Country fact sheet

Land cover 2012

Latvia

September 2017

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European Environment Agency

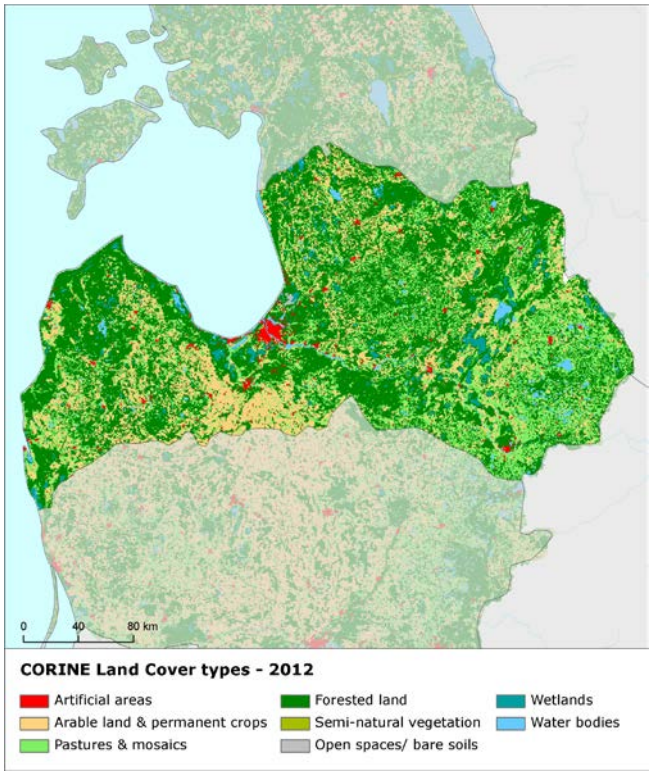
Latvia

Land cover 2012

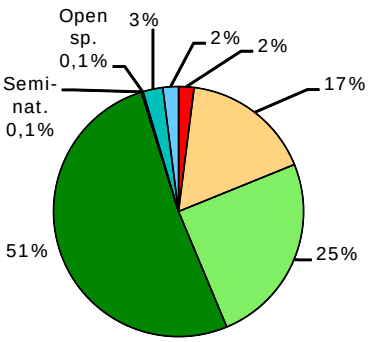
Overview of land cover & change 2006-2012

The overall dynamics of land cover in Latvia is considerably higher, compared to previous period. In the European context, the annual change rate of 0.61% is one of the highest. It has to be mentioned, that the change dynamics was even higher in the period 1990-2000 (the annual change rate was 0.78%), which documents that there was a significant decline during the previous period, which seems now to be overcome since the pace of development returned to its previous level.
Latvia is typically known by its extensive forest coverage (51% of total area) which indicates the most powerful drivers of the land cover development in the country are the internal forest conversions. The second most significant driver of change are internal agricultural conversions. The intensity of both these internal flows of forested and agricultural land is significant, compared to the period 2000-2006, during which in particular the intensity of agricultural internal conversions was much lower.
The urban sprawl, which was rather insignificant in the past, seems to be much more intensive in 2006-2012, with the annual net take rate (0.38%) reaching the European average. The artificial land development is driven mostly by the finalization of residential fabric units, which were under construction already in the previous period.

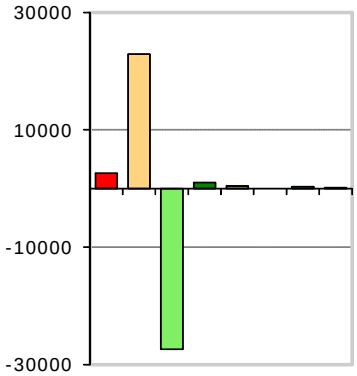
Note: The results presented here are based on a change analysis of 44 land cover types mapped consistently on a 1:100.000 scale across Europe over more than decade between 2000-2006-2012 - see Corine land cover (CLC) programme for details.
Number of years between CLC2006-CLC2012 data for Latvia: 6



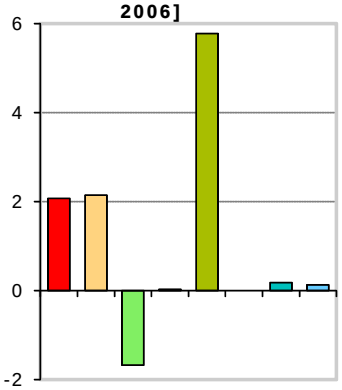
1.1. Land cover 2012 [% of total]



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

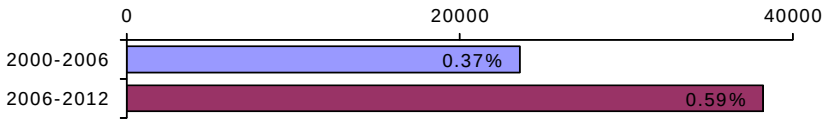
Summary balance table 2006-2012

	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	**1267**	**10673**	**16327**	**33270**	**76**	**65**	**1657**	**1300**	**64635**
Consumption of initial LC	22.9	44.0	313.6	1910.5	0.4	0.0	1.9	0.3	2294
Formation of new LC	49.1	272.8	39.6	1920.6	4.7	0.0	4.8	2.0	2294
Net Formation of LC	**26.2**	**228.8**	**-274.0**	**10.1**	**4.4**	**0.0**	**2.9**	**1.7**	**0**
Net formation as % of initial year	*2.1*	*2.1*	*-1.7*	*0.0*	*5.8*	*0.0*	*0.2*	*0.1*	
Total turnover of LC	**72.0**	**316.8**	**353.2**	**3831.1**	**5.1**	**0.0**	**6.8**	**2.3**	**4587**
Total turnover as % of initial year	*5.7*	*3.0*	*2.2*	*11.5*	*6.7*	*0.0*	*0.4*	*0.2*	*7.1*
Land cover 2012	**1293**	**10902**	**16053**	**33280**	**80**	**65**	**1660**	**1301**	**64635**

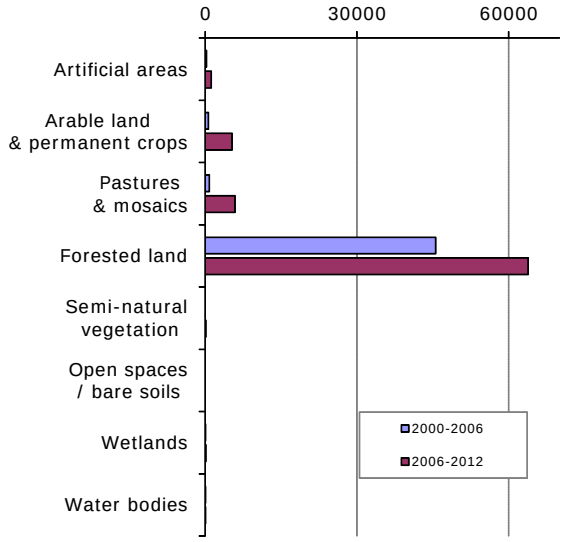
Latvia

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

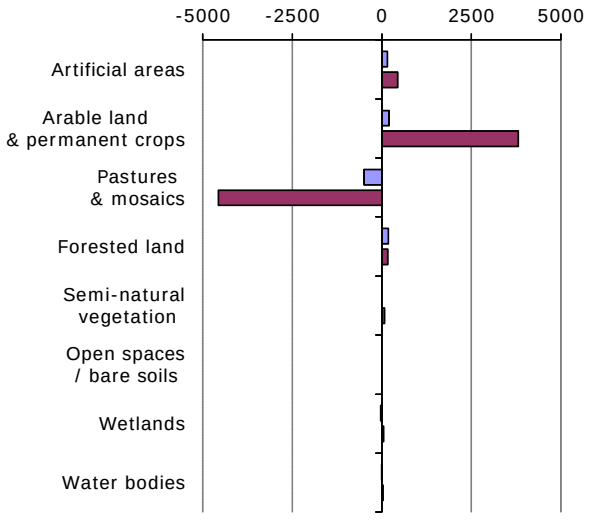
2.4. Annual land cover change [ha/year, % of total area]



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

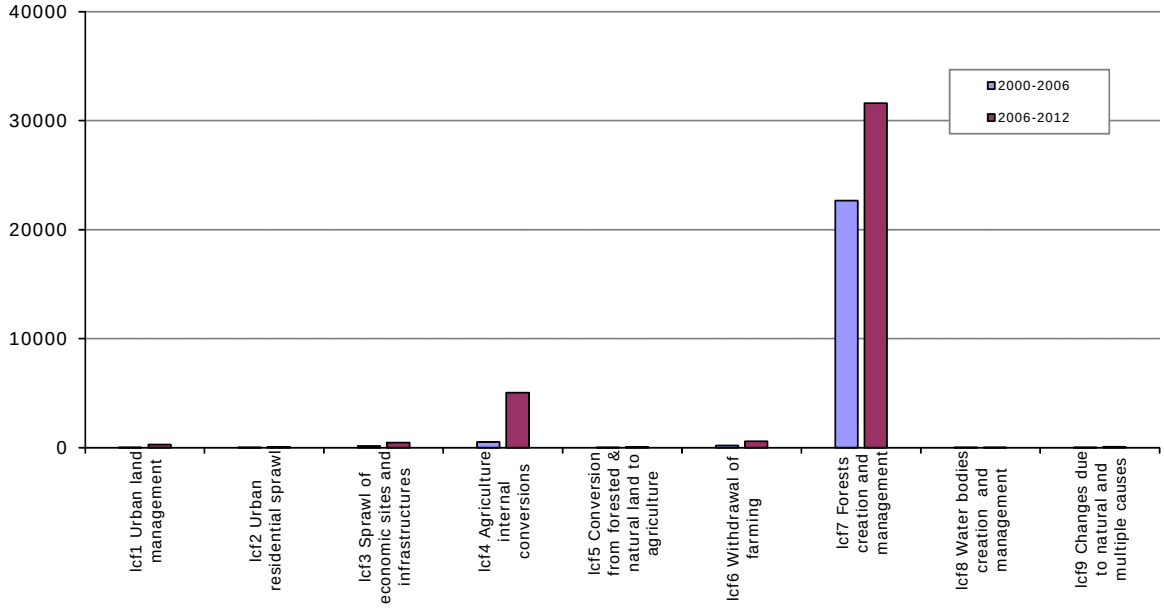


2.6. Net annual change of LC types [ha/year]



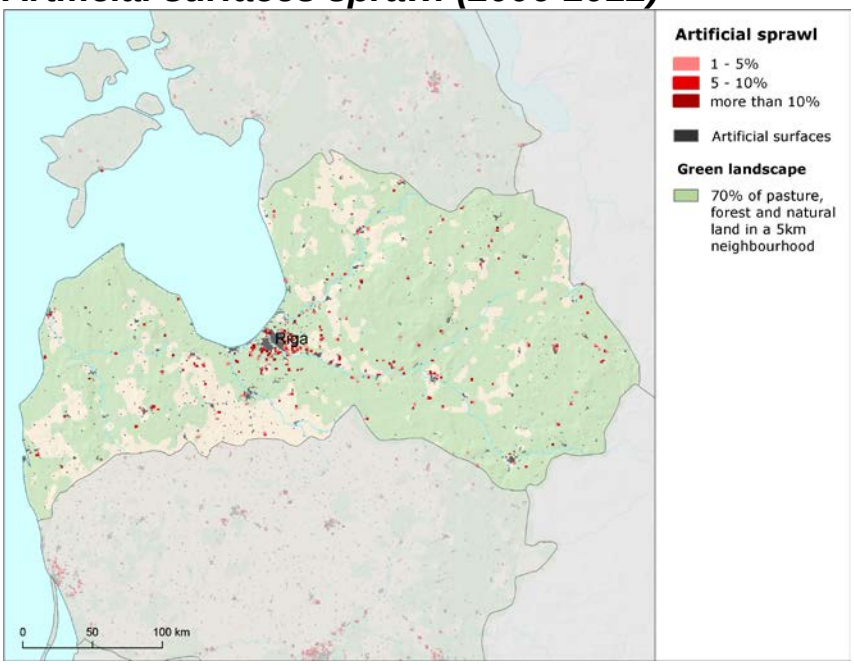
Summary trend figures	2000-2006	2006-2012
Annual land cover change [ha/year]	**23607**	**38227**
Annual land cover change as % of initial year	**0.37%**	**0.59%**
Land uptake by artificial development as mean annual change [ha/year]	164	475
Agricultural land uptake by urban and infrastructures development as mean annual change [ha/year]	110	323
Net uptake of forests and semi-natural land by agriculture as mean annual change [ha/year]	-208	-529
Net conversion from pasture to arable land and permanent crops as mean annual change [ha/year]	231	3984
Forest & other woodland net formation as mean annual change [ha/year]	179	168
Dry semi-natural land cover net formation as mean annual change [ha/year]	0	73
Wetlands & water bodies net formation as mean annual change [ha/year]	-36	76

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

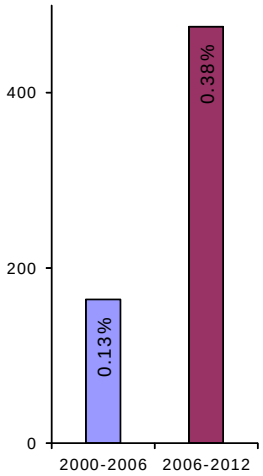


Latvia

Artificial surfaces sprawl (2006-2012)



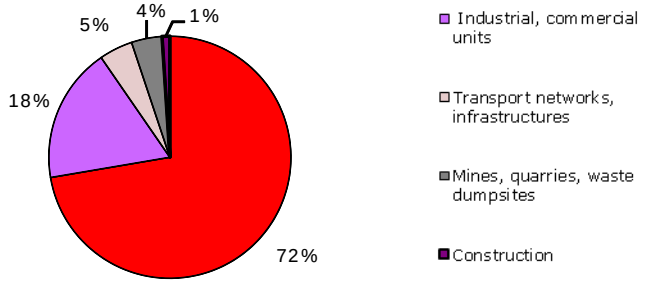
3.8. Artificial land take [ha/year, % of initial year]



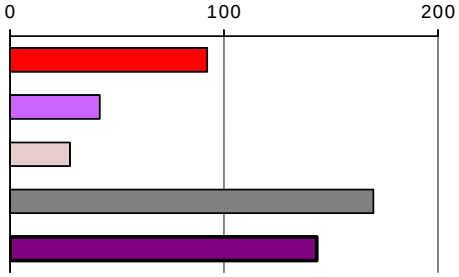
Artificial development is getting stronger

The artificial land take in Latvia is significantly higher than in the previous period 2000-2006 and is driven mostly by the extension of mines, quarries, dumpsites, construction sites and sport and leisure facilities. The mean annual land take rate in Latvia is 0.38%, which is just above the European average. Beside the sprawl itself, also recycling of developed urban land seems to be an important driver of the artificial development in the country, represented mostly by the conversion of construction sites into urban fabric units. Concerning the spatial distribution, there is a major concentration of the development of residential fabric and sport and leisure facilities around the capital city of Riga. There also occurs scattered patches of all other types of sprawl distributed over the whole country; however, their density is rather low. The main sources for the sprawl in Latvia are pastures (49%) and forested areas (28%).

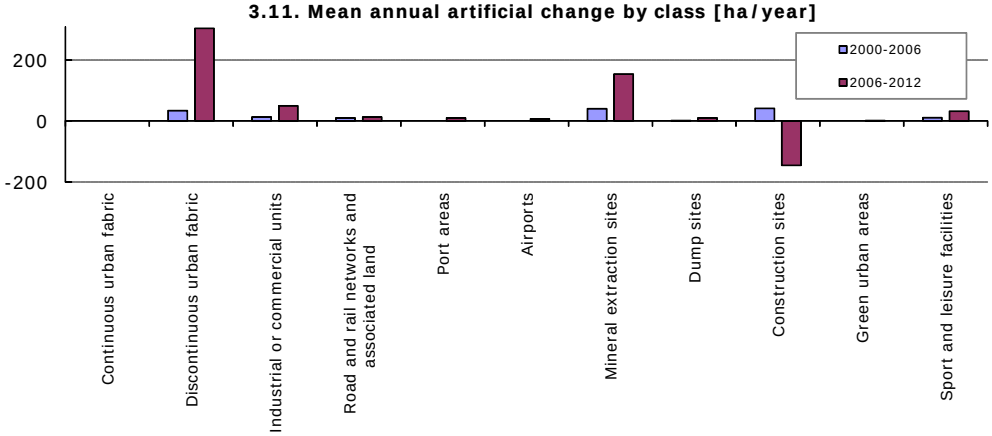
3.9. Artificial surfaces 2012 [% of total area]



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

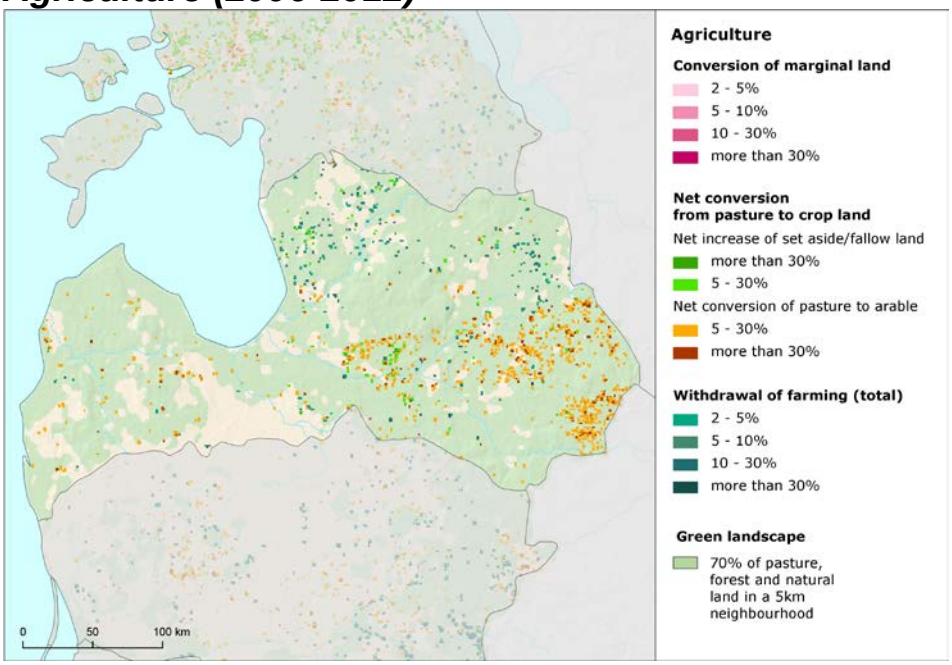


3.11. Mean annual artificial change by class [ha/year]



Latvia

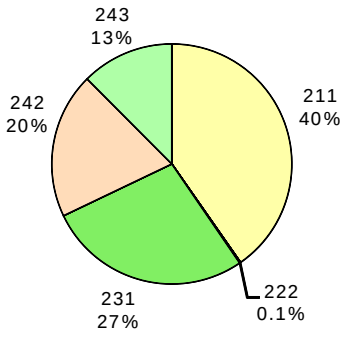
Agriculture (2006-2012)

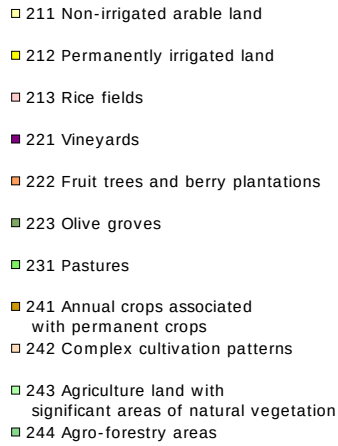


Rapid increase of agricultural conversions

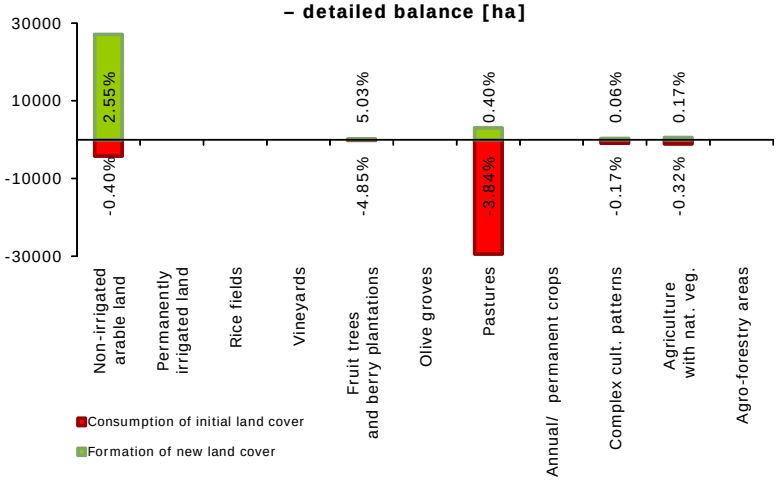
The agricultural development is Latvia is driven mostly by the internal agricultural conversions between arable and pasture land, with strongly prevailing direction from pasture to arable. This flow was rather weak during the previous period and it seems to become quite intensive in the 2006-2012 period, representing the second most extensive land cover flow. Geographically, it is located mostly in the eastern and central part of the country. Beside this internal conversion, also withdrawal of farming, mostly with woodland creation, is quite frequent, especially in northern Latvia. Mostly pastures and agricultural land with natural vegetation are consumed by transitional woodland and shrub land in the frame of this flow. The result of this process is a positive net change balance for arable land and negative for pastures, both about 2% of initial area. The other consumer of agricultural land in Latvia is the artificial land take, with predominance of the sprawl of economic sites and infrastructures.

