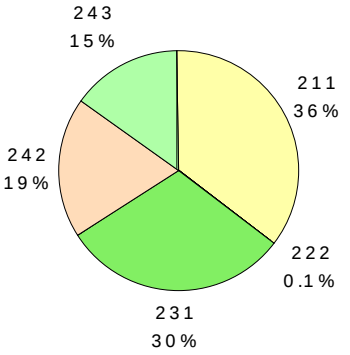
Agriculture

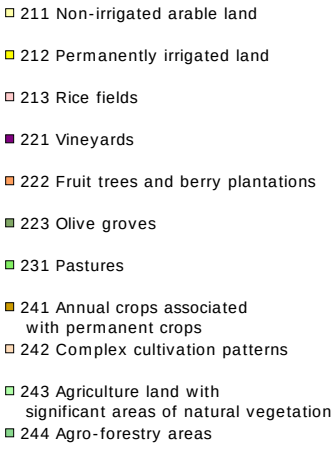


Rapid slow down of agriculture internal changes, accelerated withdrawal of farming with woodland creation

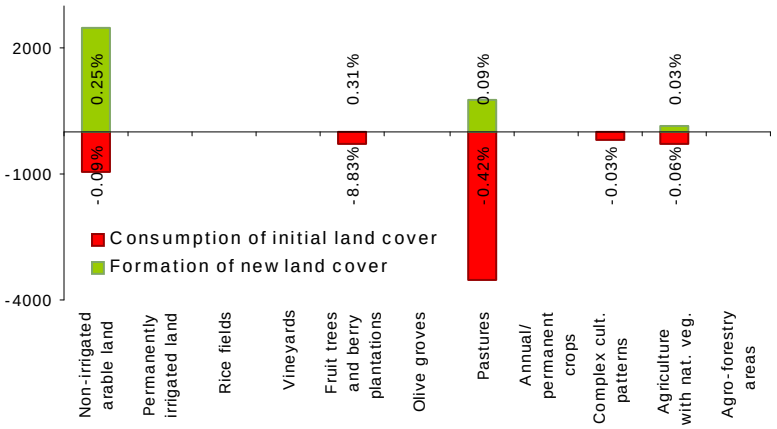
During 2000-2006 period, the situation in Latvian agriculture (which was characterized by extensive land cover exchange between arable land and pastures in the previous period) stabilized. The overall trend remains the same as in the previous period (prevailing formation of arable land over pasture extension), however, the intensity of both conversions rapidly decreased.
Formation of arable land has been driven by internal conversion from pasture, and also of agriculture with natural vegetation, complex cultivation patterns. To a lesser extent, it has been caused by accelerated withdrawal of farming with transitional woodland creation and by artificial land take, with predominant share of sprawl of construction and mineral extraction sites.

4.12. Agricultural areas 2006 [% of total area]

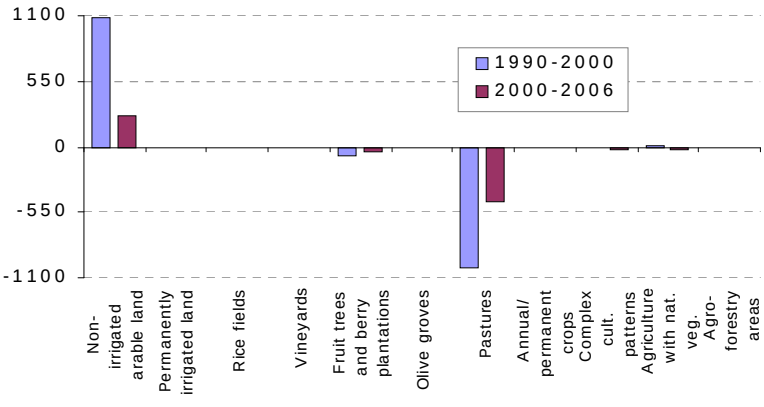




4.13. Development of agricultural areas 2000-2006 – detailed balance [ha]

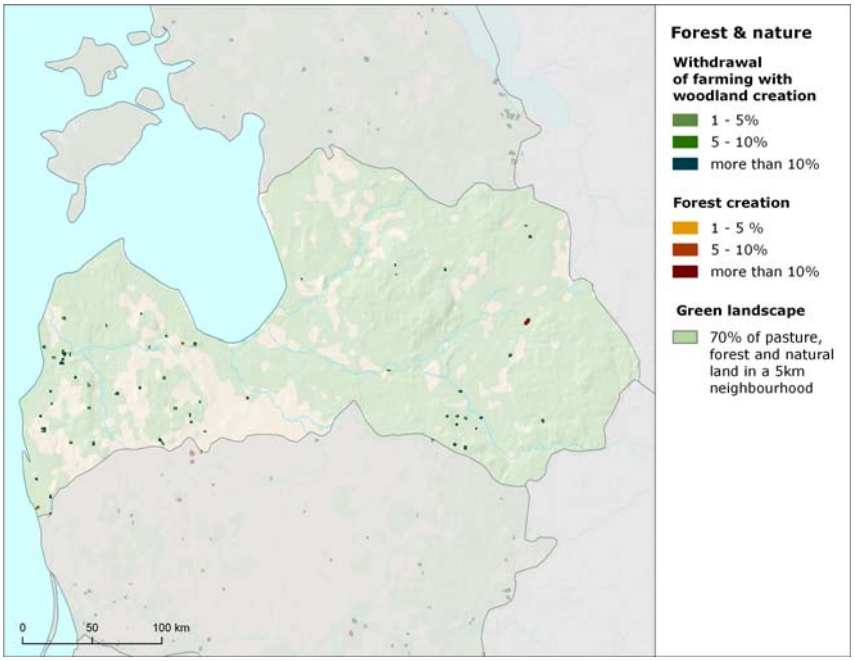


4.14. Mean annual agricultural change by class [ha/year]

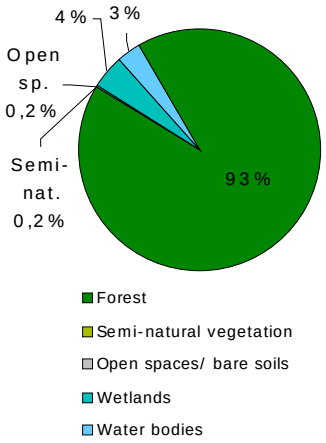


Latvia

Forest & nature



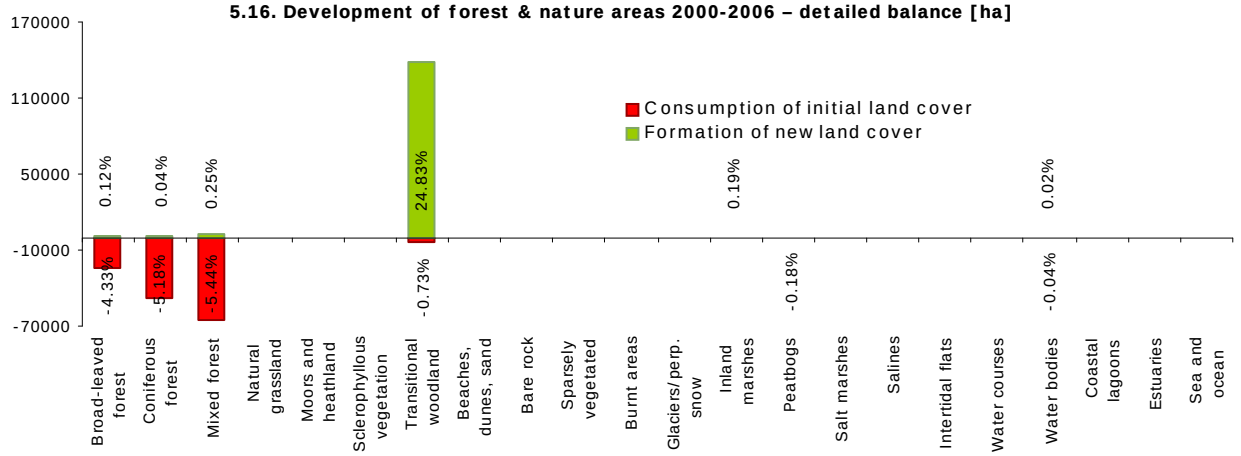
5.15. Forest & nature areas 2006 [% of total area]



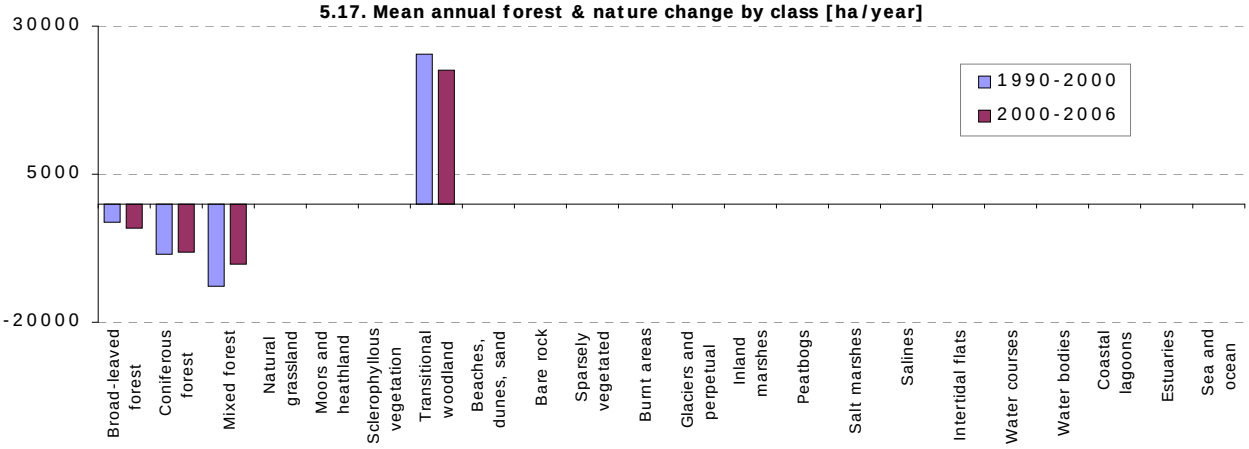
Recent forest transitions, pastures/mosaics consumption by transitional woodland creation