4.12. Agricultural areas 2012 [% of total area]

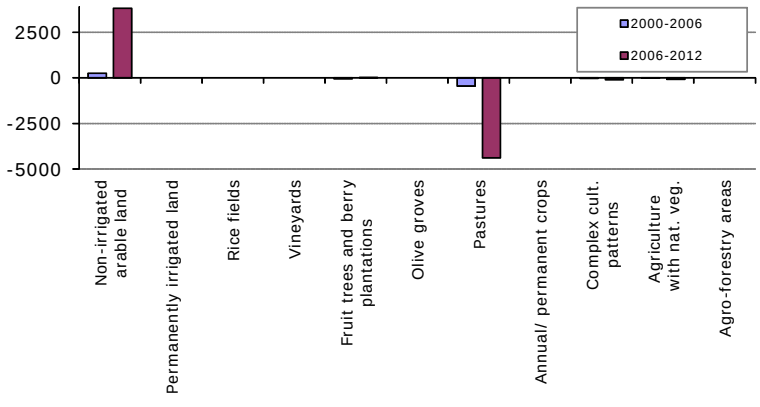




4.13. Development of agricultural areas 2006-2012 – detailed balance [ha]

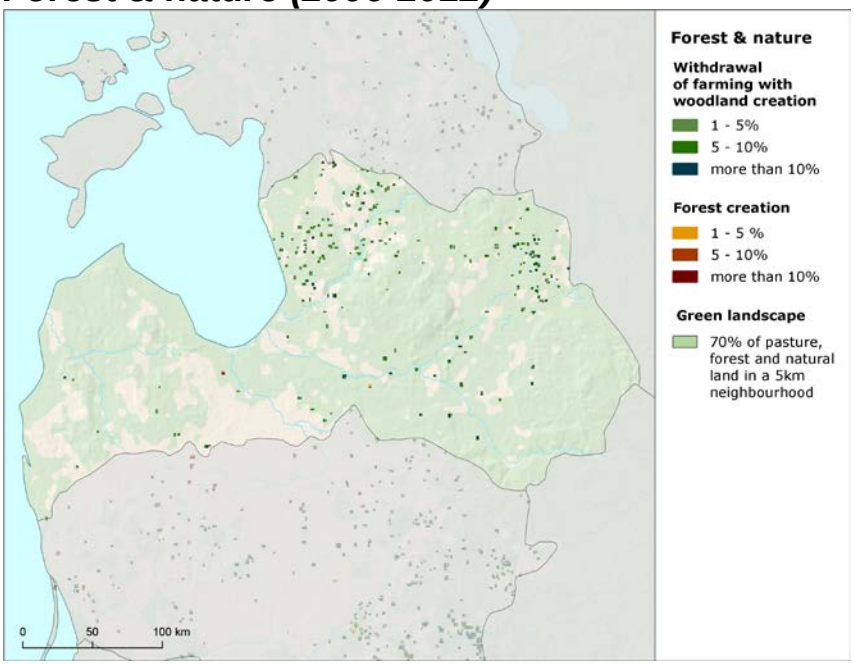


4.14. Mean annual agricultural change by class [ha/year]

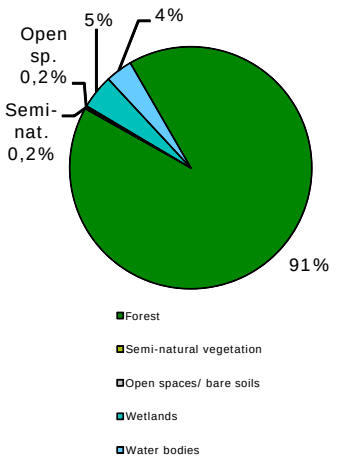


Latvia

Forest & nature (2006-2012)



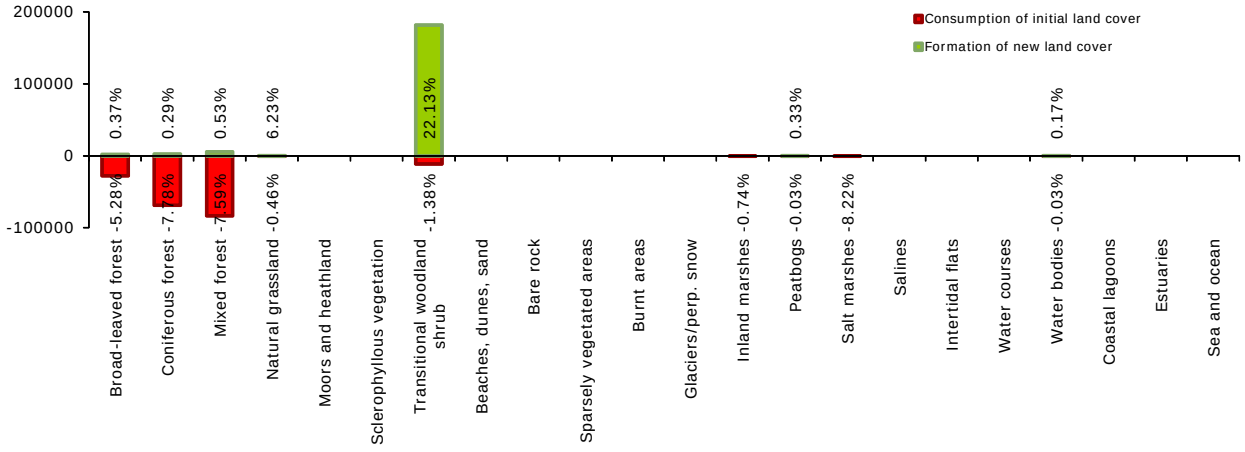
5.15. Forest & nature areas 2012 [% of total area]



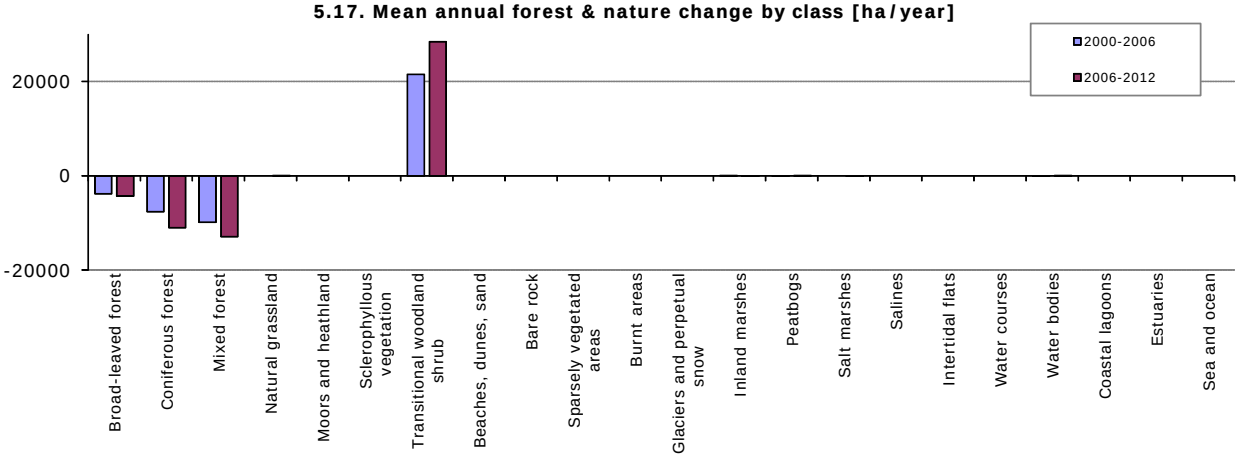
Speed up of forested land development

Considering the structure of the Latvian landscape, with significant predominance of forested land, it is not surprising that the internal changes of forested area are the main drivers of the overall landscape development in the country. The intensity of this flow, represented almost exclusively by the recent felling and transition, even increased compared to the previous period. The external exchange of forested land in Latvia is represented mostly by the withdrawal of farming with transitional woodland creation – this flow is concentrated mostly in the northern part of the country and its intensity is more than twice higher than in the previous period. As a result of this development, the area of broad-leaved, coniferous and mixed forest is decreasing, in contrast to the transitional woodland and shrub, with significant increase of initial area (by circa 22%). This balance shows the same trend as in the previous period 2000-2006.

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



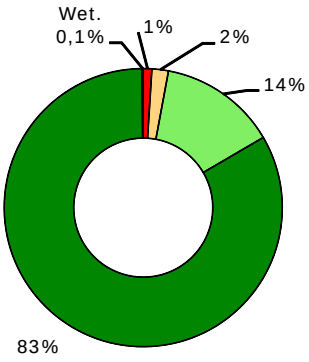
5.17. Mean annual forest & nature change by class [ha/year]



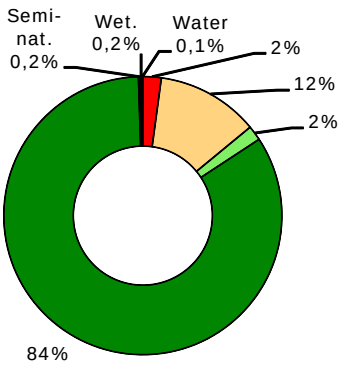
Annex: Land cover flows and trends

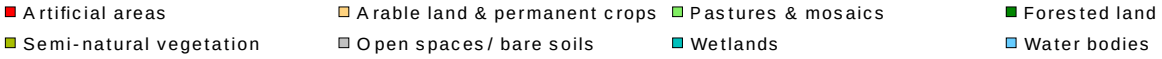
Land cover flows 2006-2012

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

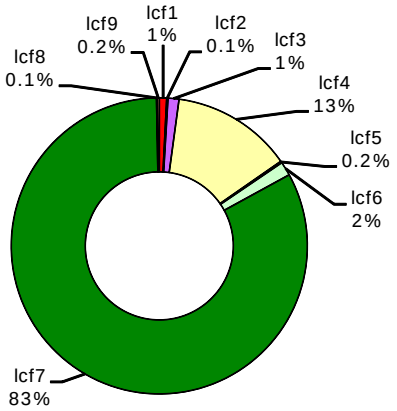


6.19. Formation of land cover 2006-2012 [% of total change area]





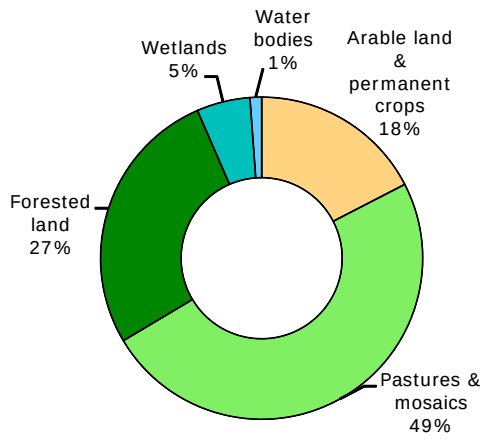
6.20. Drivers of change (LC FLOWS) 2006-2012 [% of total change area]



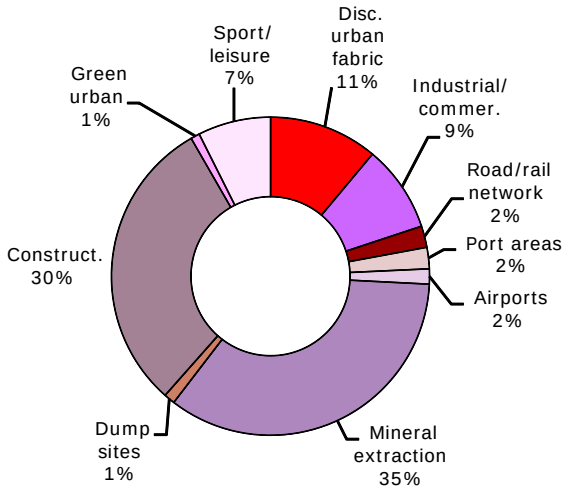
Latvia

Artificial areas

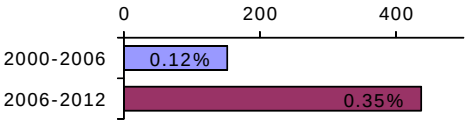
7.21. Consumption by artificial land take 2006-2012 [% of total]



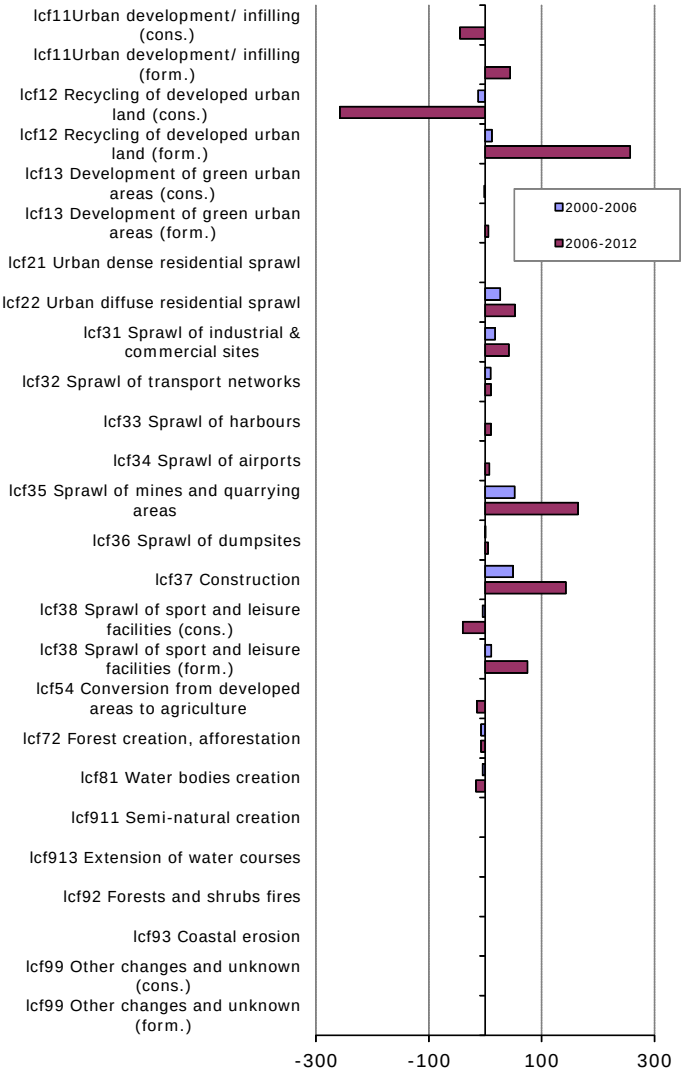
7.22. Formation by artificial land take 2006-2012 [% of total]



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



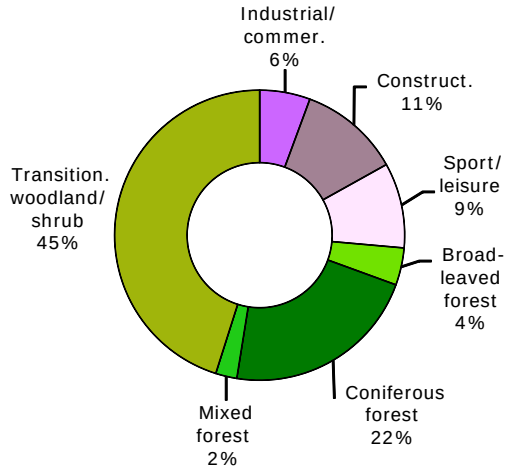
7.24. Artificial development by change drivers (LC FLOWS) [ha/year]



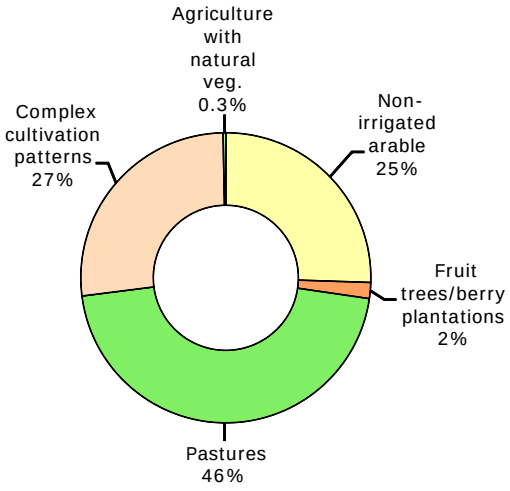
Latvia

Agriculture

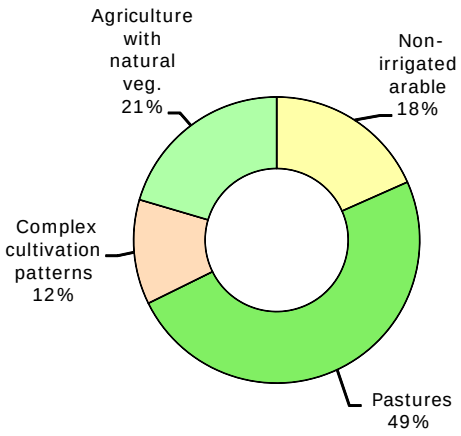
8.25. LC consumed by agriculture 2006-2012 [% of total]



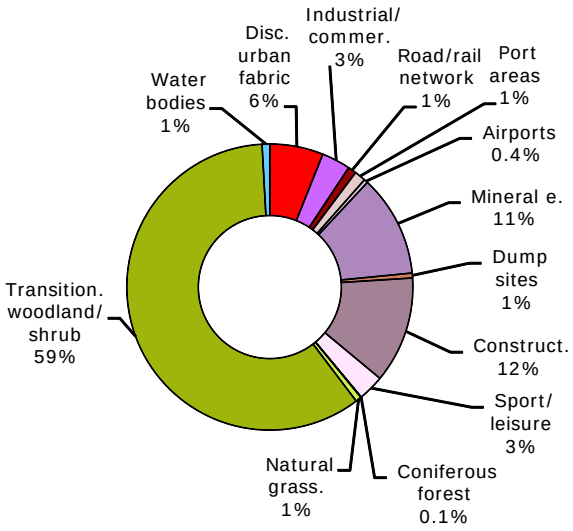
8.26. Formation of agricultural land from non-agriculture 2006-2012 [% of total]



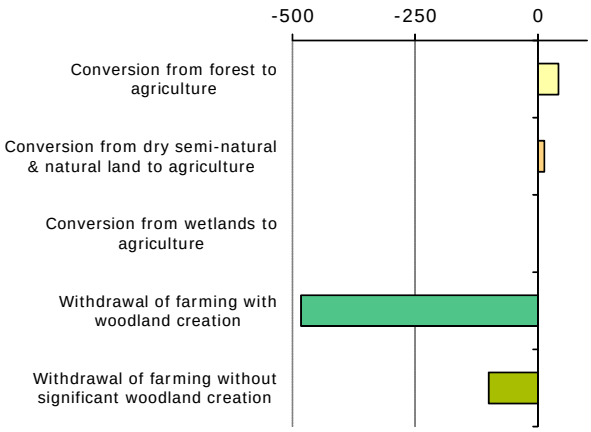
8.27. Consumption of agricultural land by non-agriculture 2006-2012 [% of total]



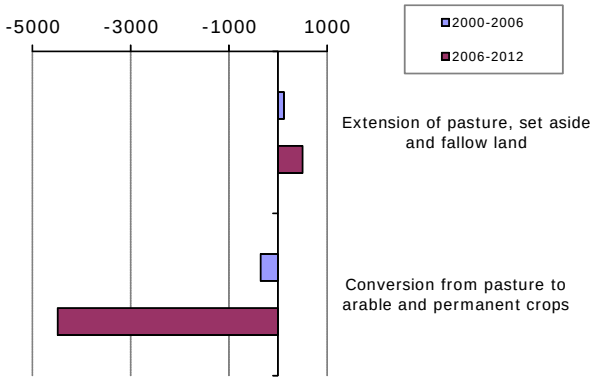
8.28. Formation of non-agricultural land from agriculture 2006-2012 [% of total]



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

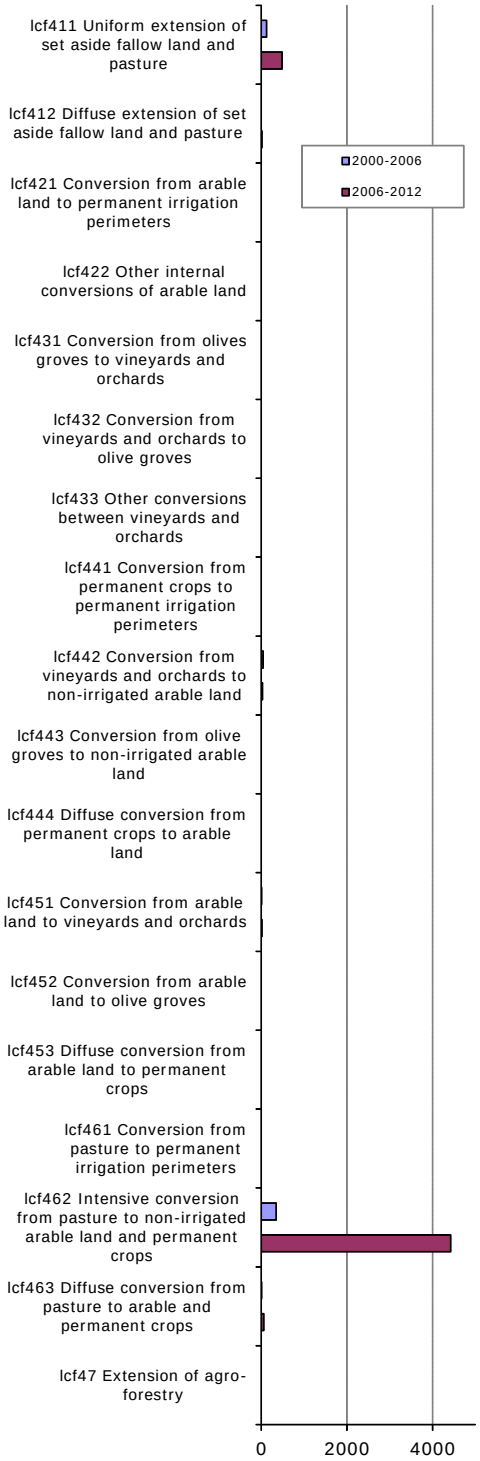


8.30. Mean annual conversion between arable land and pasture [ha/year]

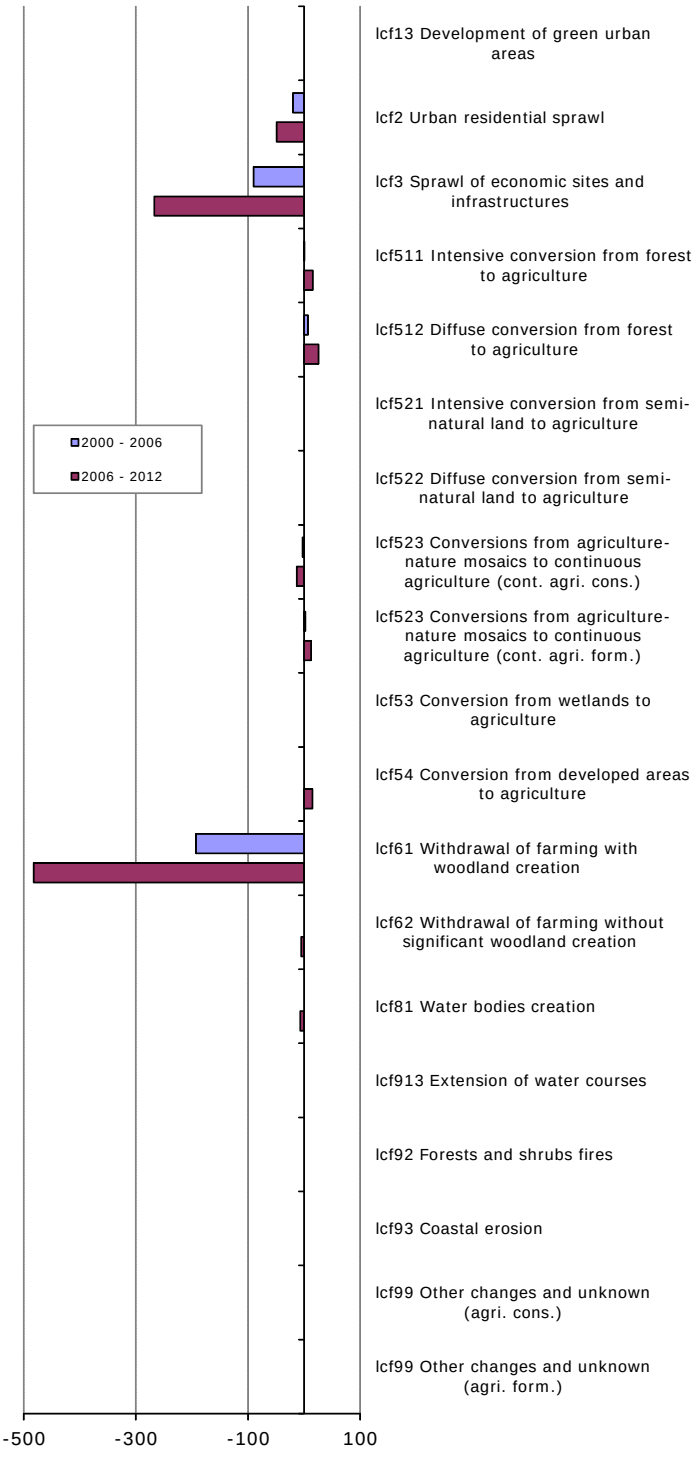


Latvia

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



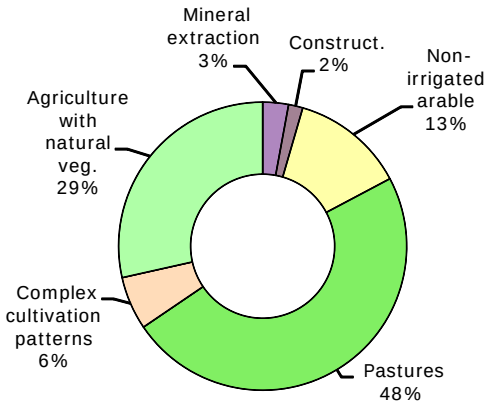
9.32. Mean annual conversions between agriculture and other LC types [ha/year]



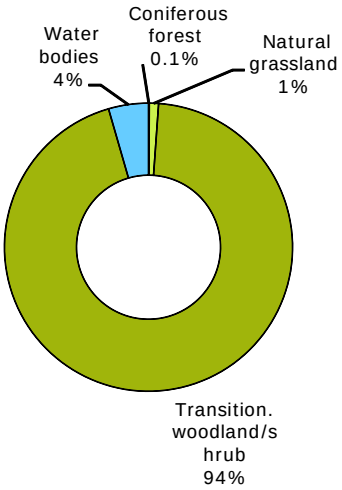
Latvia

Forest & nature

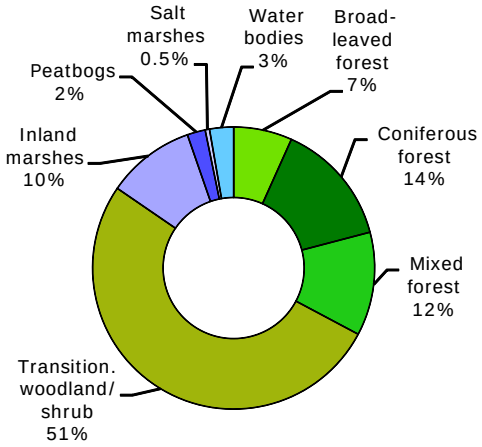
10.33. LC consumed by forest & nature 2006-2012 [% of total]



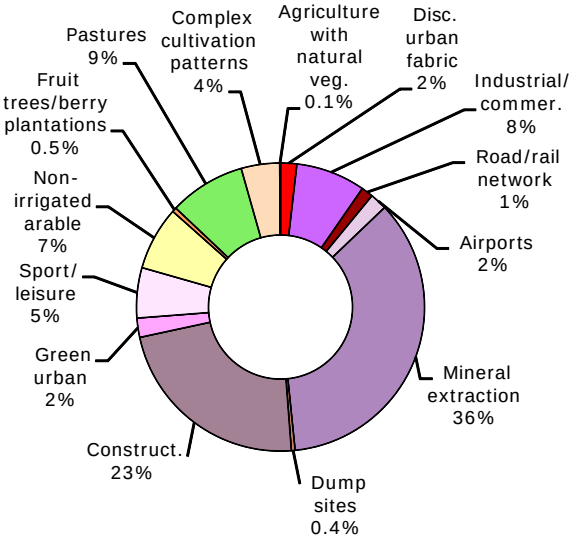
10.34. Formation of forest & nature land from non-forest /nature 2006-2012 [% of total]



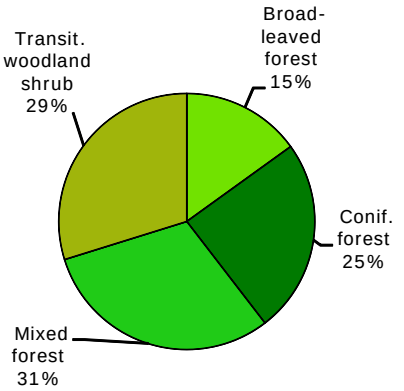
10.35. Consumption of forest & nature land by non-forest/nature 2006-2012 [% of total]



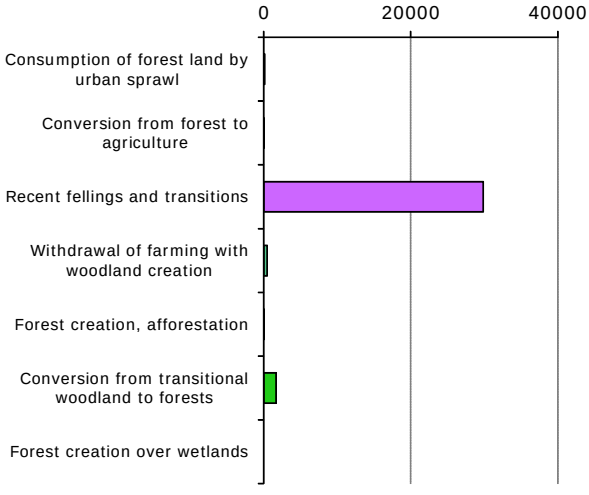
10.36. Formation of non-forest/nature land from forest & nature 2006-2012 [% of total]



10.37. Forested land 2012 [% of total area]

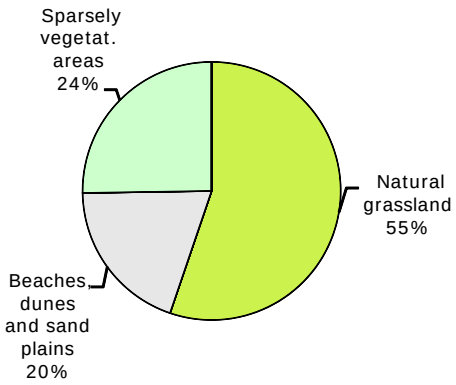


10.38. Main trends in woodland & forests consumption/formation 2006-2012 [ha/year]

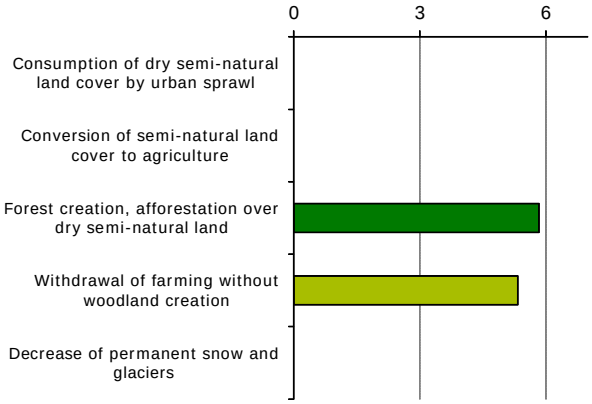


Latvia

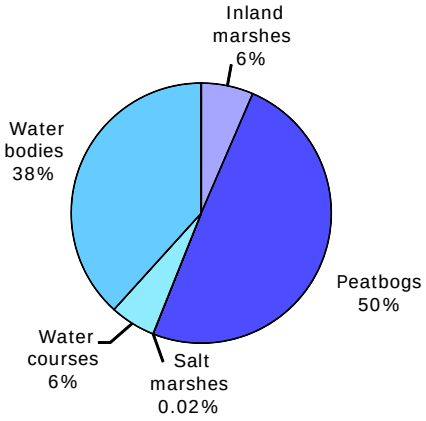
11.39. Dry semi-natural areas 2012 [% of total area]



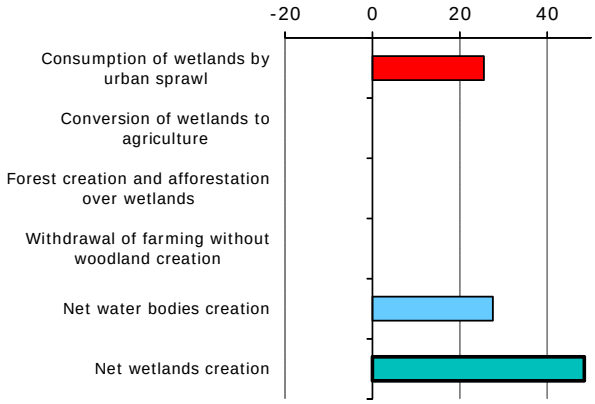
11.40. Main trends in dry semi-natural land consumption/formation 2006-2012 [ha/year]



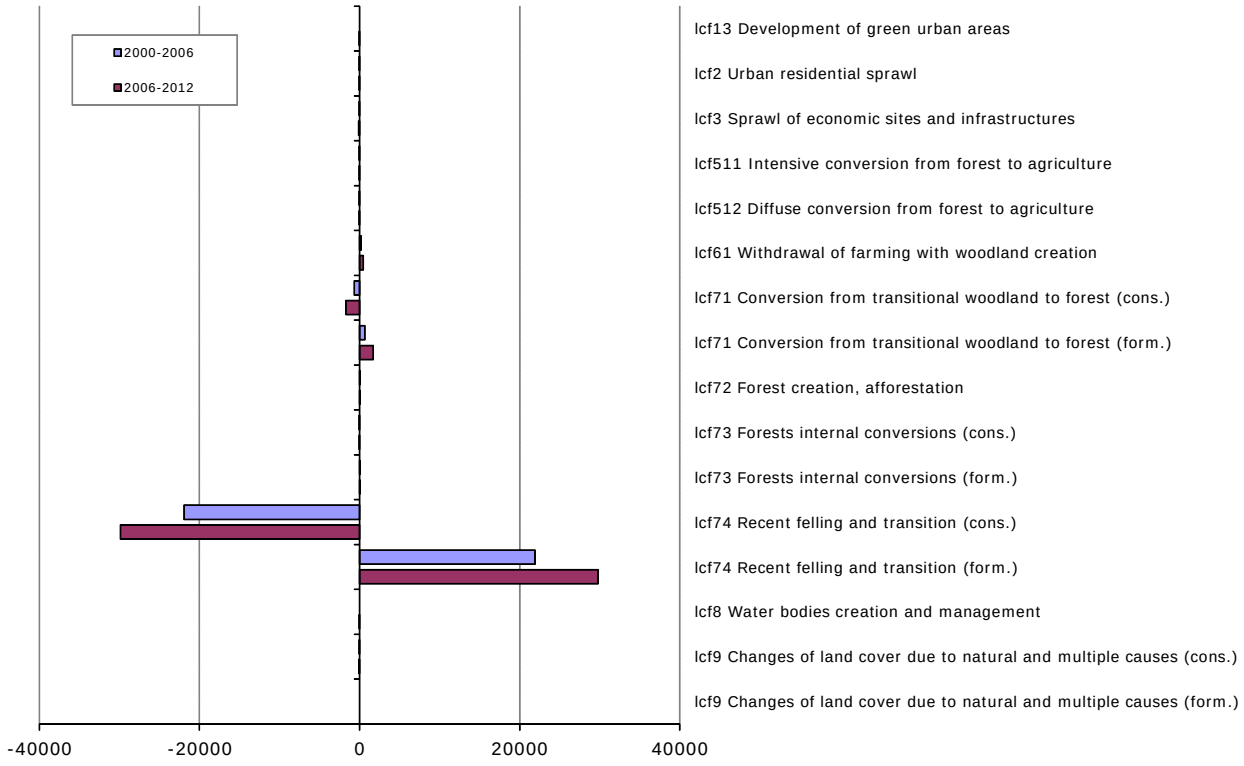
11.41. Wetlands & water 2012 [% of total area]