Most of natural land cover in Latvia consists of forested areas (93% of total natural land cover in the country). The rest of natural land is composed mainly by peatbogs and water bodies.
Development of natural surfaces during 2000-2006 has been driven mostly by internal conversions between standing forests and transitional woodland as result of forestry activities. Compared to these internal forest conversions, other changes have only small share of the total natural land cover exchange in Latvia.
New transitional woodland areas have been created over former pastures and agro-natural areas through withdrawal of farming; on the other hand, forested land has been consumed by artificial sprawl with majority of mineral extraction sites, construction sites and transportation networks.
Both water bodies and wetlands have negative balance of net change. Consumption of water bodies has been caused by their conversion into inland marshes. Other wetlands (namely peatbogs) have been consumed by transitional woodland creation.

5.16. Development of forest & nature areas 2000-2006 – detailed balance [ha]



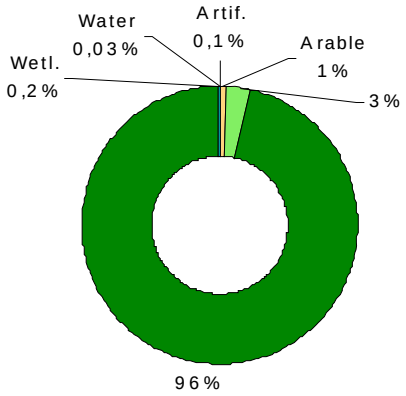
5.17. Mean annual forest & nature change by class [ha/year]



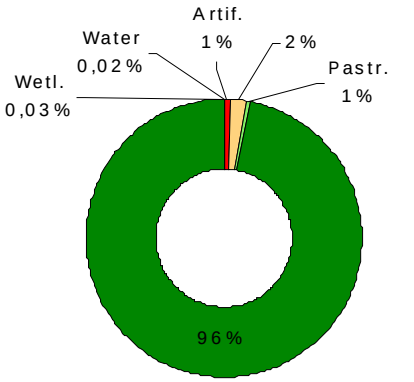
Annex: Land cover flows and trends

Land cover flows 2000-2006

6.18. Consumption of land cover 2000-2006 [% of total change area]

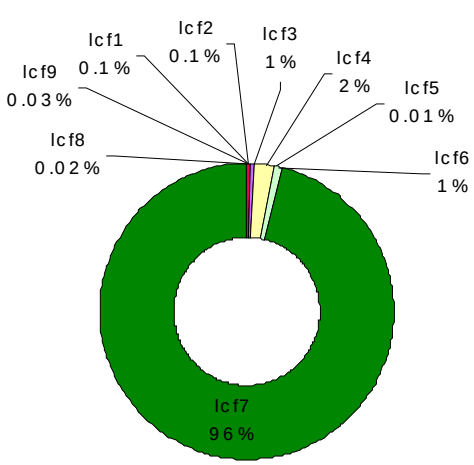


6.19. Formation of land cover 2000-2006 [% of total change area]



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) 2000-2006 [% of total change area]

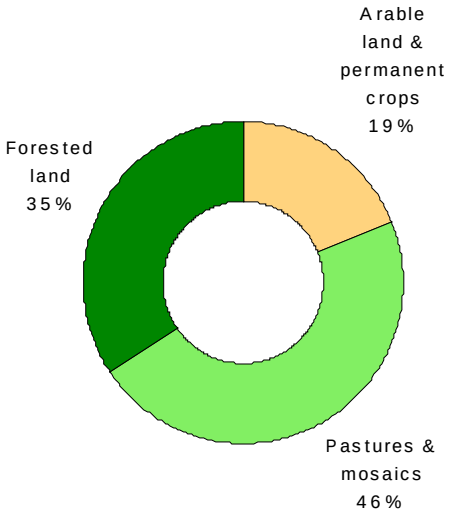


- lcf1 Urban land management
- lcf2 Urban residential sprawl
- lcf3 Sprawl of economic sites and infrastructures
- lcf4 Agriculture internal conversions
- lcf5 Conversion from forested & natural land to agriculture
- lcf6 Withdrawal of farming
- lcf7 Forests creation and management
- lcf8 Water bodies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

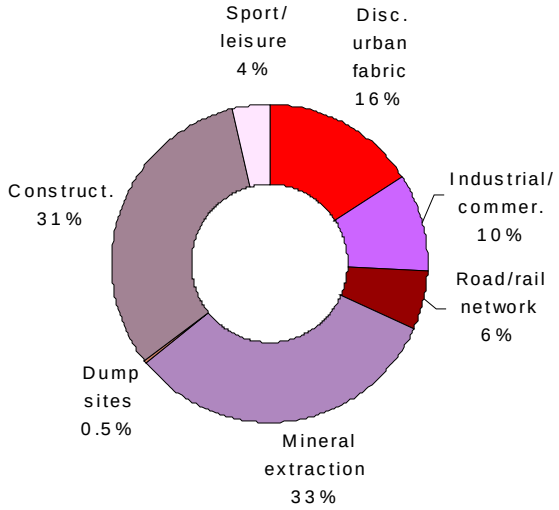
Latvia

Artificial areas

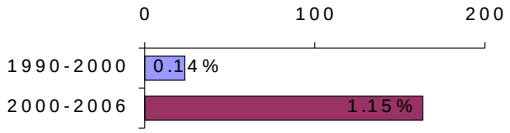
7.21. Consumption by artificial land take 2000-2006 [% of total]



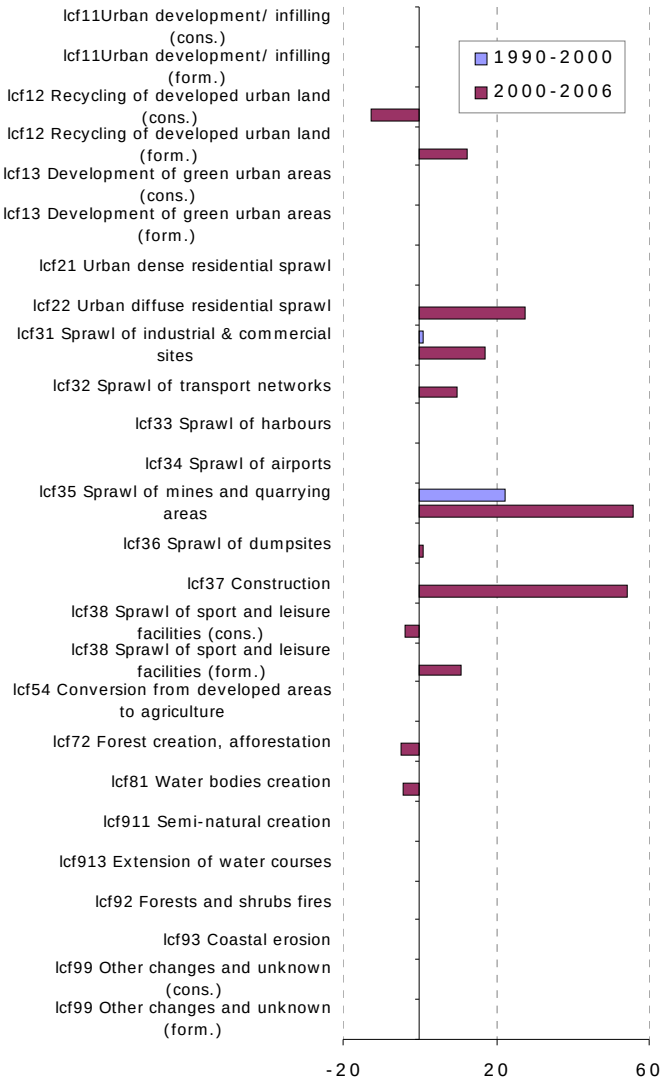
7.22. Formation by artificial land take 2000-2006 [% of total]