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

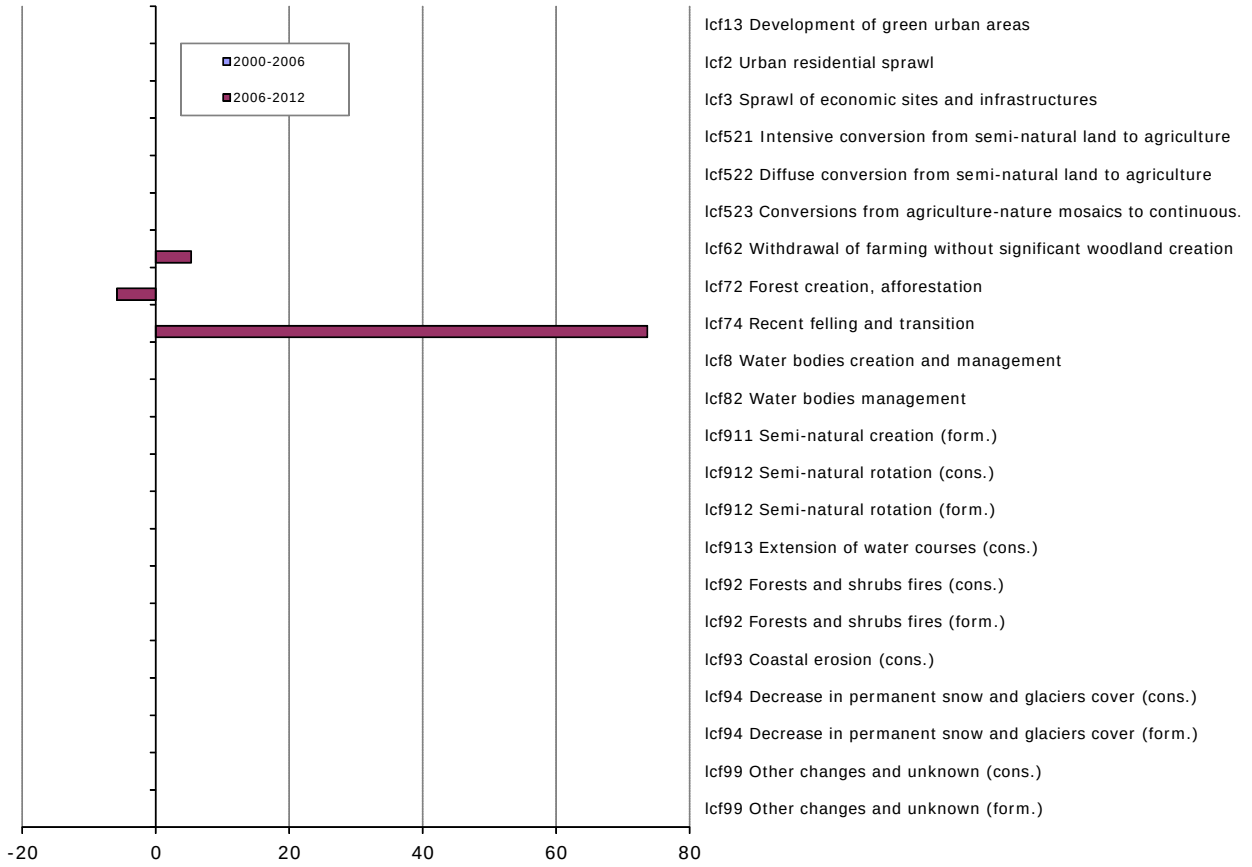


11.43. Mean annual conversions of forest & other woodland [ha/year]

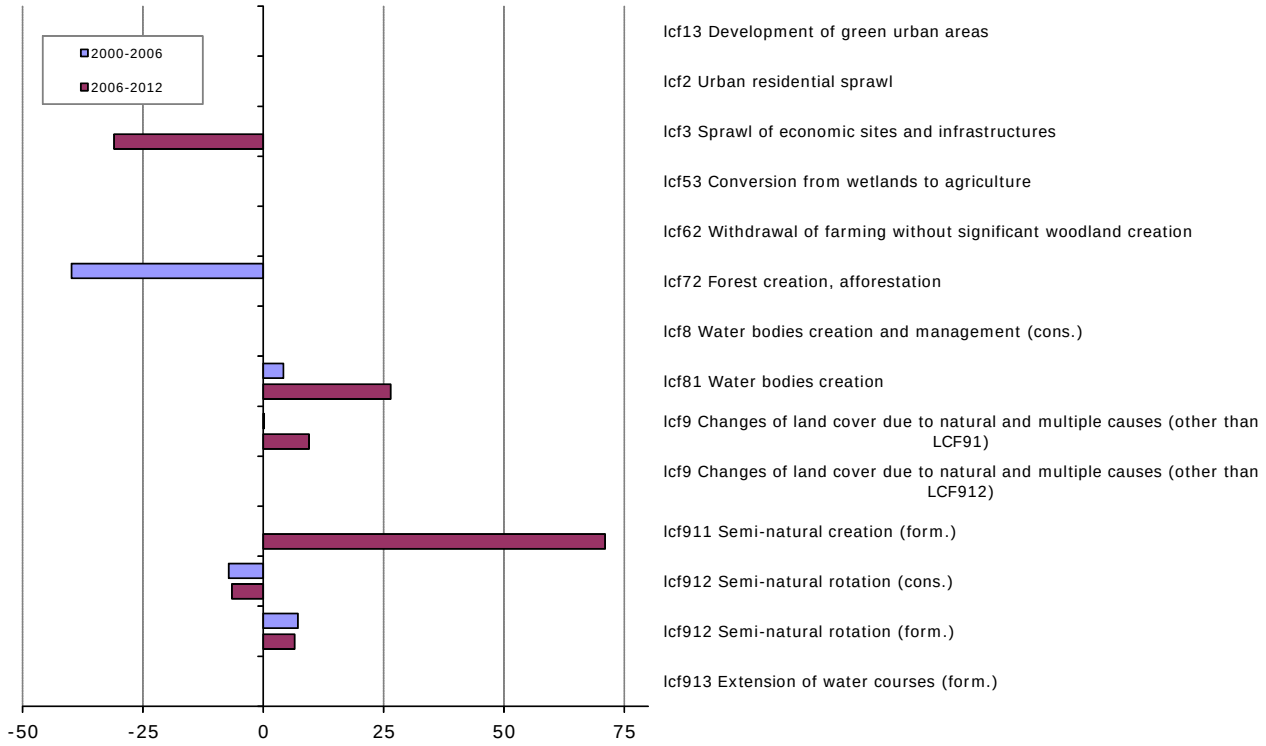


Latvia

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

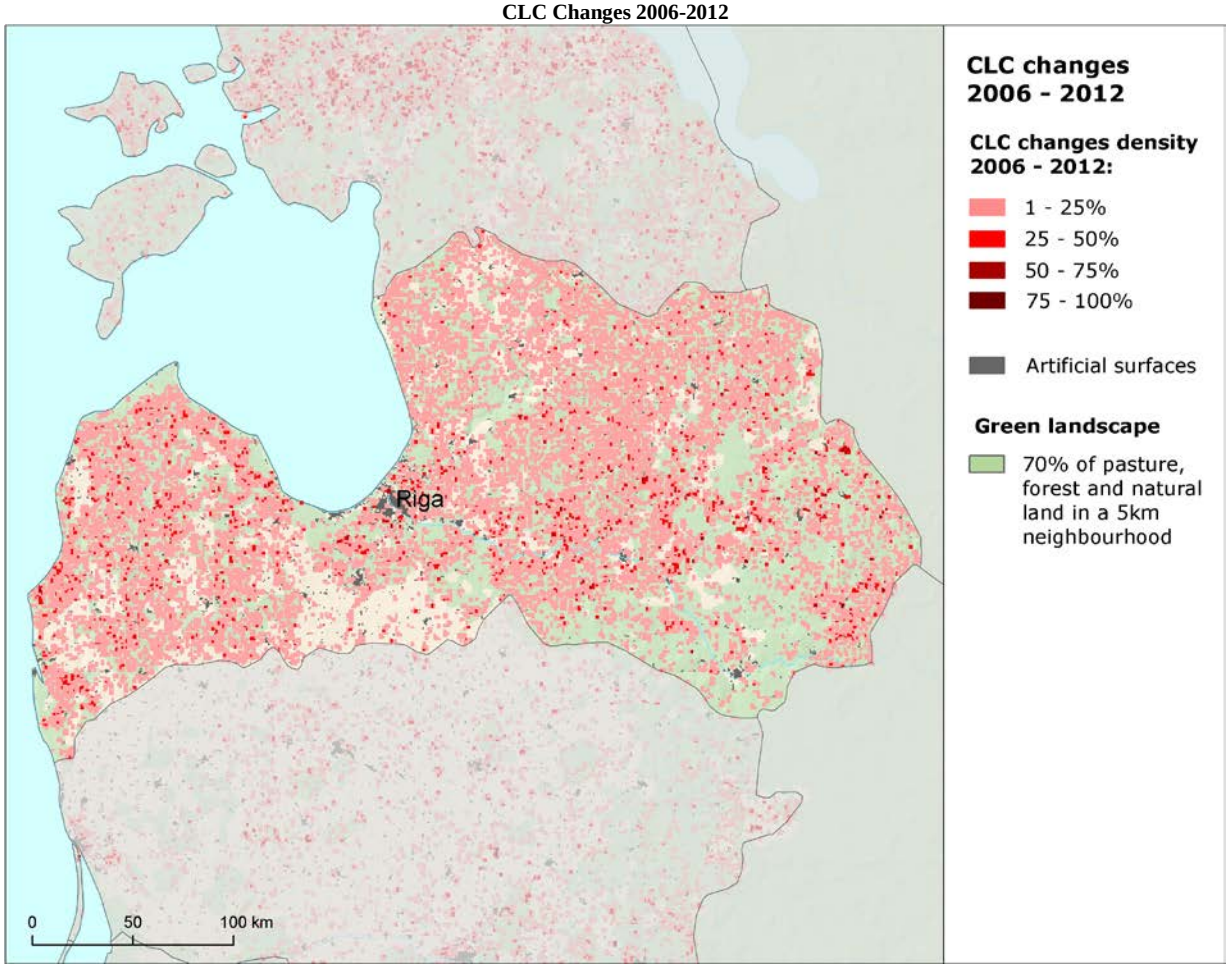


12.45. Mean annual conversions of wetlands and water LC [ha/year]

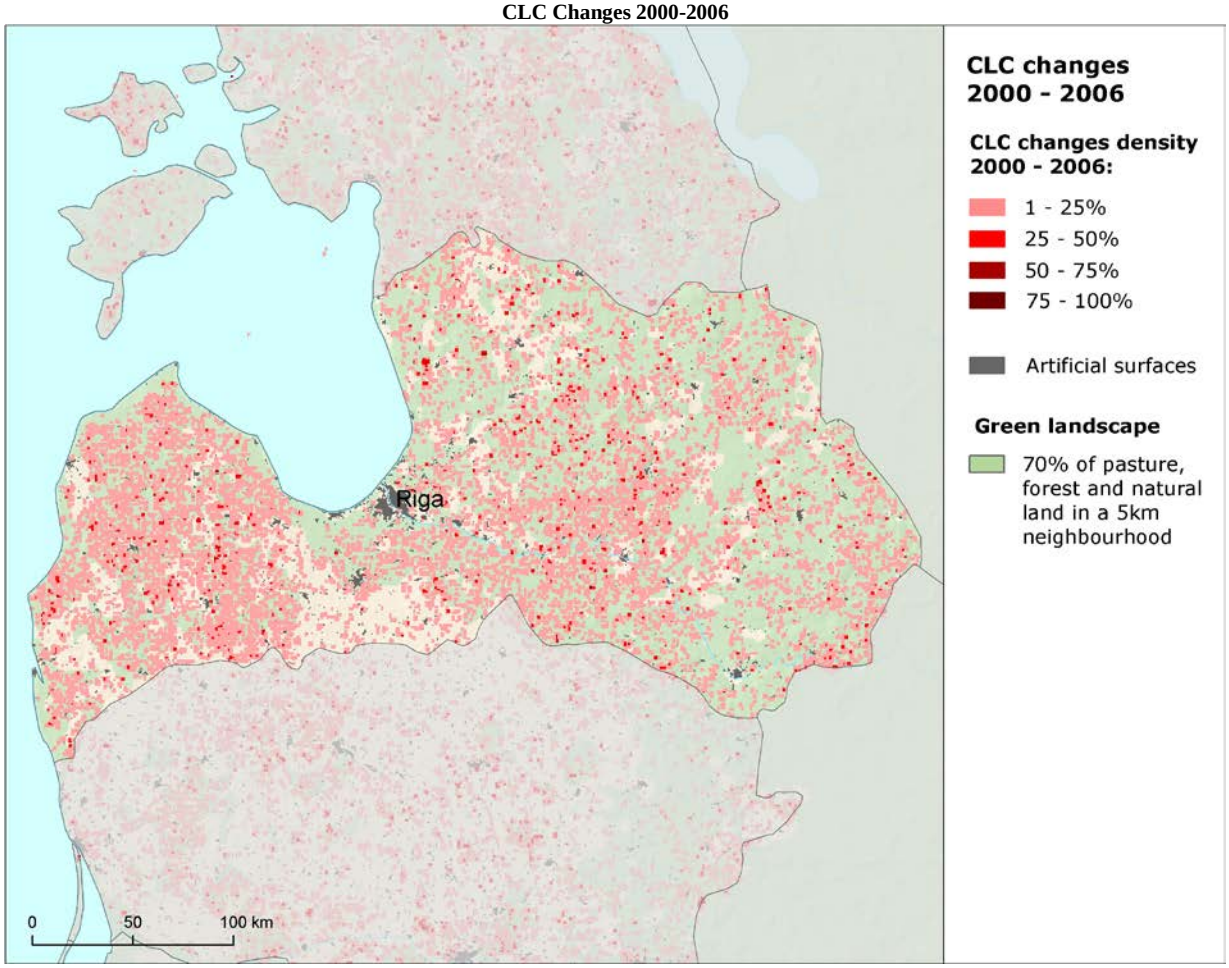


Latvia

CLC Changes 2006-2012

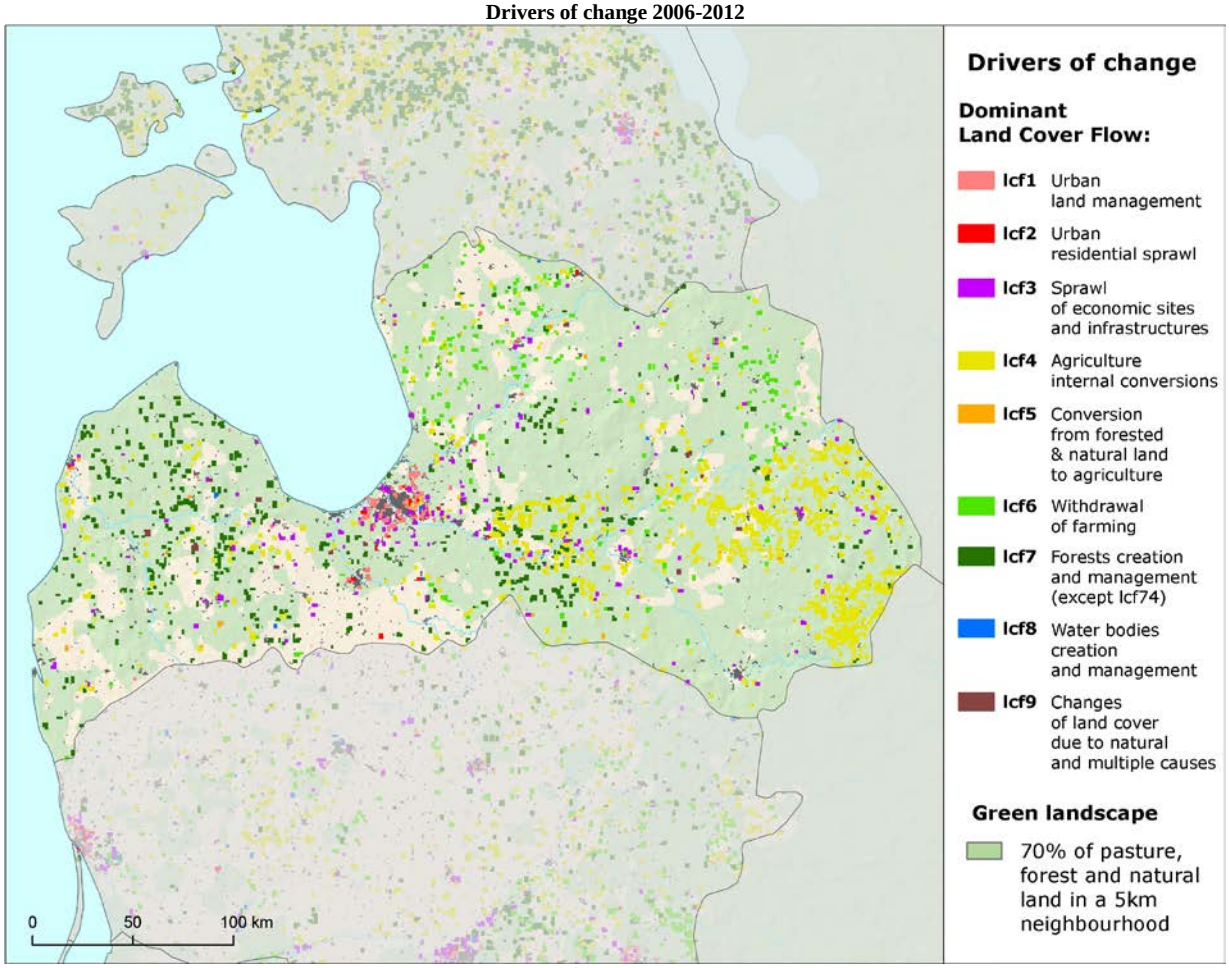


CLC Changes 2000-2006

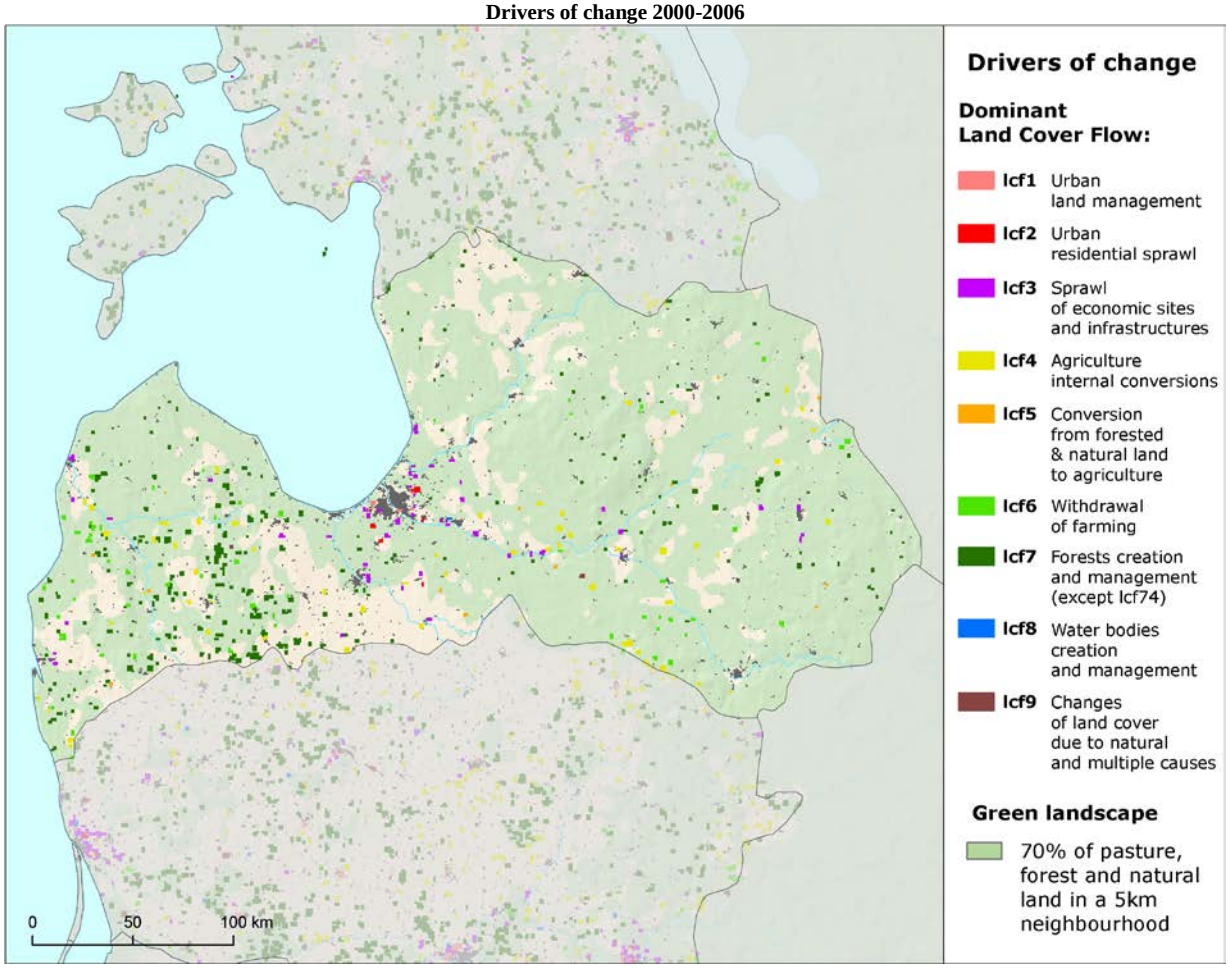


Latvia

Drivers of change 2006-2012

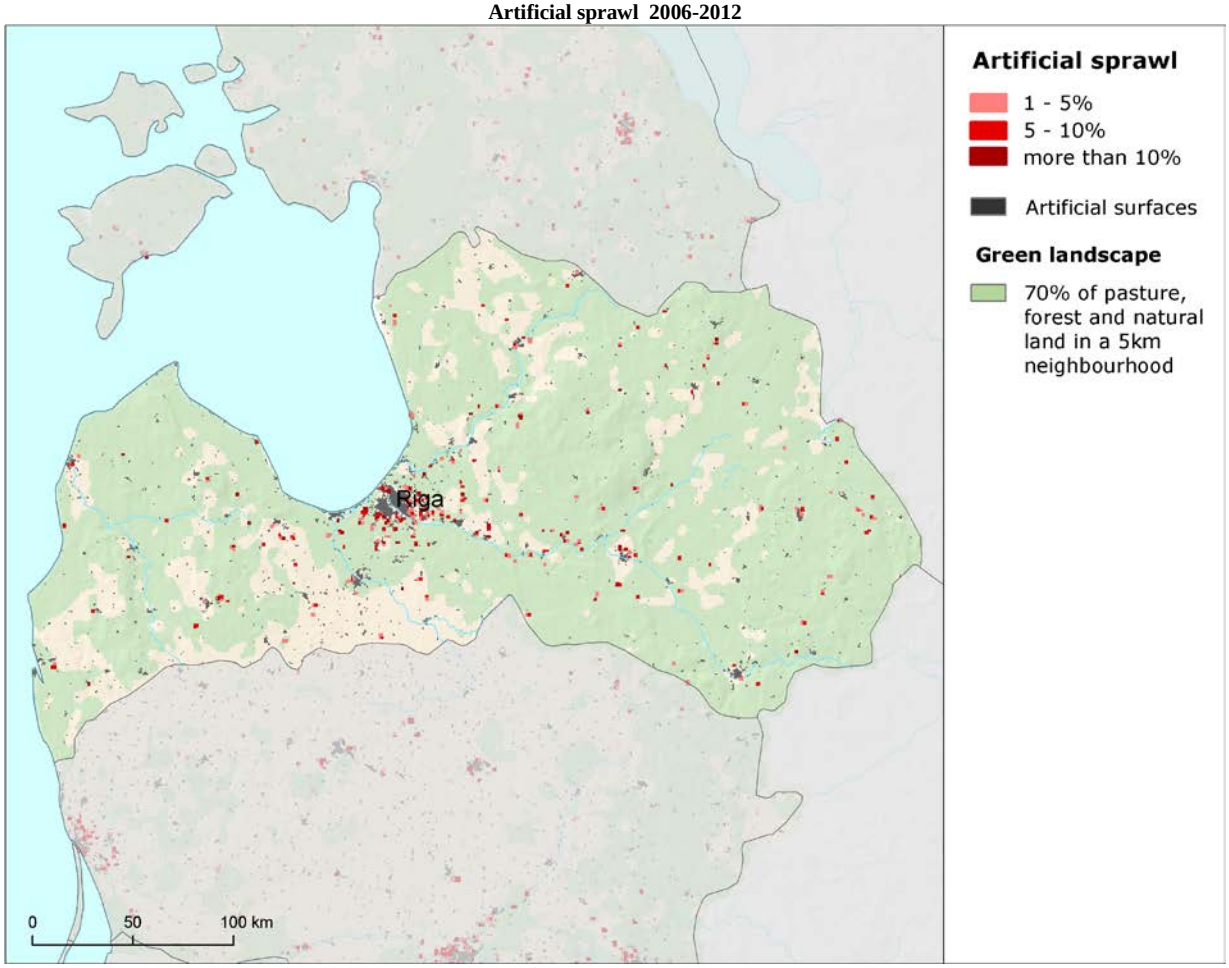


Drivers of change 2000-2006

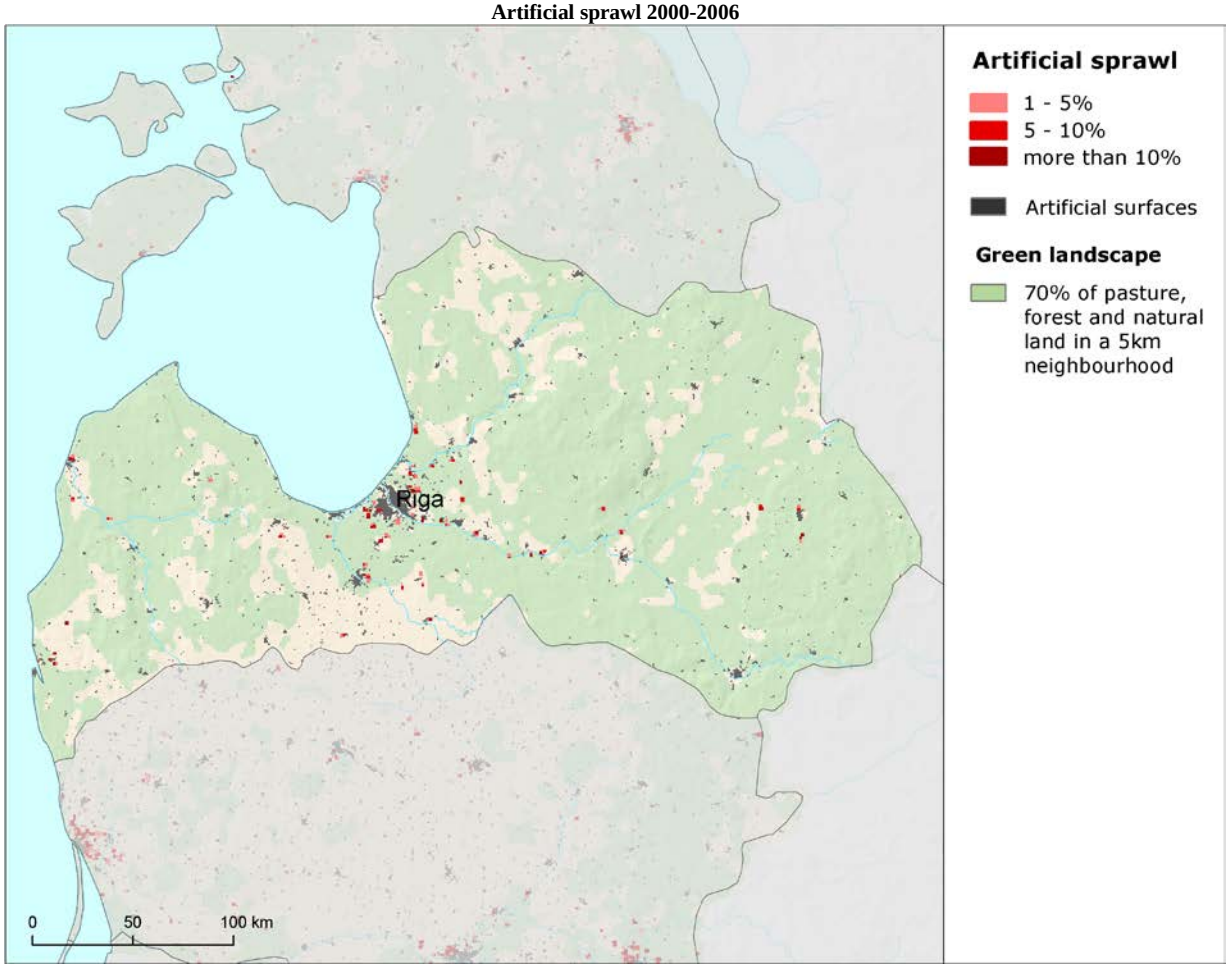


Latvia

Artificial sprawl 2006-2012

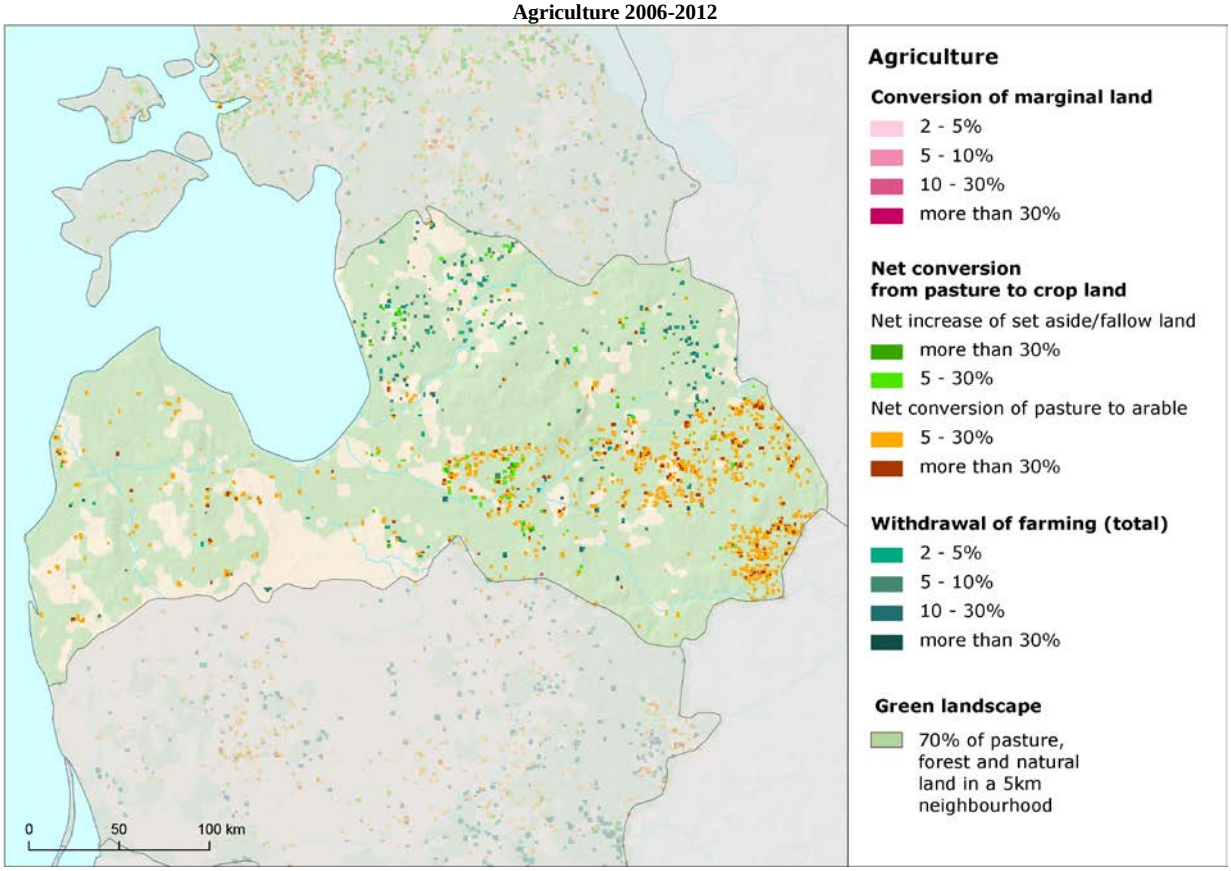


Artificial sprawl 2000-2006

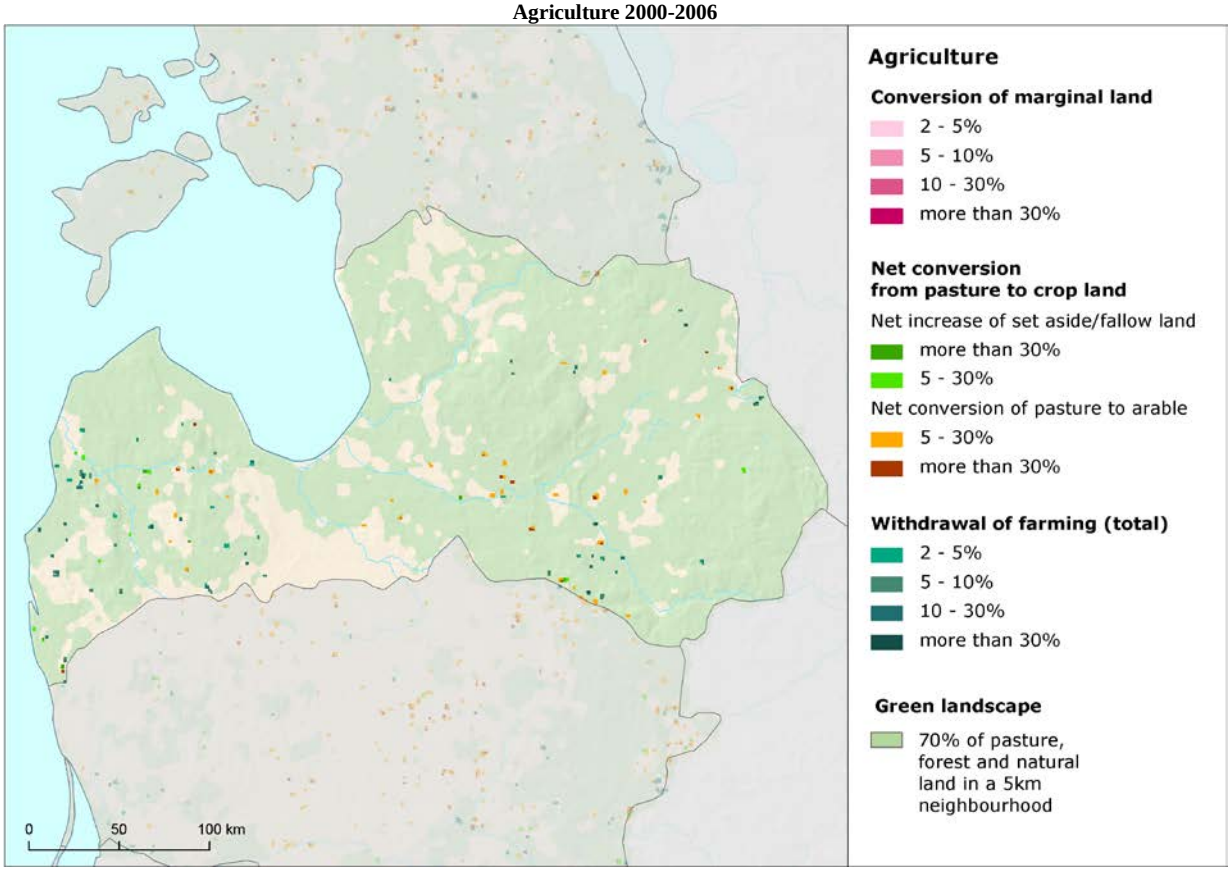


Latvia

Agriculture 2006-2012

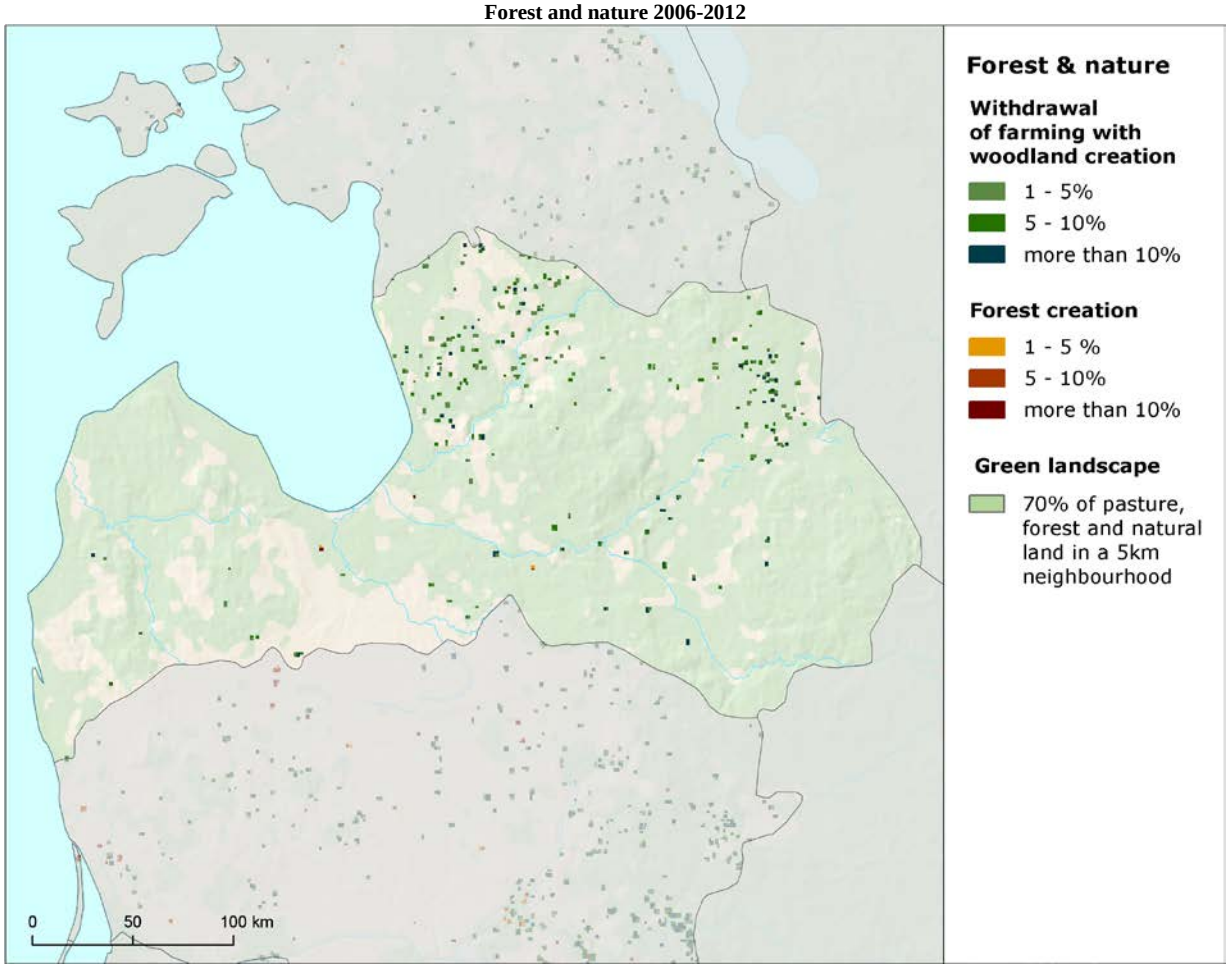


Agriculture 2000-2006

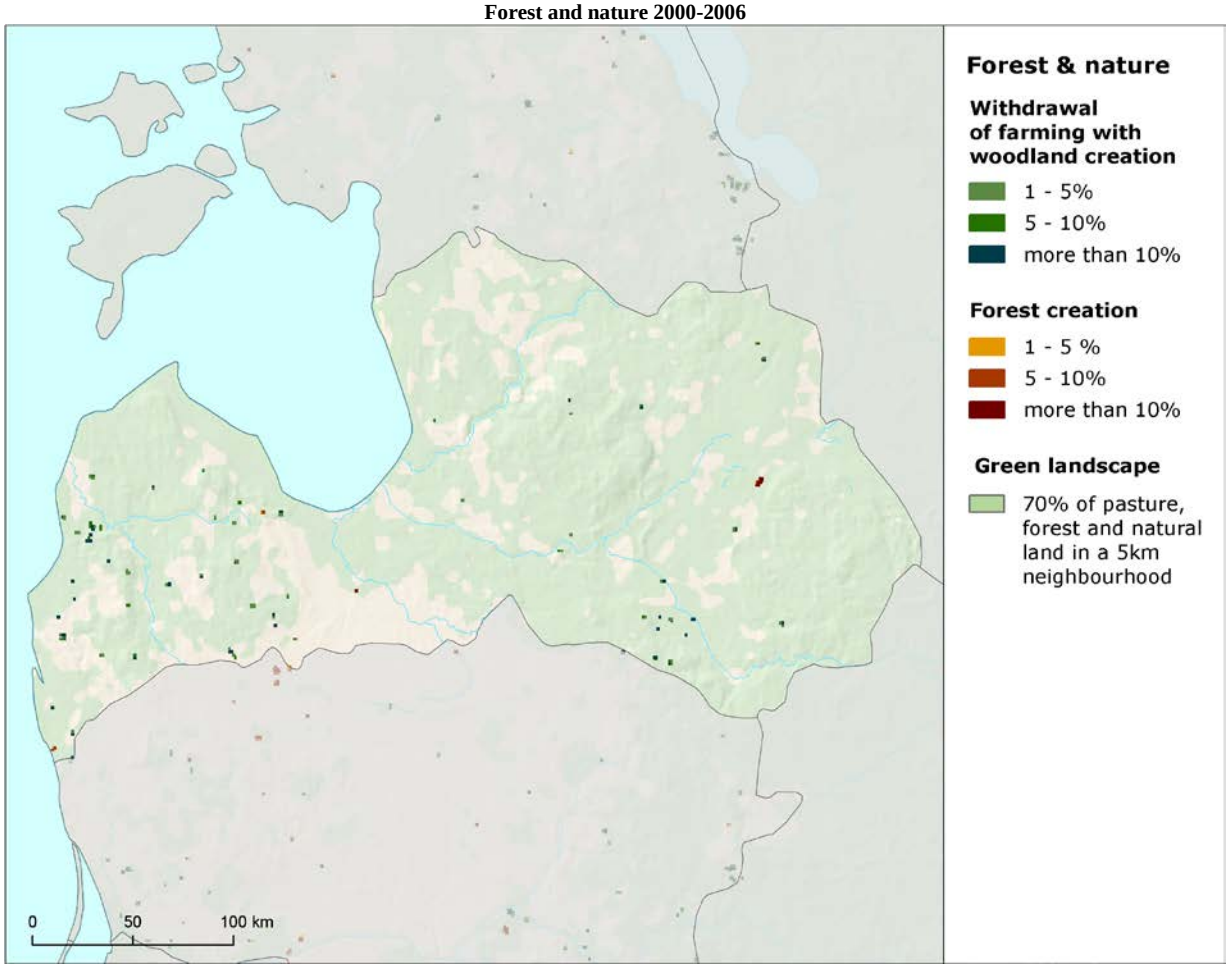


Latvia

Forest and nature 2006-2012



Forest and nature 2000-2006



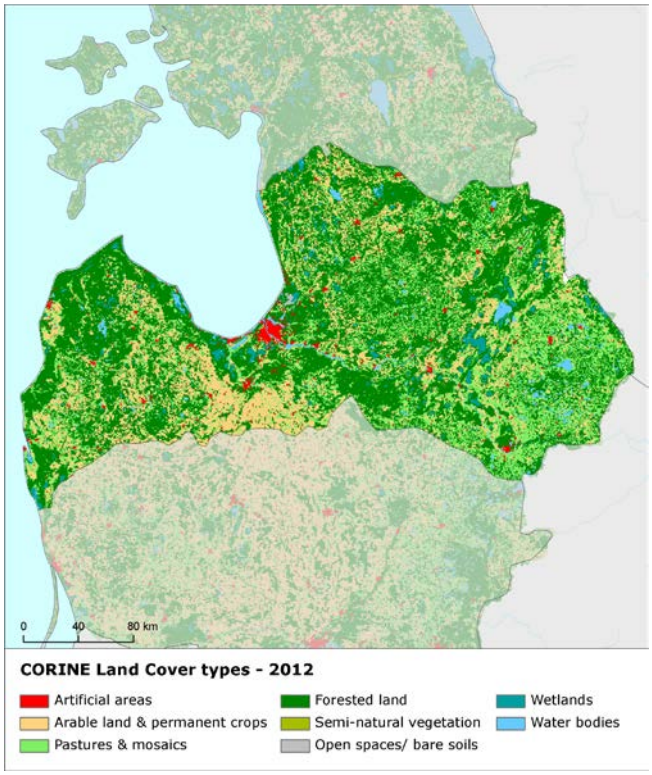
Latvia

Land cover 2012

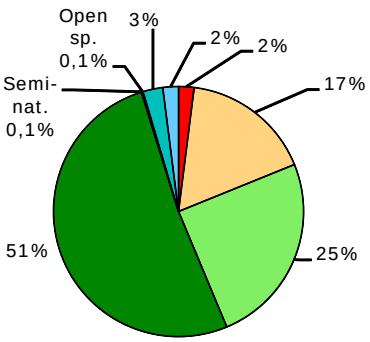
Overview of land cover & change 2006-2012

The overall dynamics of land cover in Latvia is considerably higher, compared to previous period. In the European context, the annual change rate of 0.61% is one of the highest. It has to be mentioned, that the change dynamics was even higher in the period 1990-2000 (the annual change rate was 0.78%), which documents that there was a significant decline during the previous period, which seems now to be overcome since the pace of development returned to its previous level.
Latvia is typically known by its extensive forest coverage (51% of total area) which indicates the most powerful drivers of the land cover development in the country are the internal forest conversions. The second most significant driver of change are internal agricultural conversions. The intensity of both these internal flows of forested and agricultural land is significant, compared to the period 2000-2006, during which in particular the intensity of agricultural internal conversions was much lower.