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



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



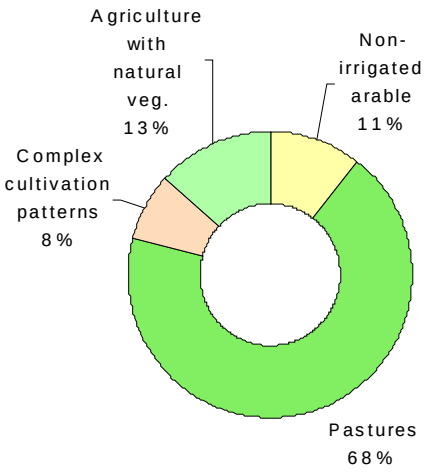
Latvia

Agriculture

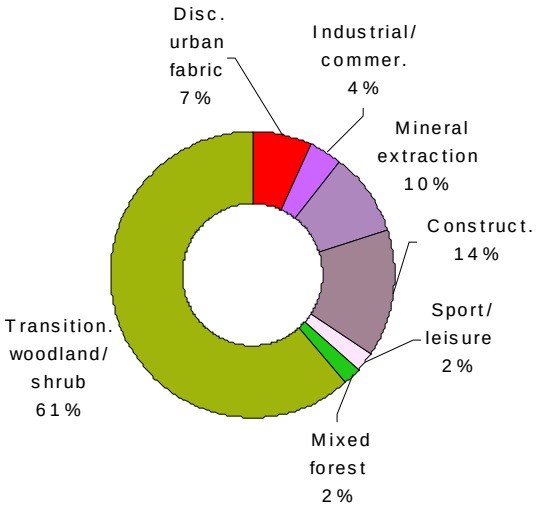
8.25. LC consumed by agriculture 2000-2006 [% of total]

8.26. Formation of agricultural land from non-agriculture 2000-2006 [% of total]

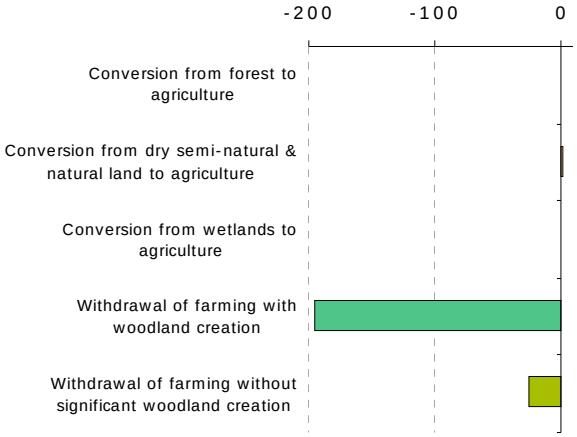
8.27. Consumption of agricultural land by non-agriculture 2000-2006 [% of total]



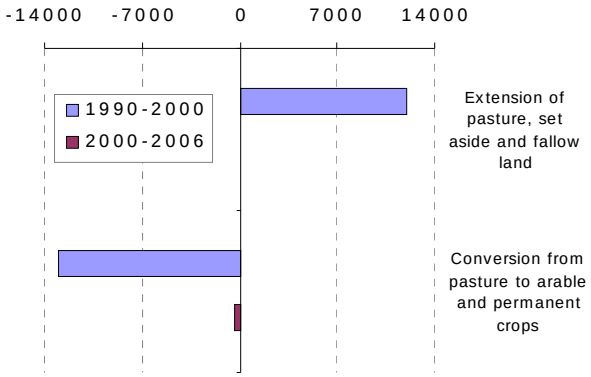
8.28. Formation of non-agricultural land from agriculture 2000-2006 [% of total]



8.29. Main annual conversions between agriculture and forests & semi-natural land 2000-2006 [ha/year]

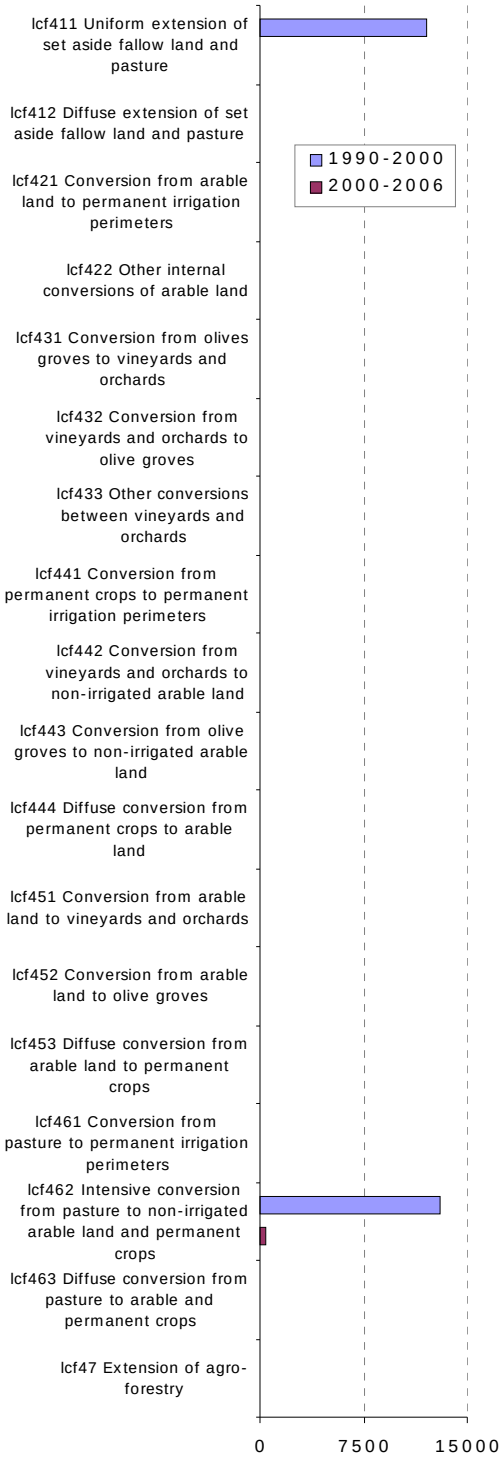


8.30. Mean annual conversion between arable land and pasture [ha/year]

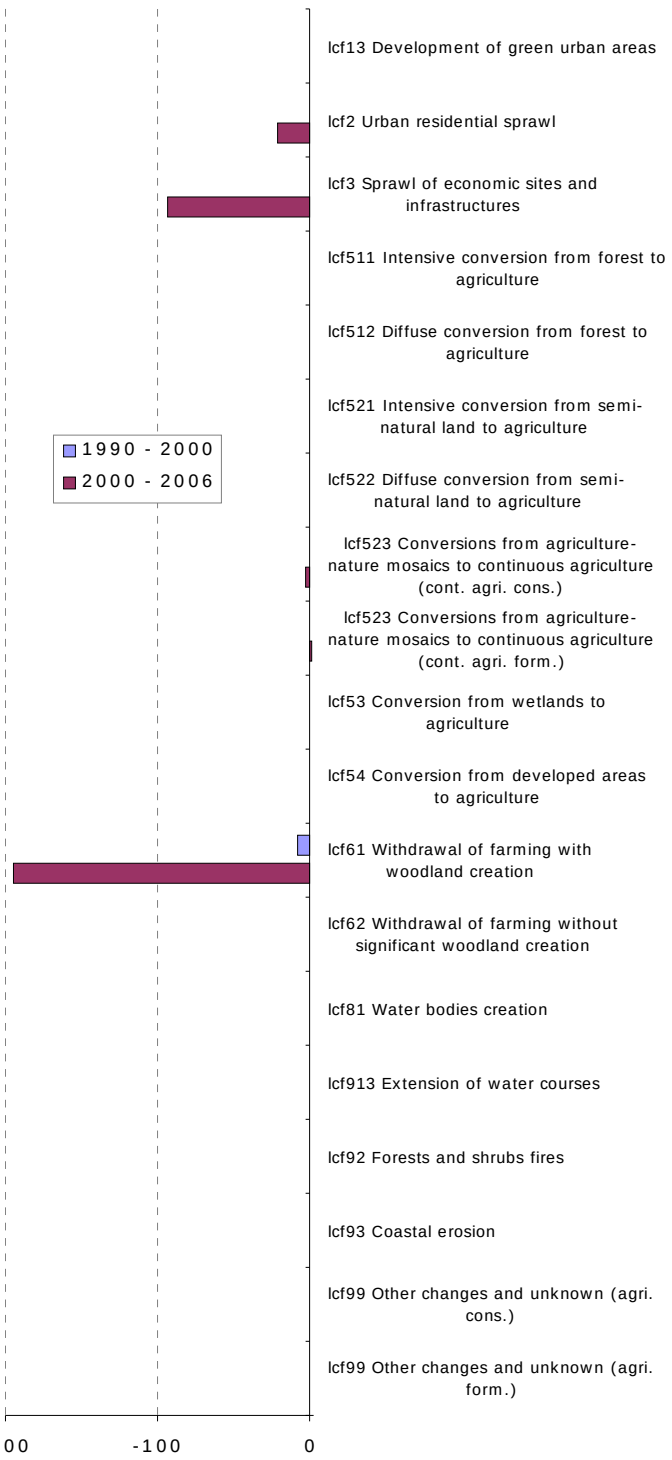


Latvia

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



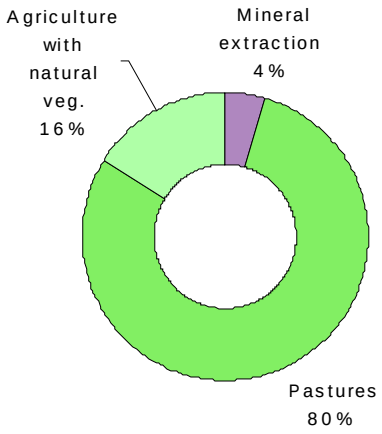
9.32. Mean annual conversions between agriculture and other LC types [ha/year]



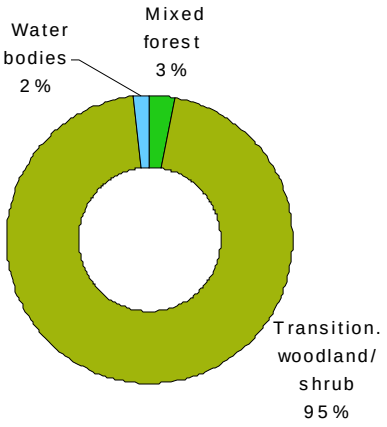
Latvia

Forest & nature

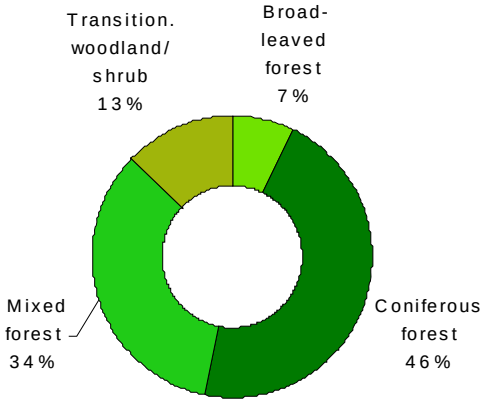
10.33. LC consumed by forest & nature 2000-2006 [% of total]



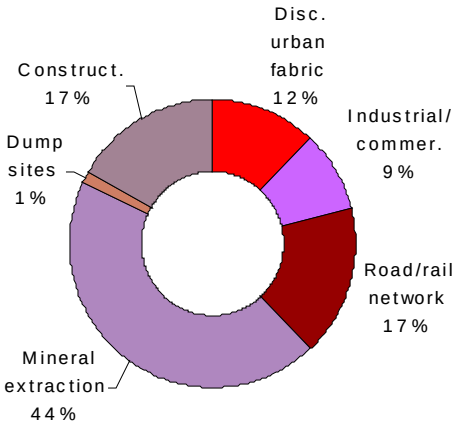
10.34. Formation of forest & nature land from non-forest /nature 2000-2006 [% of total]



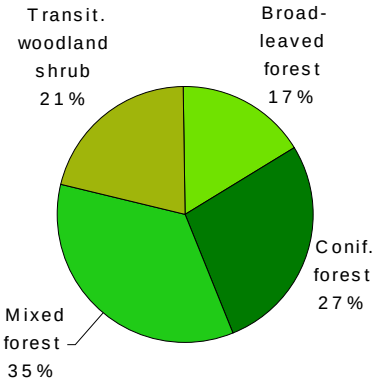
10.35. Consumption of forest & nature land by non-forest /nature 2000-2006 [% of total]



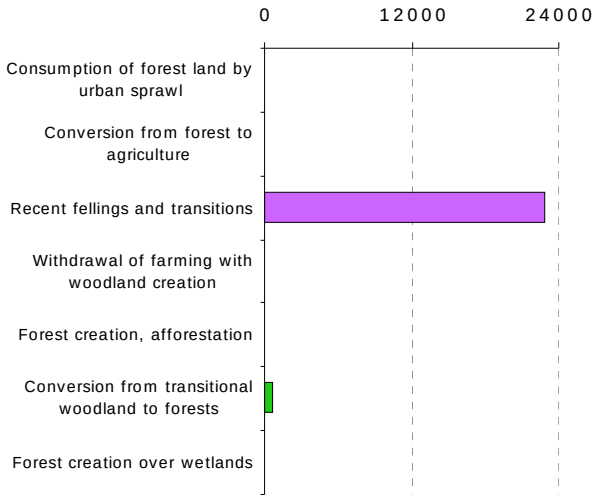
10.36. Formation of non-forest /nature land from forest & nature 2000-2006 [% of total]



10.37. Forested land 2006 [% of total area]

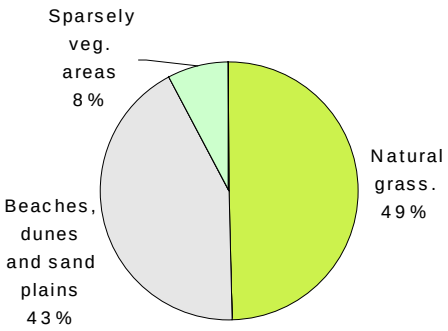


10.38. Main trends in woodland & forests consumption/formation 2000-2006 [ha/year]

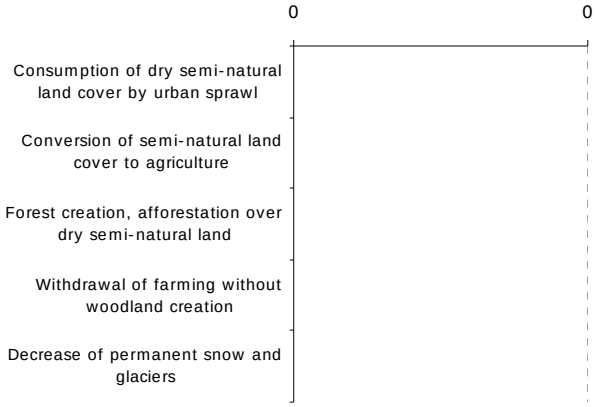


Latvia

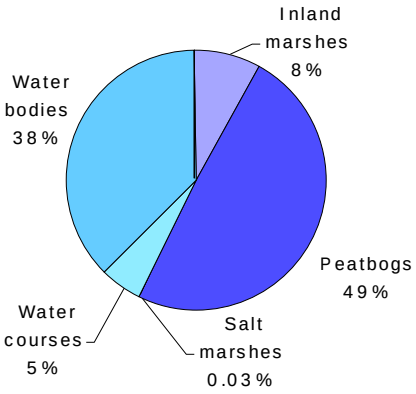
11.39. Dry semi-natural areas 2006 [% of total area]



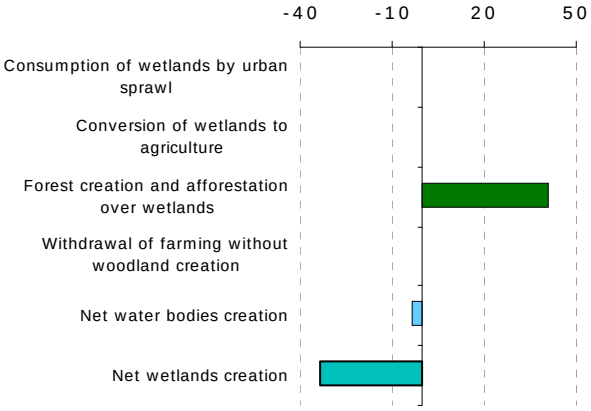
11.40. Main trends in dry semi-natural land consumption/formation 2000-2006 [ha/year]