The urban sprawl, which was rather insignificant in the past, seems to be much more intensive in 2006-2012, with the annual net take rate (0.38%) reaching the European average. The artificial land development is driven mostly by the finalization of residential fabric units, which were under construction already in the previous period.

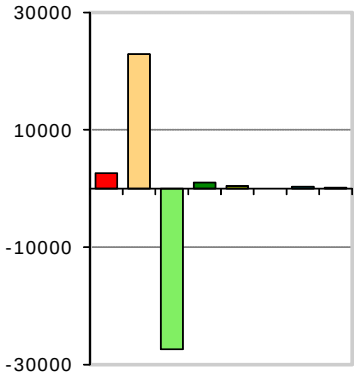
Note: The results presented here are based on a change analysis of 44 land cover types mapped consistently on a 1:100.000 scale across Europe over more than decade between 2000-2006-2012 - see Corine land cover (CLC) programme for details.
Number of years between CLC2006-CLC2012 data for Latvia: 6



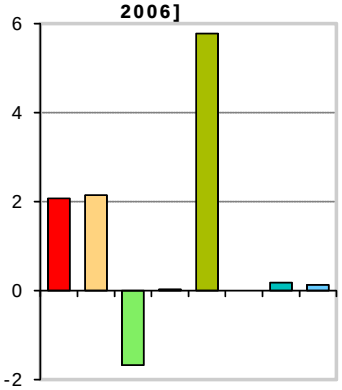
1.1. Land cover 2012 [% of total]



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

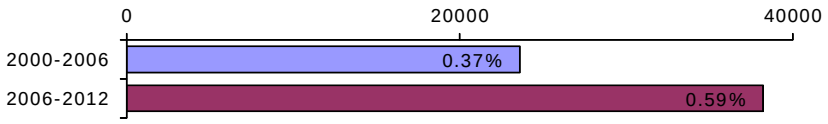
Summary balance table 2006-2012

	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	**1267**	**10673**	**16327**	**33270**	**76**	**65**	**1657**	**1300**	**64635**
Consumption of initial LC	22.9	44.0	313.6	1910.5	0.4	0.0	1.9	0.3	2294
Formation of new LC	49.1	272.8	39.6	1920.6	4.7	0.0	4.8	2.0	2294
Net Formation of LC	**26.2**	**228.8**	**-274.0**	**10.1**	**4.4**	**0.0**	**2.9**	**1.7**	**0**
Net formation as % of initial year	*2.1*	*2.1*	*-1.7*	*0.0*	*5.8*	*0.0*	*0.2*	*0.1*	
Total turnover of LC	**72.0**	**316.8**	**353.2**	**3831.1**	**5.1**	**0.0**	**6.8**	**2.3**	**4587**
Total turnover as % of initial year	*5.7*	*3.0*	*2.2*	*11.5*	*6.7*	*0.0*	*0.4*	*0.2*	*7.1*
Land cover 2012	**1293**	**10902**	**16053**	**33280**	**80**	**65**	**1660**	**1301**	**64635**

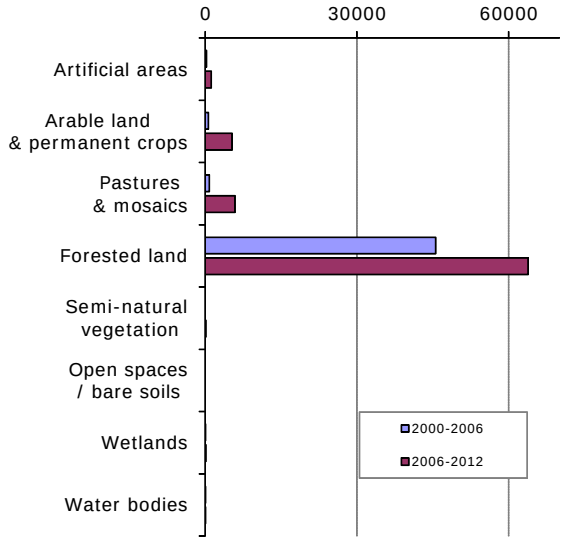
Latvia

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

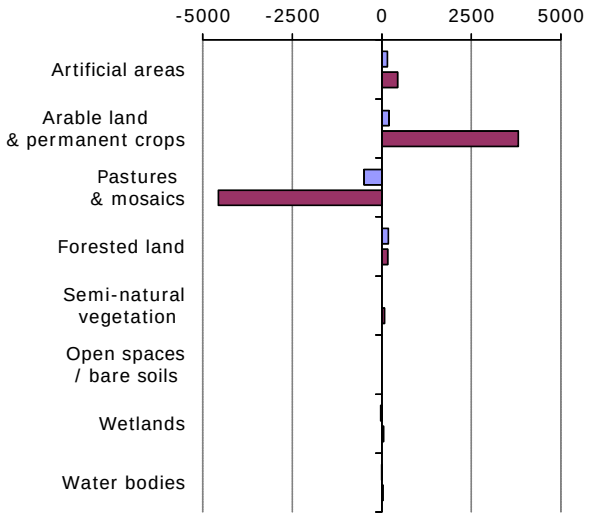
2.4. Annual land cover change [ha/year, % of total area]



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

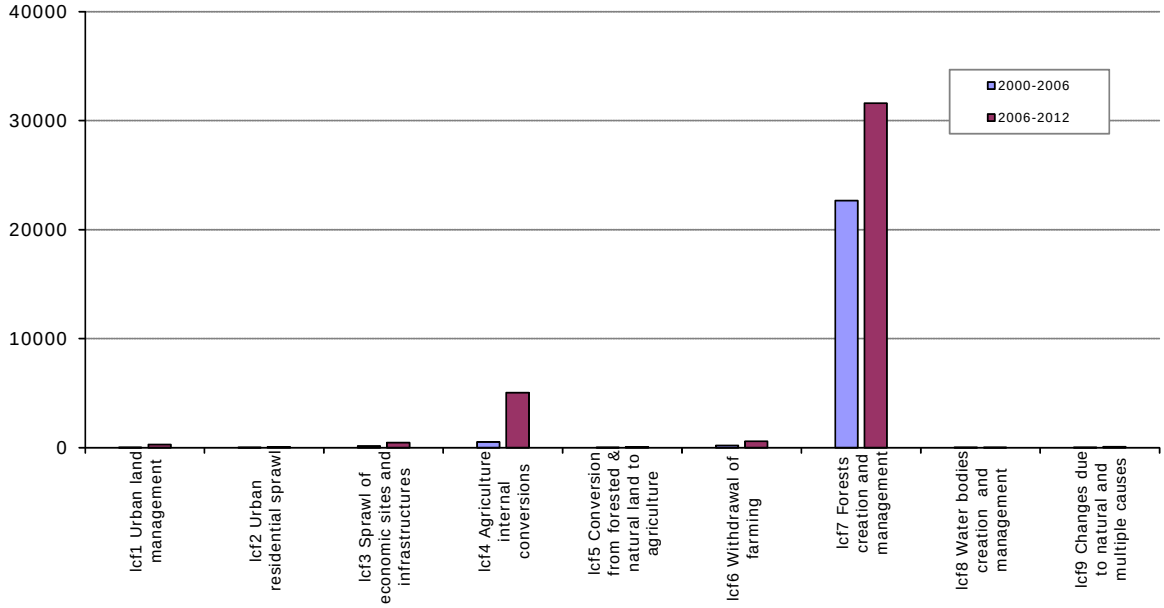


2.6. Net annual change of LC types [ha/year]



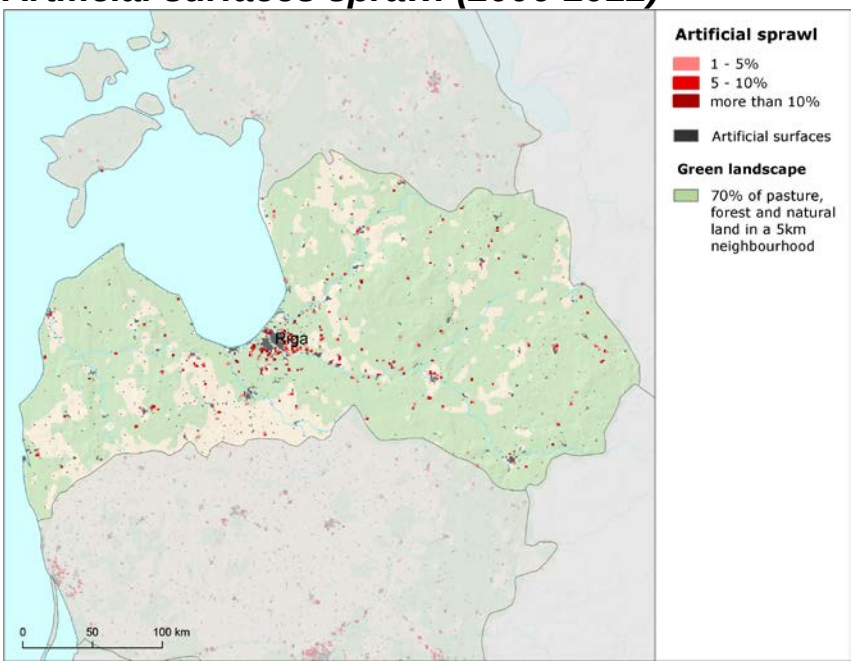
Summary trend figures	2000-2006	2006-2012
Annual land cover change [ha/year]	**23607**	**38227**
Annual land cover change as % of initial year	**0.37%**	**0.59%**
Land uptake by artificial development as mean annual change [ha/year]	164	475
Agricultural land uptake by urban and infrastructures development as mean annual change [ha/year]	110	323
Net uptake of forests and semi-natural land by agriculture as mean annual change [ha/year]	-208	-529
Net conversion from pasture to arable land and permanent crops as mean annual change [ha/year]	231	3984
Forest & other woodland net formation as mean annual change [ha/year]	179	168
Dry semi-natural land cover net formation as mean annual change [ha/year]	0	73
Wetlands & water bodies net formation as mean annual change [ha/year]	-36	76

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

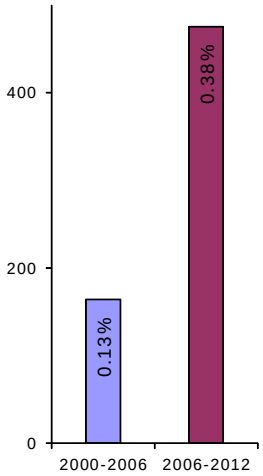


Latvia

Artificial surfaces sprawl (2006-2012)



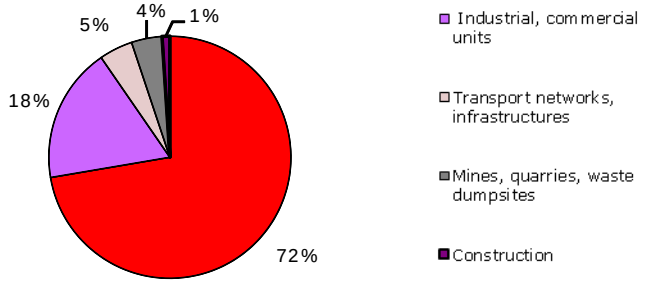
3.8. Artificial land take [ha/year, % of initial year]



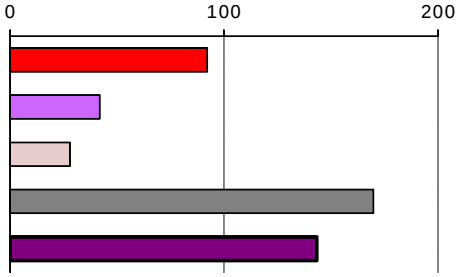
Artificial development is getting stronger

The artificial land take in Latvia is significantly higher than in the previous period 2000-2006 and is driven mostly by the extension of mines, quarries, dumpsites, construction sites and sport and leisure facilities. The mean annual land take rate in Latvia is 0.38%, which is just above the European average. Beside the sprawl itself, also recycling of developed urban land seems to be an important driver of the artificial development in the country, represented mostly by the conversion of construction sites into urban fabric units. Concerning the spatial distribution, there is a major concentration of the development of residential fabric and sport and leisure facilities around the capital city of Riga. There also occurs scattered patches of all other types of sprawl distributed over the whole country; however, their density is rather low. The main sources for the sprawl in Latvia are pastures (49%) and forested areas (28%).