11.41. Wetlands & water 2006 [% of total area]



11.42. Main trends in wetlands & water consumption/formation 2000-2006 [ha/year]



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

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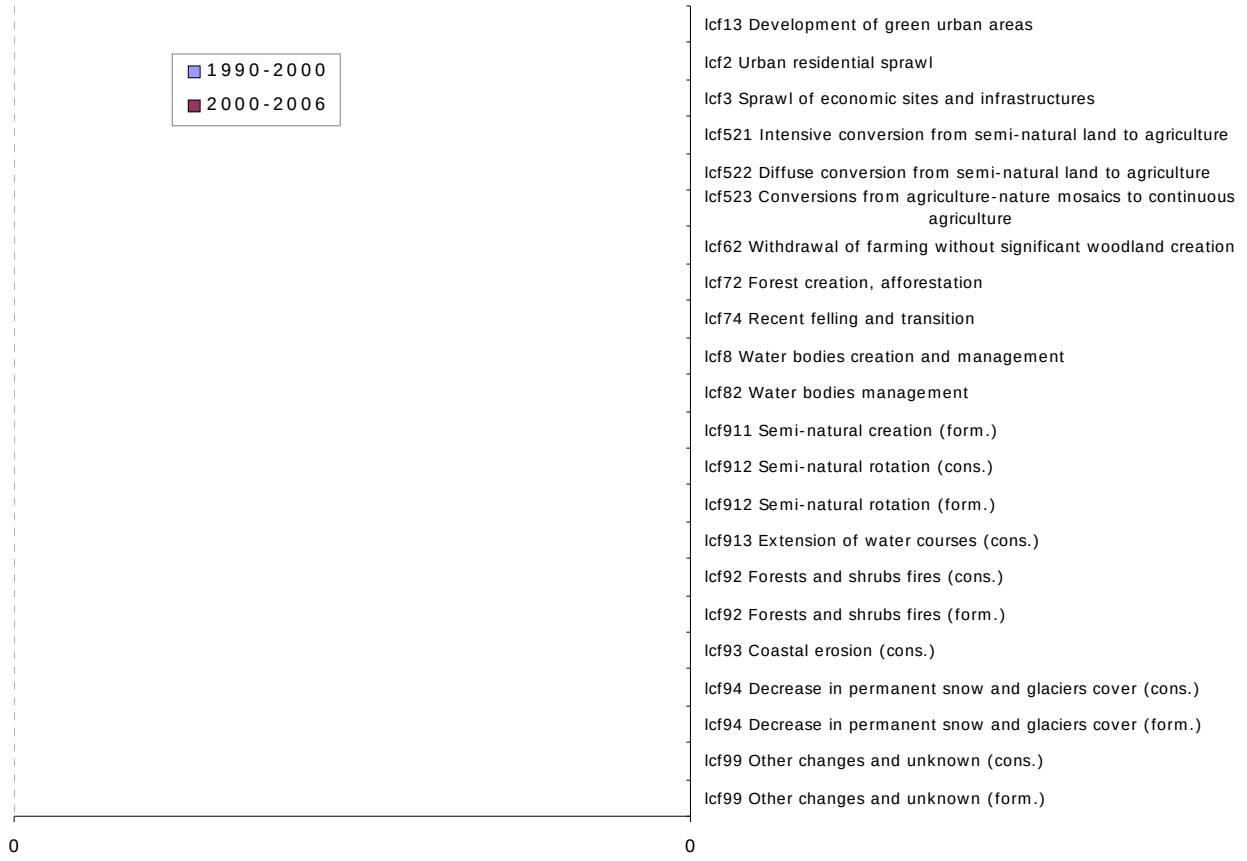
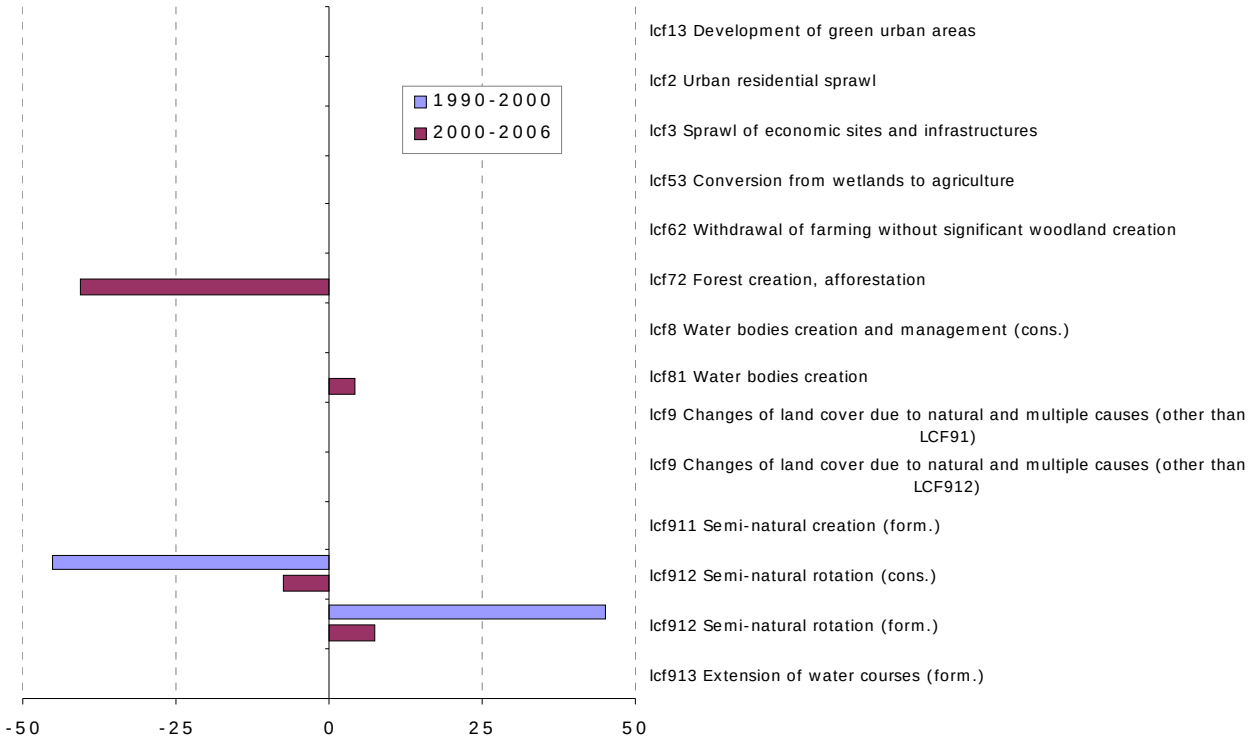
12.44. Mean annual conversions of dry semi-natural LC [ha/year]



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



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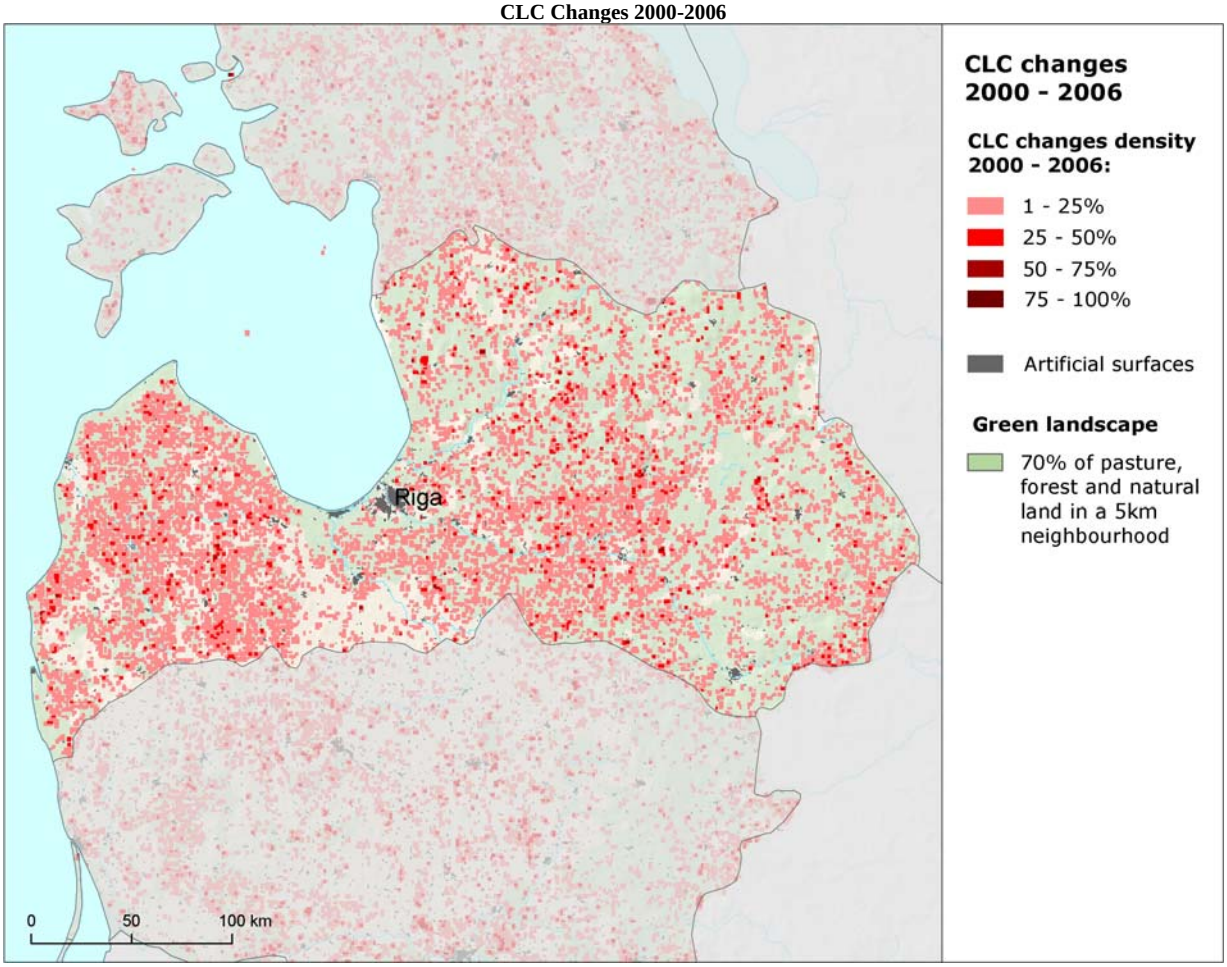
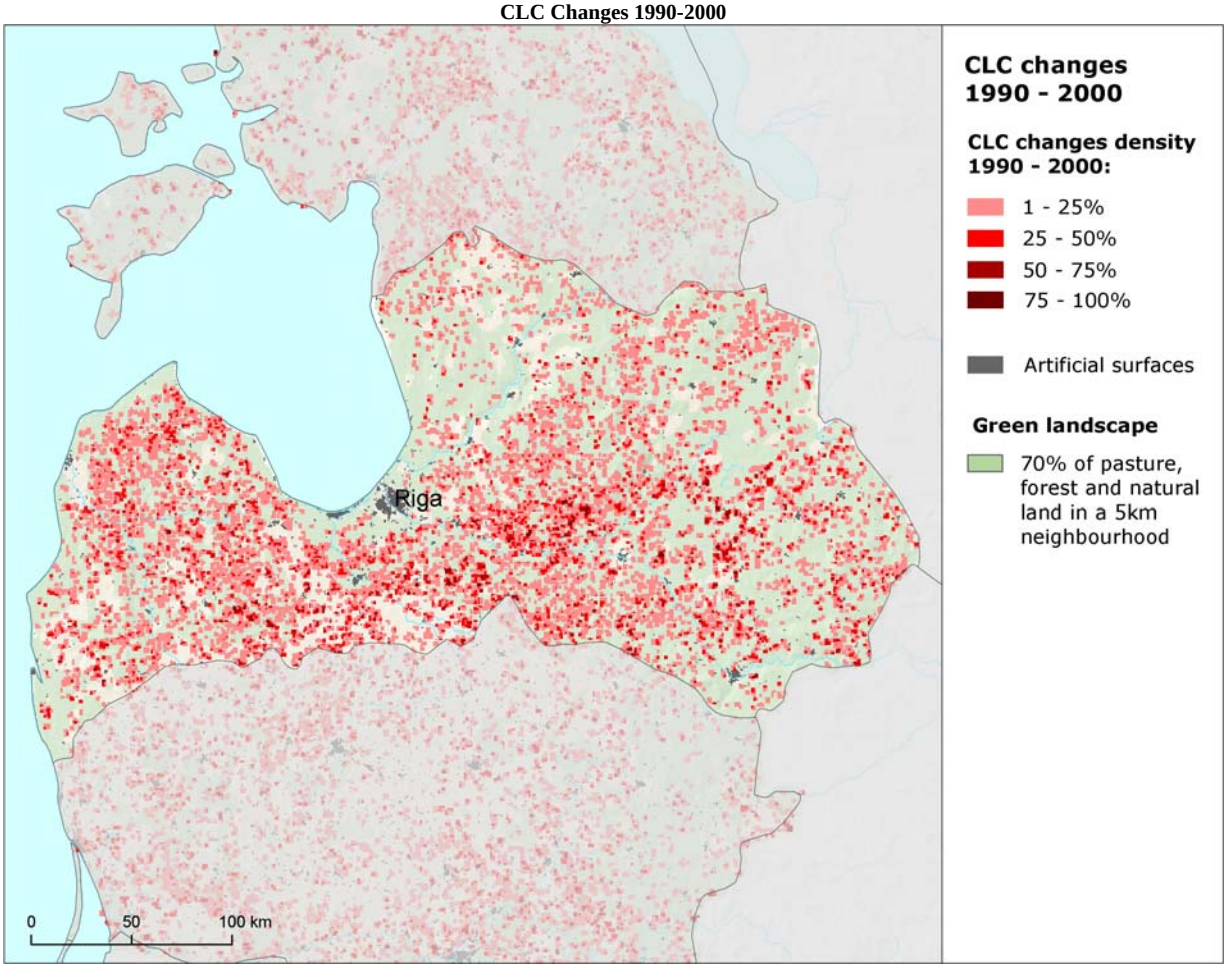
CLC Changes 2000-2006



CLC Changes 1990-2000



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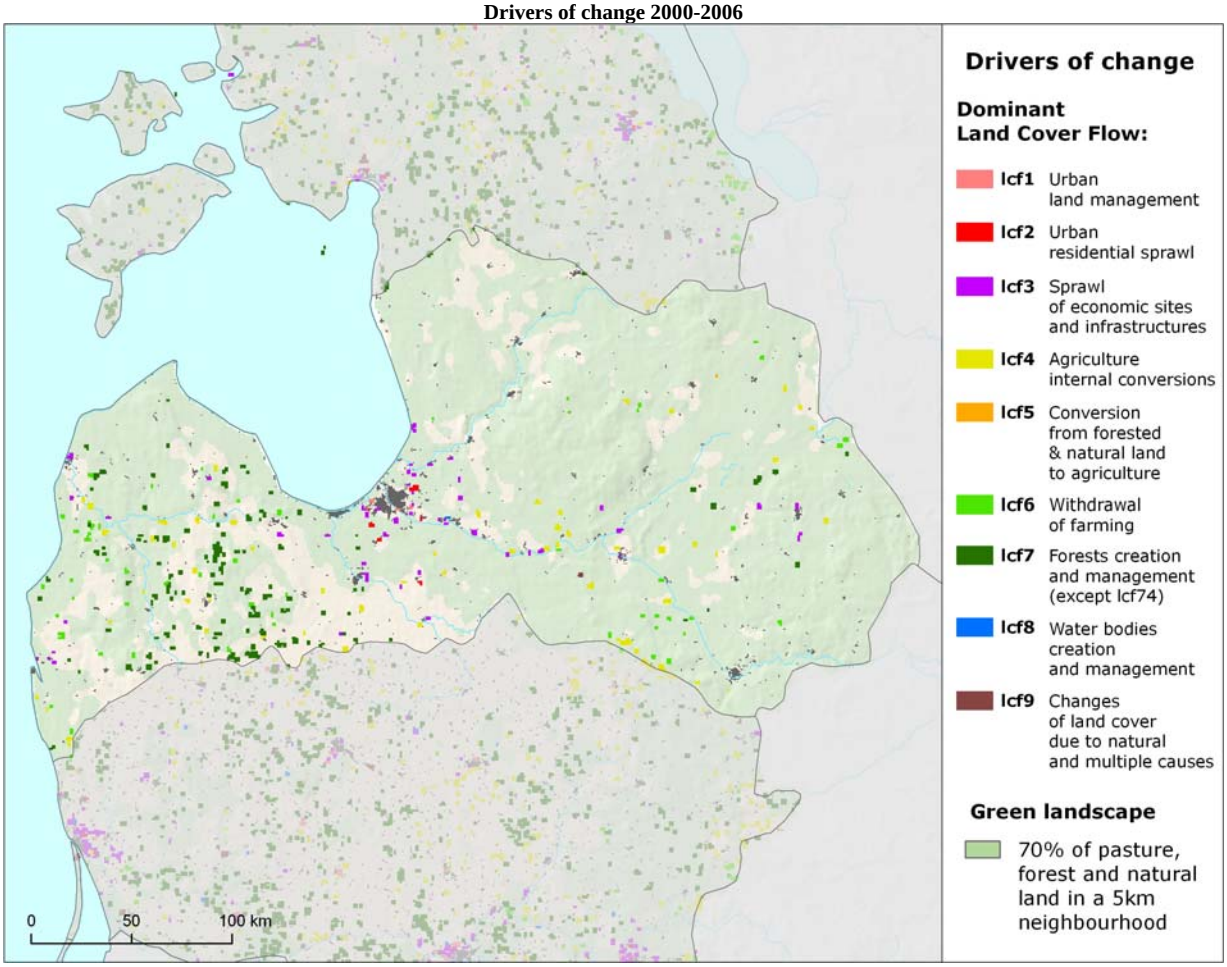
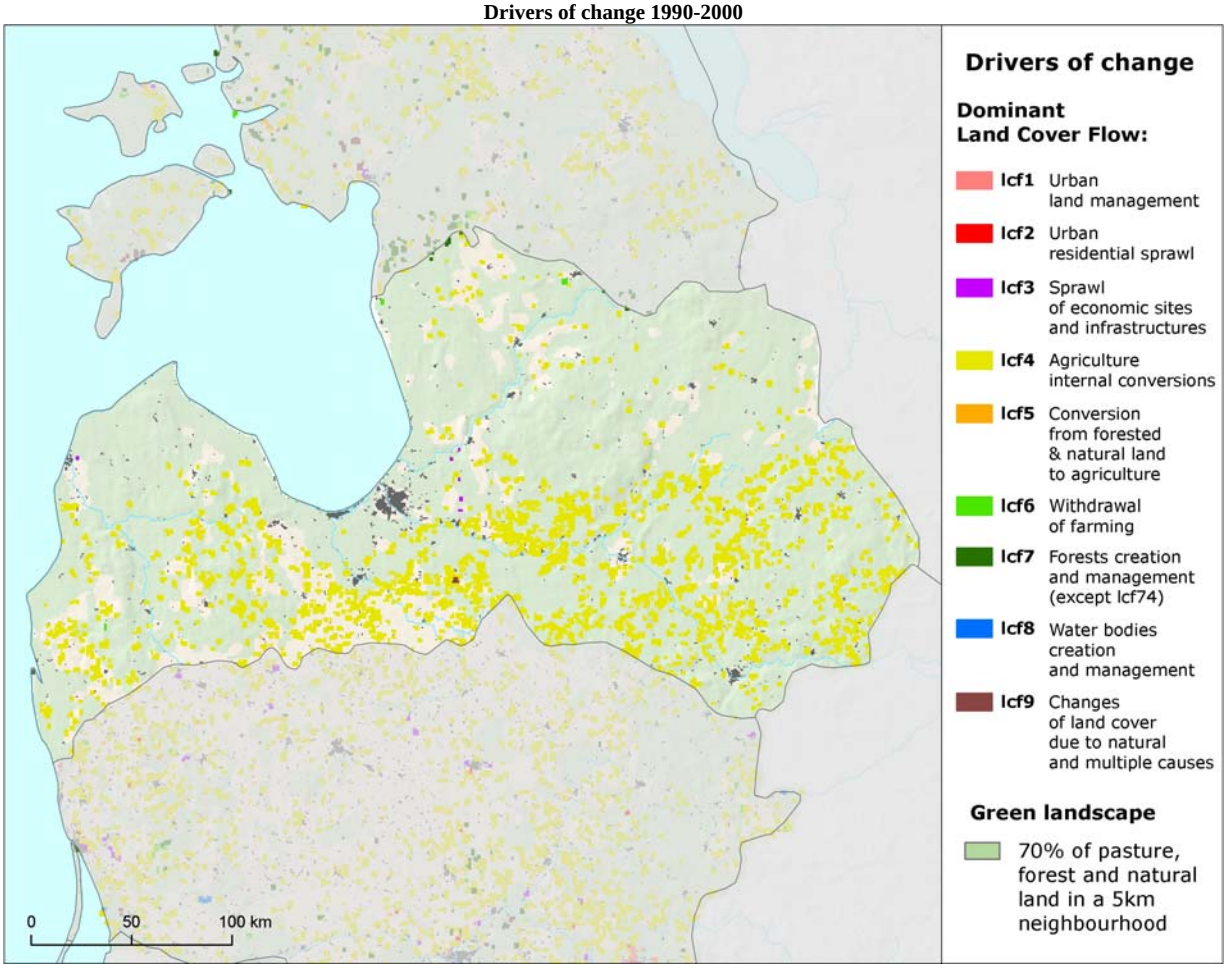
Drivers of change 2000-2006