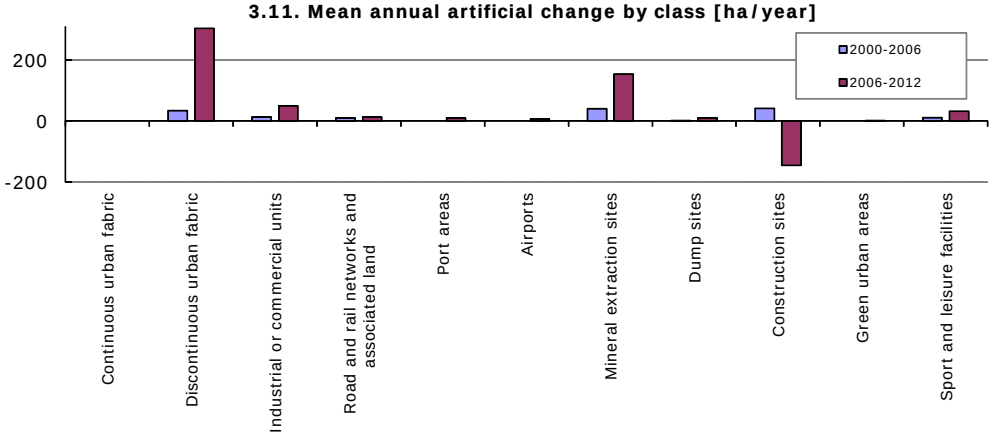
3.9. Artificial surfaces 2012 [% of total area]



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

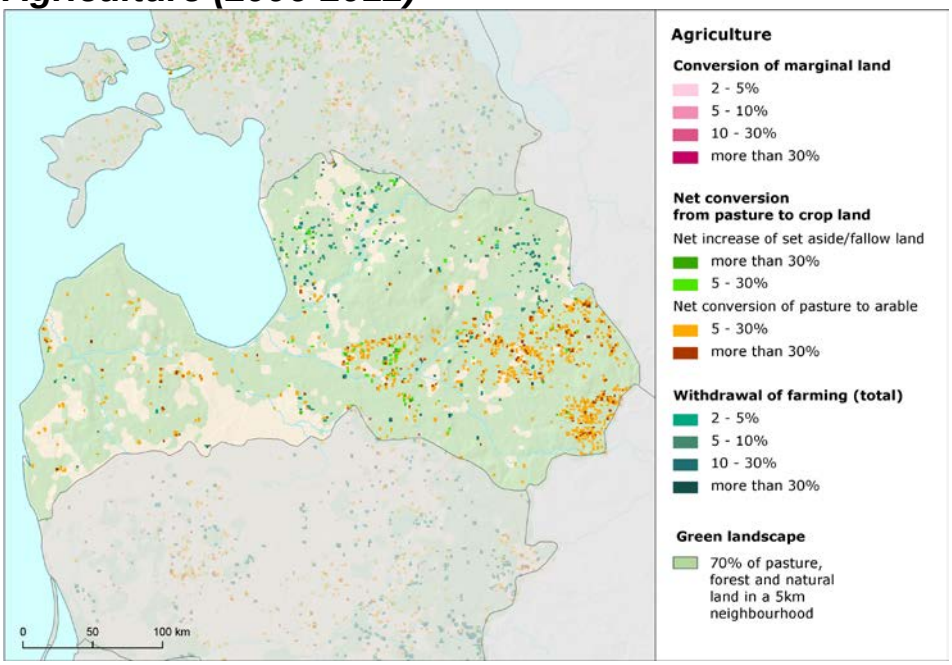


3.11. Mean annual artificial change by class [ha/year]



Latvia

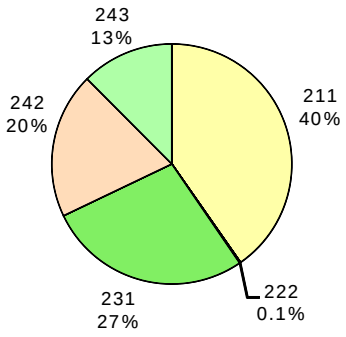
Agriculture (2006-2012)

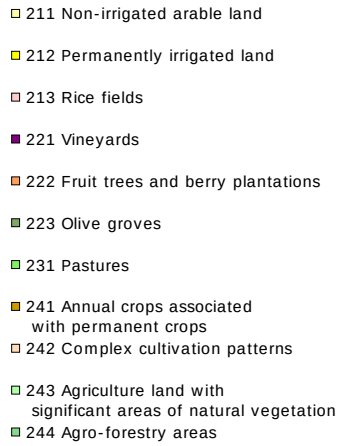


Rapid increase of agricultural conversions

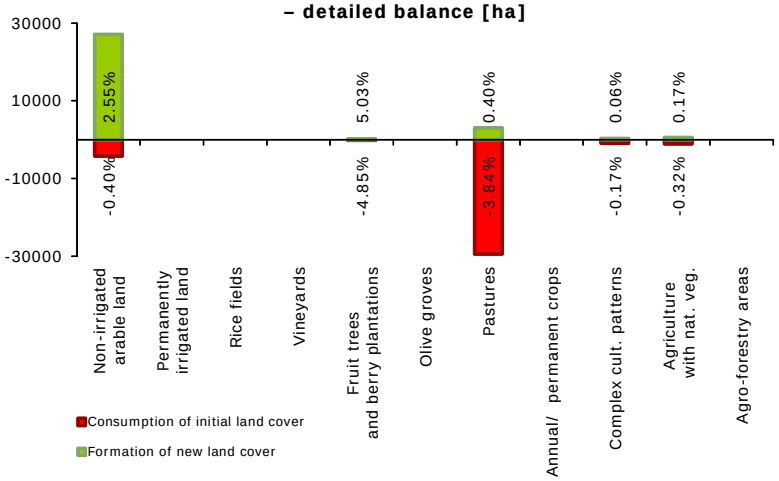
The agricultural development is Latvia is driven mostly by the internal agricultural conversions between arable and pasture land, with strongly prevailing direction from pasture to arable. This flow was rather weak during the previous period and it seems to become quite intensive in the 2006-2012 period, representing the second most extensive land cover flow. Geographically, it is located mostly in the eastern and central part of the country. Beside this internal conversion, also withdrawal of farming, mostly with woodland creation, is quite frequent, especially in northern Latvia. Mostly pastures and agricultural land with natural vegetation are consumed by transitional woodland and shrub land in the frame of this flow. The result of this process is a positive net change balance for arable land and negative for pastures, both about 2% of initial area. The other consumer of agricultural land in Latvia is the artificial land take, with predominance of the sprawl of economic sites and infrastructures.

4.12. Agricultural areas 2012 [% of total area]

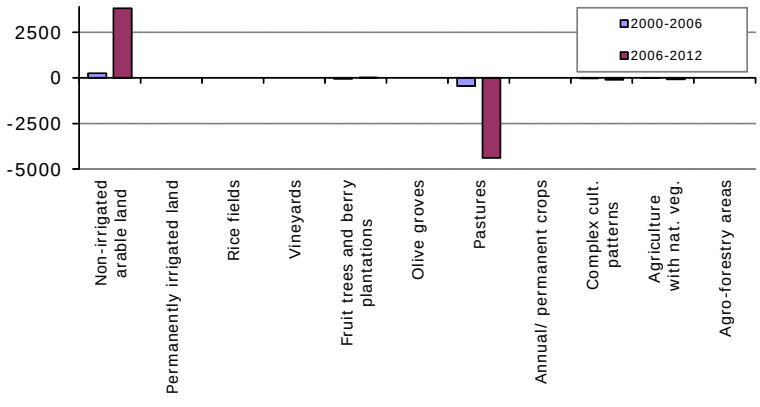




4.13. Development of agricultural areas 2006-2012 – detailed balance [ha]

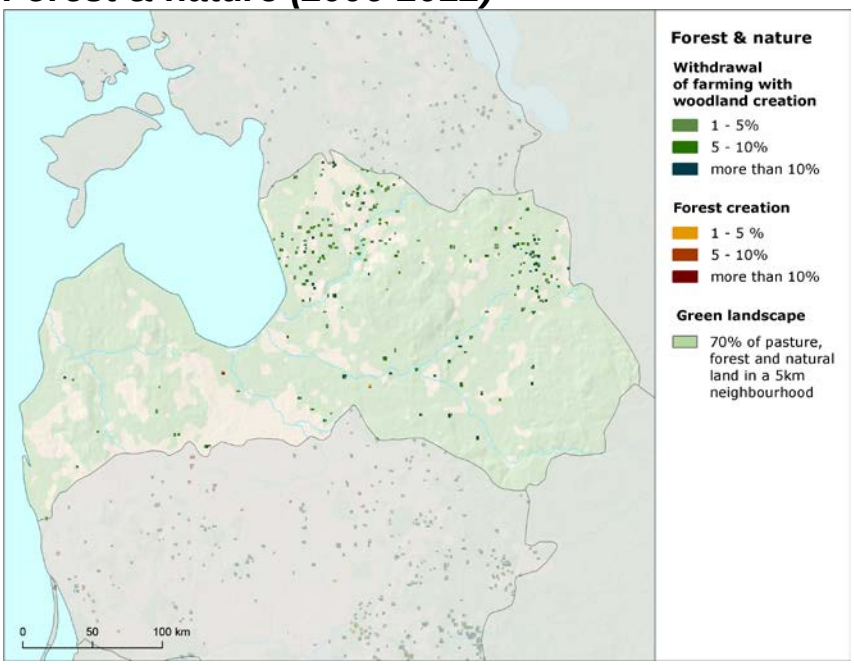


4.14. Mean annual agricultural change by class [ha/year]

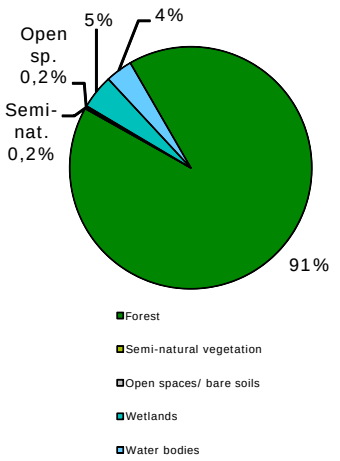


Latvia

Forest & nature (2006-2012)



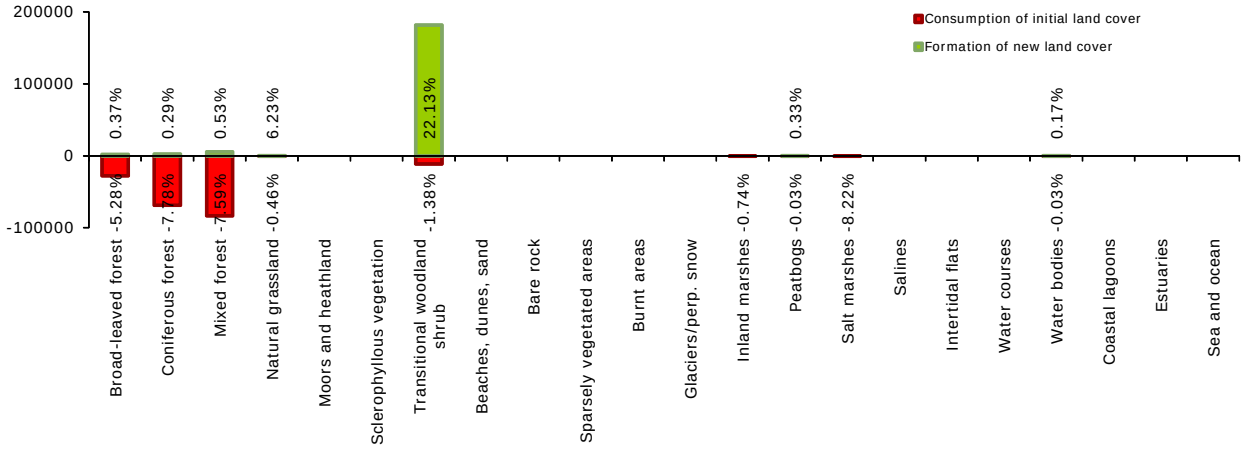
5.15. Forest & nature areas 2012 [% of total area]



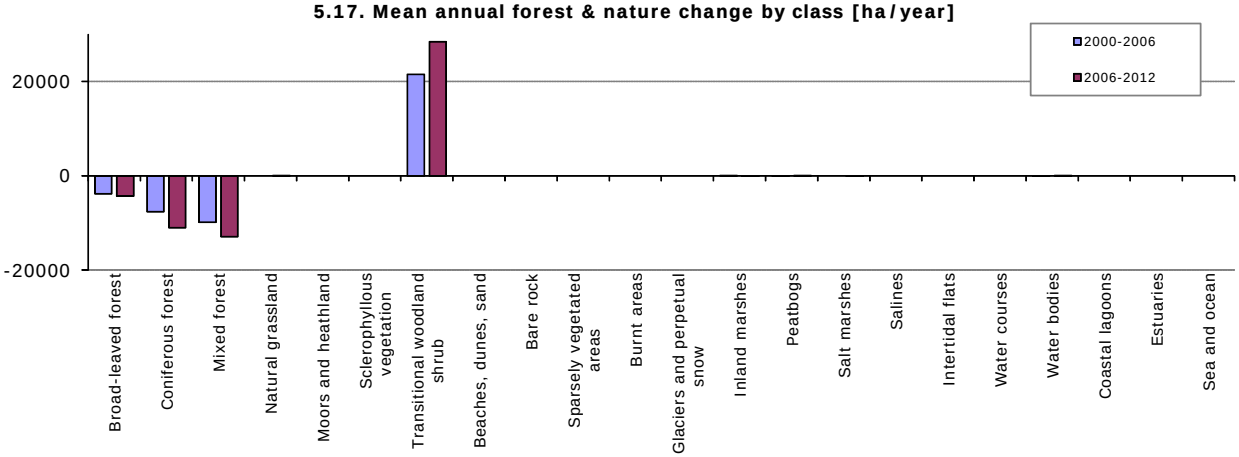
Speed up of forested land development

Considering the structure of the Latvian landscape, with significant predominance of forested land, it is not surprising that the internal changes of forested area are the main drivers of the overall landscape development in the country. The intensity of this flow, represented almost exclusively by the recent felling and transition, even increased compared to the previous period. The external exchange of forested land in Latvia is represented mostly by the withdrawal of farming with transitional woodland creation – this flow is concentrated mostly in the northern part of the country and its intensity is more than twice higher than in the previous period. As a result of this development, the area of broad-leaved, coniferous and mixed forest is decreasing, in contrast to the transitional woodland and shrub, with significant increase of initial area (by circa 22%). This balance shows the same trend as in the previous period 2000-2006.