Drivers of change 1990-2000



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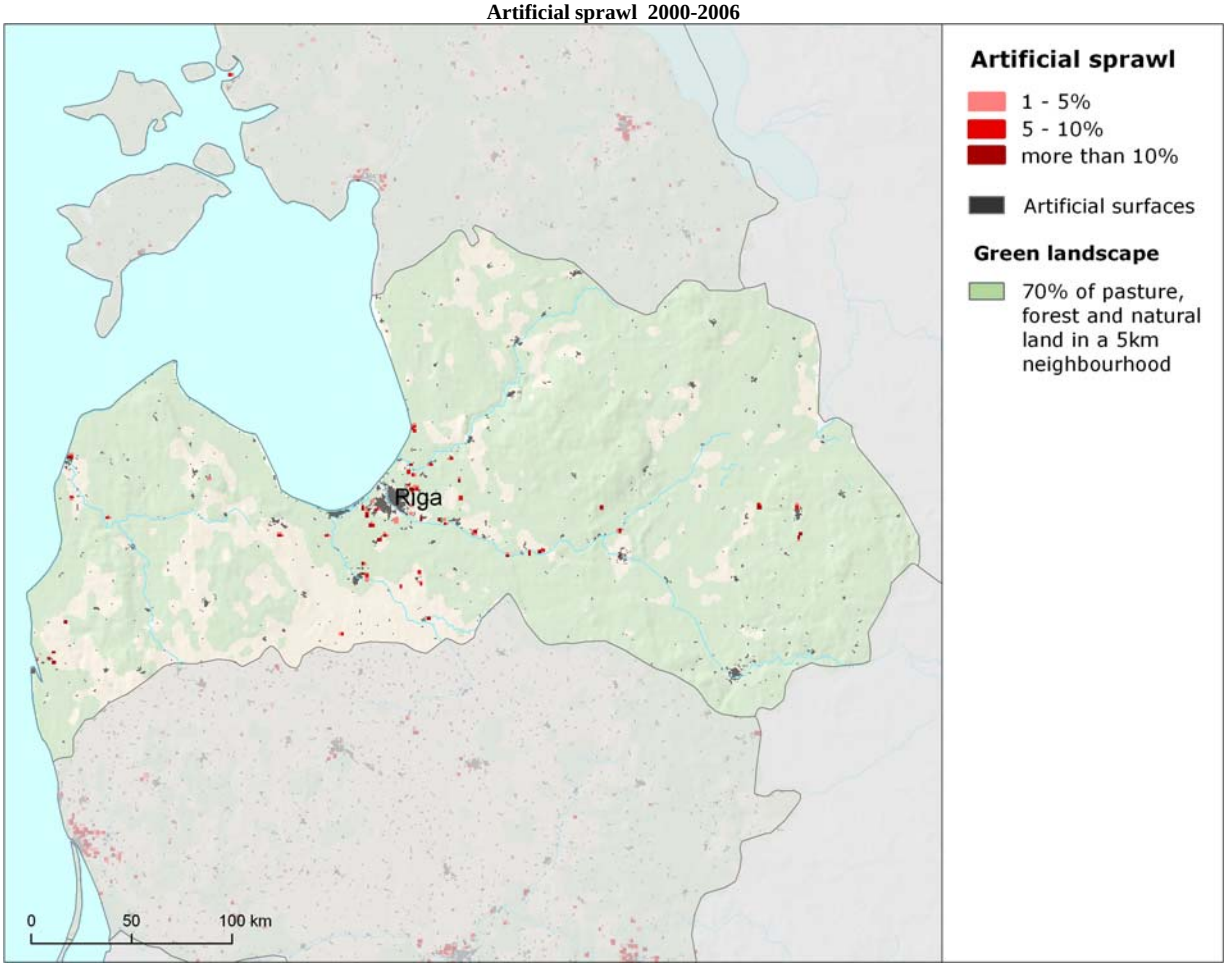
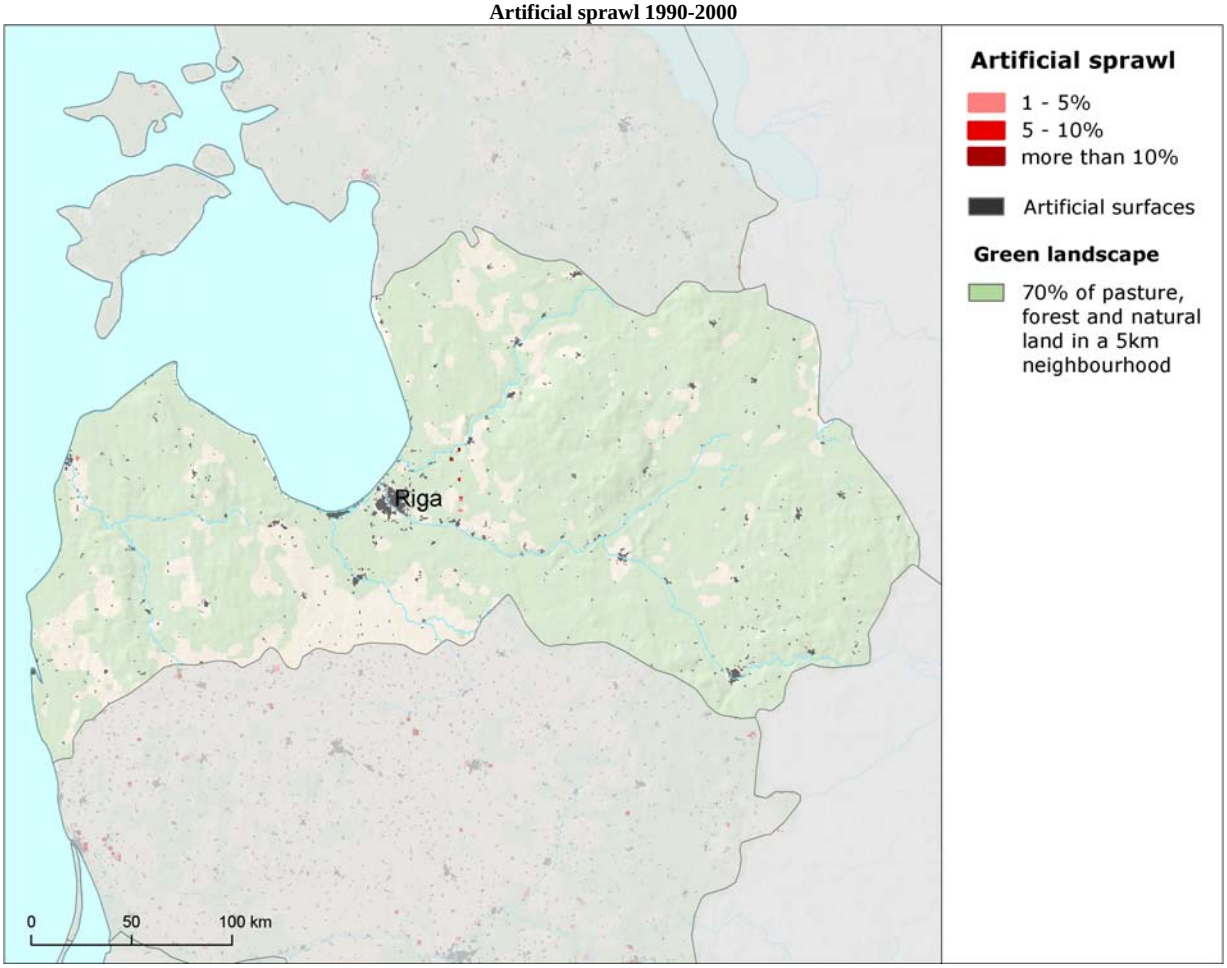
Artificial sprawl 2000-2006



Artificial sprawl 1990-2000



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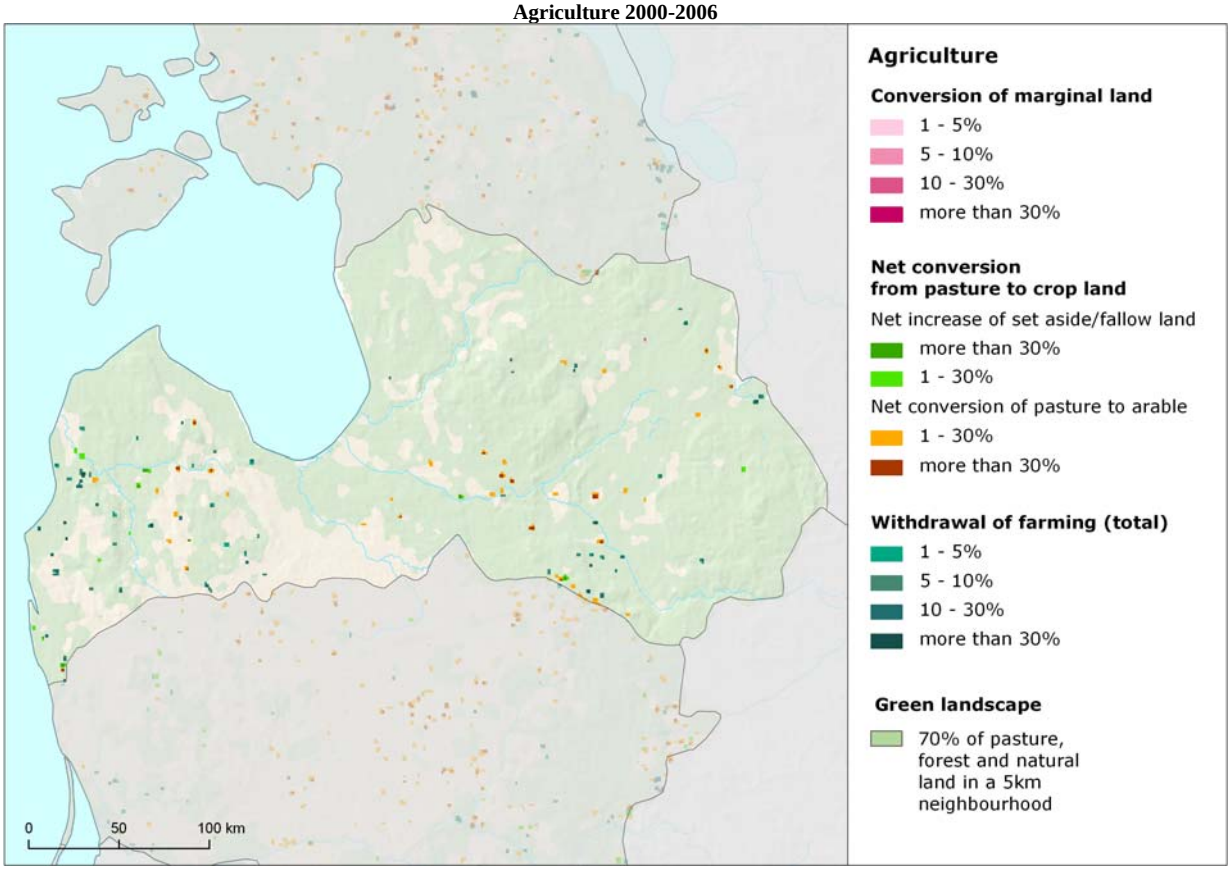
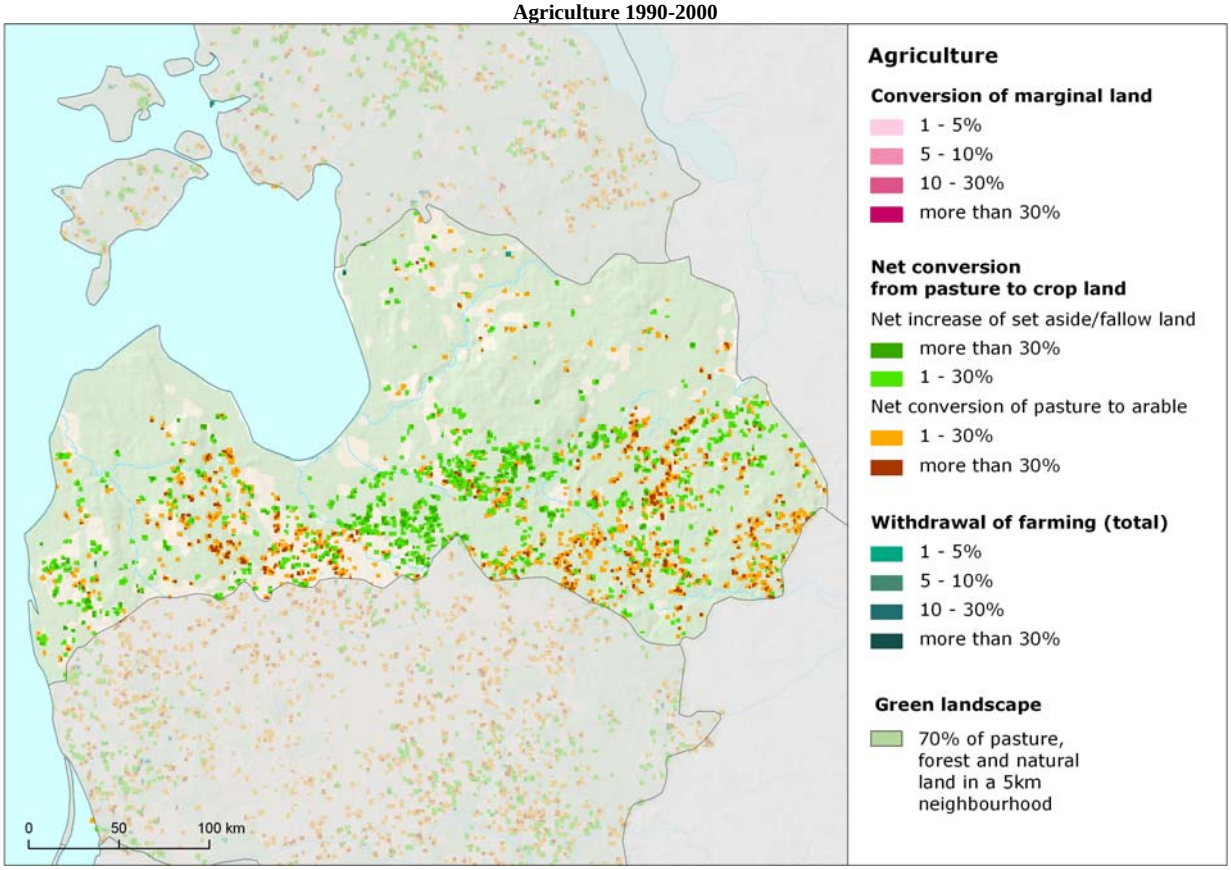
Agriculture 2000-2006



Agriculture 1990-2000



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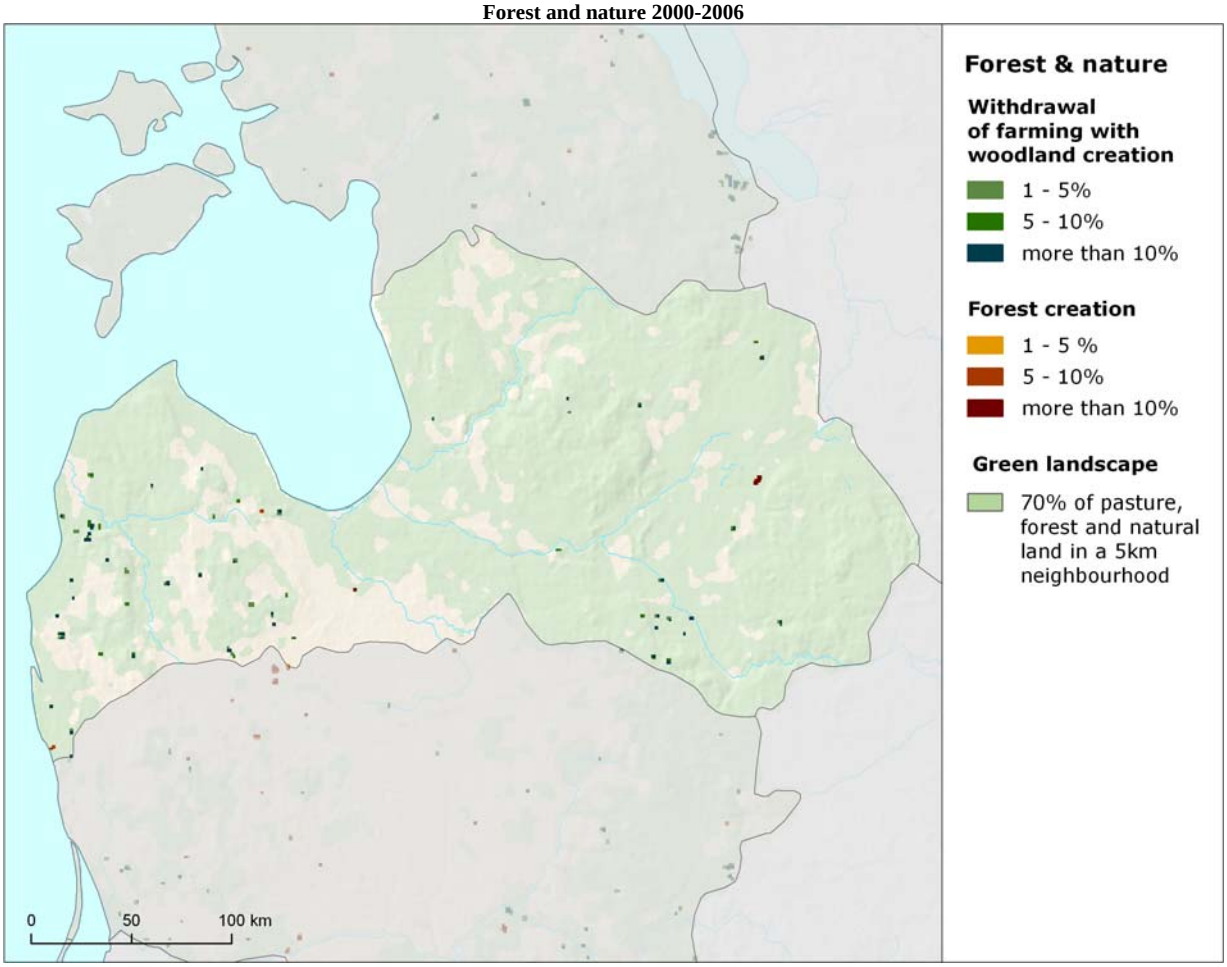
Forest and nature 2000-2006



Forest and nature 1990-2000