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



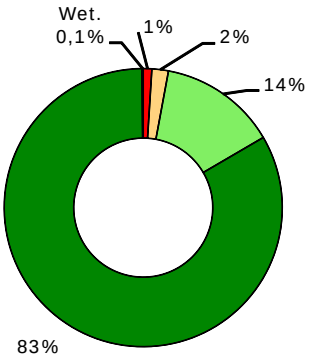
5.17. Mean annual forest & nature change by class [ha/year]



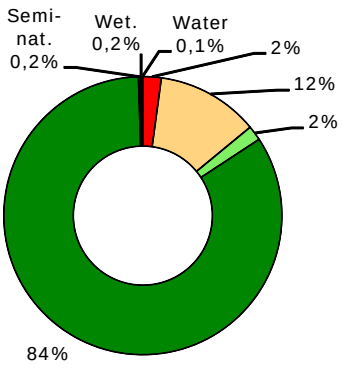
Annex: Land cover flows and trends

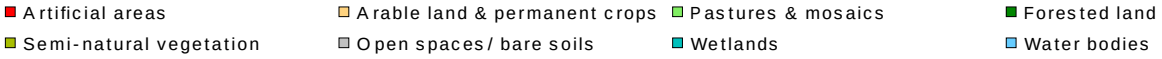
Land cover flows 2006-2012

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

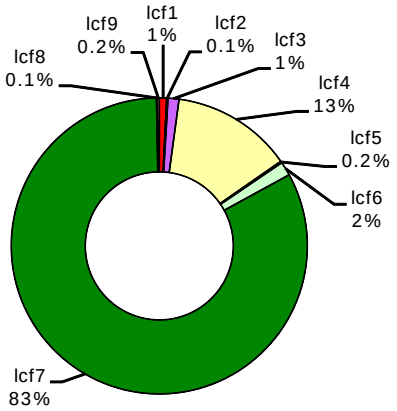


6.19. Formation of land cover 2006-2012 [% of total change area]





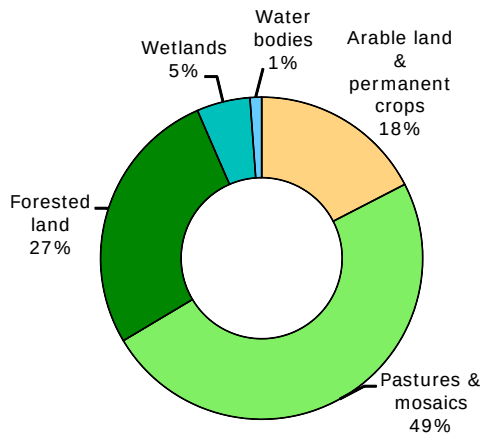
6.20. Drivers of change (LC FLOWS) 2006-2012 [% of total change area]



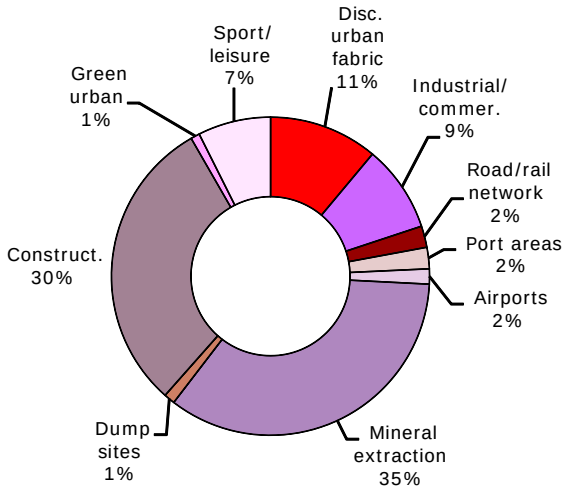
Latvia

Artificial areas

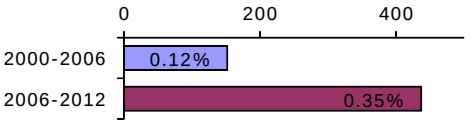
7.21. Consumption by artificial land take 2006-2012 [% of total]



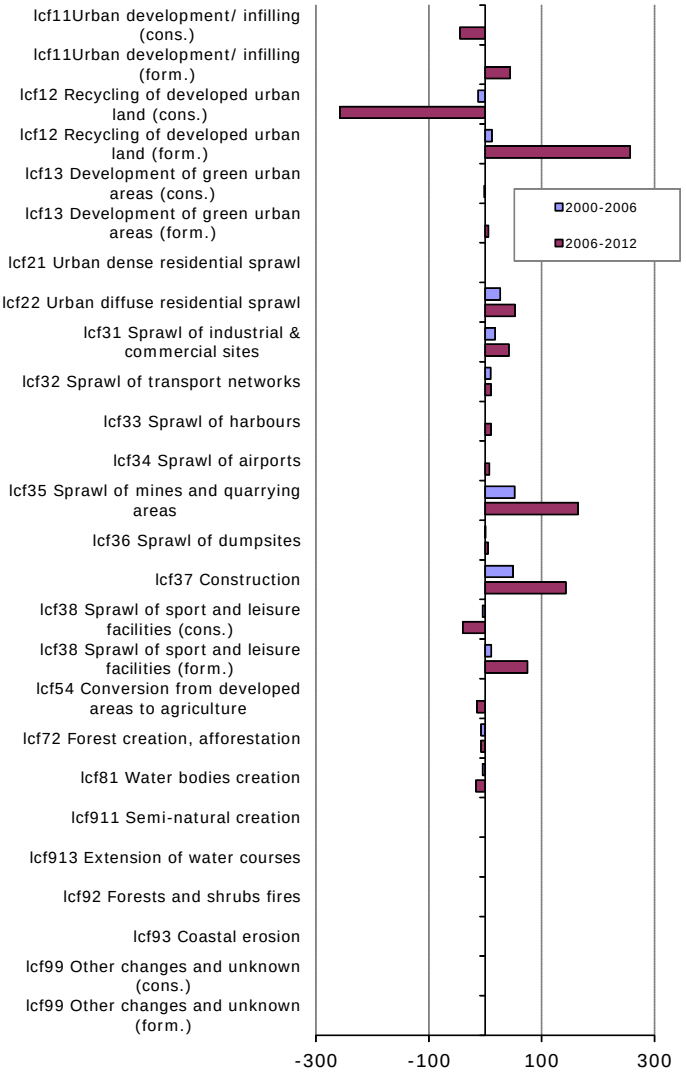
7.22. Formation by artificial land take 2006-2012 [% of total]



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



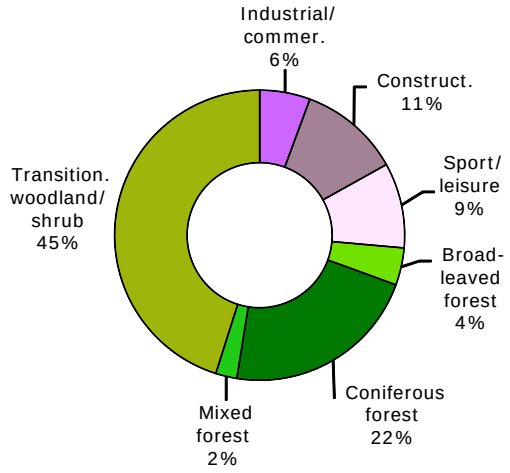
7.24. Artificial development by change drivers (LC FLOWS) [ha/year]



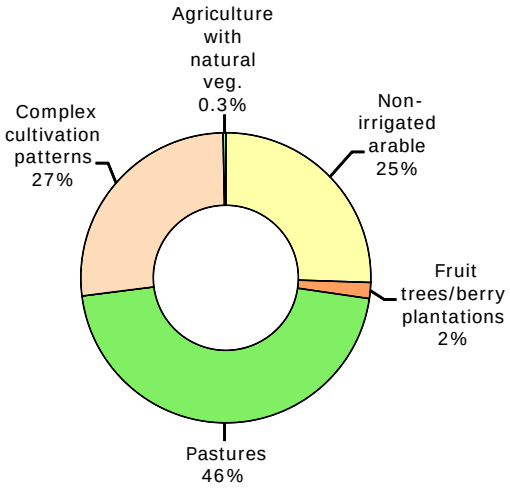
Latvia

Agriculture

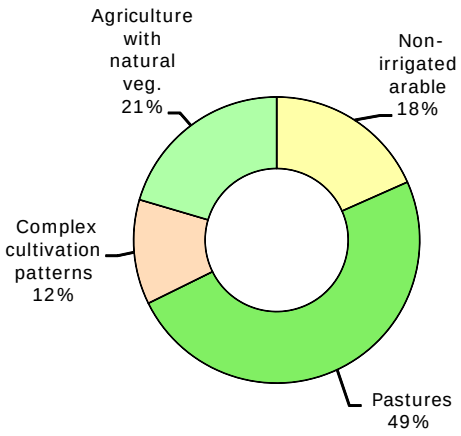
8.25. LC consumed by agriculture 2006-2012 [% of total]



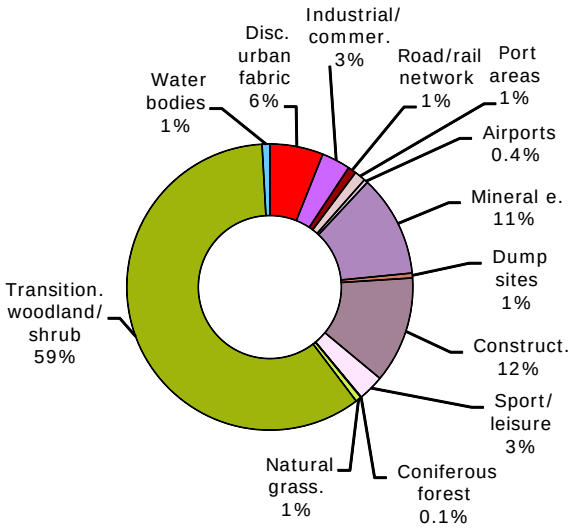
8.26. Formation of agricultural land from non-agriculture 2006-2012 [% of total]



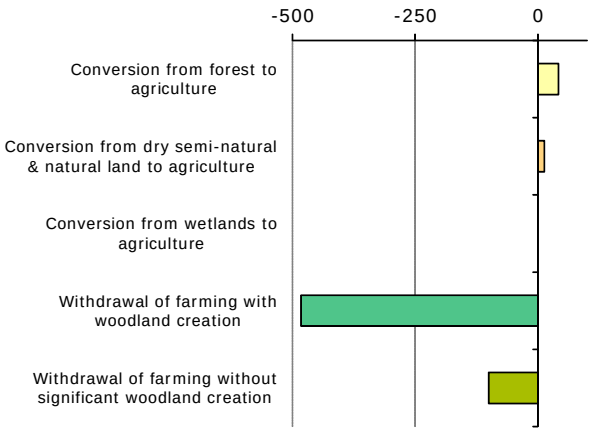
8.27. Consumption of agricultural land by non-agriculture 2006-2012 [% of total]



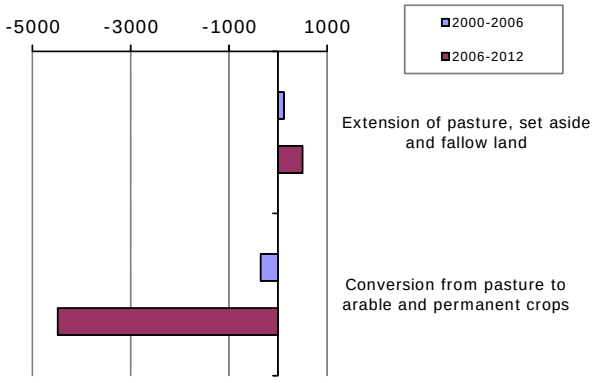
8.28. Formation of non-agricultural land from agriculture 2006-2012 [% of total]



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

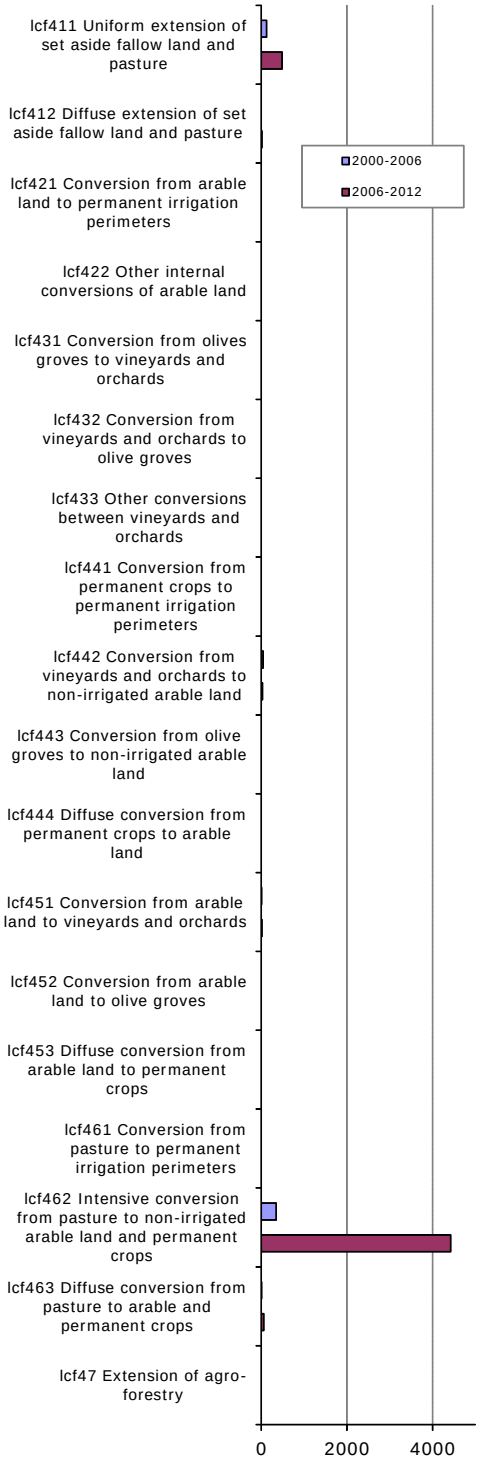


8.30. Mean annual conversion between arable land and pasture [ha/year]

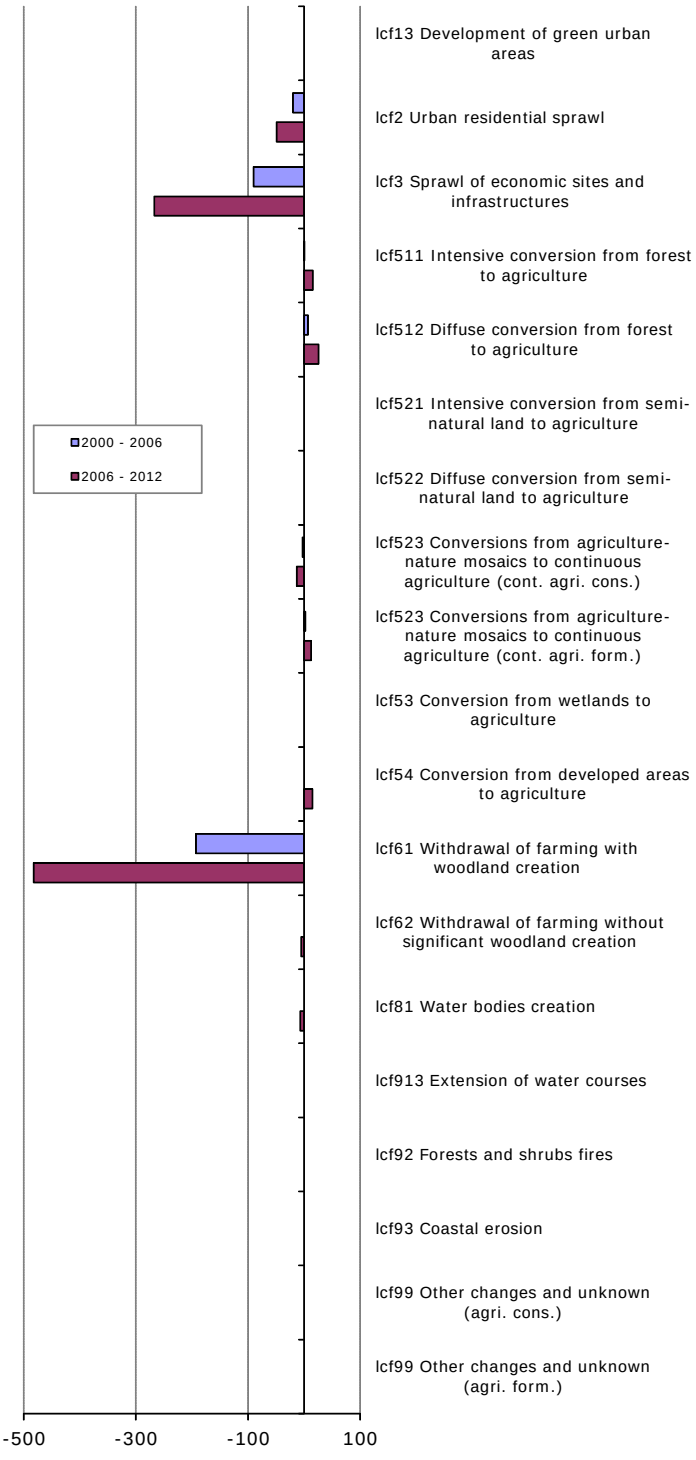


Latvia

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



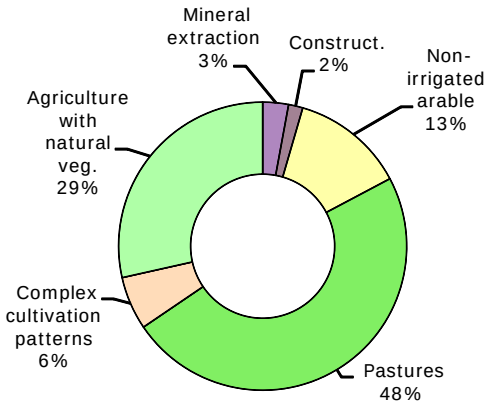
9.32. Mean annual conversions between agriculture and other LC types [ha/year]



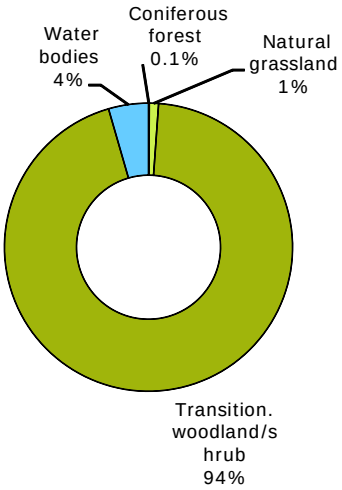
Latvia

Forest & nature

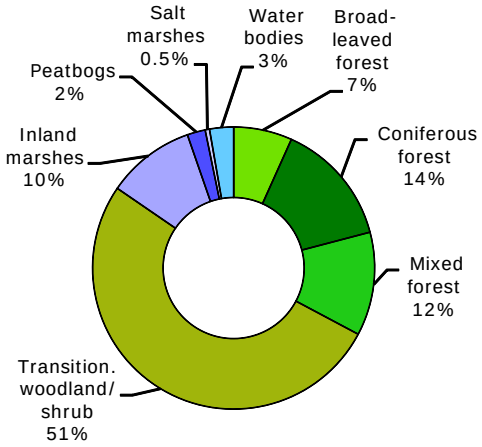
10.33. LC consumed by forest & nature 2006-2012 [% of total]



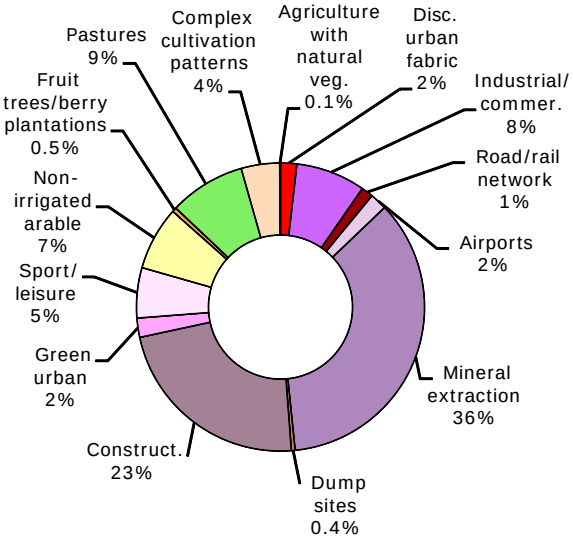
10.34. Formation of forest & nature land from non-forest /nature 2006-2012 [% of total]



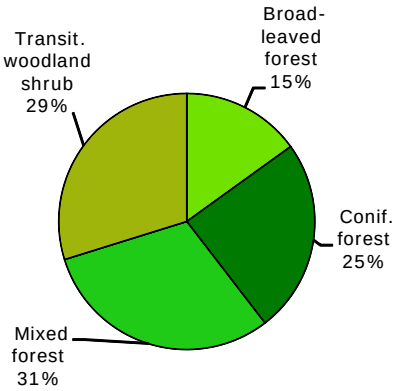
10.35. Consumption of forest & nature land by non-forest/nature 2006-2012 [% of total]



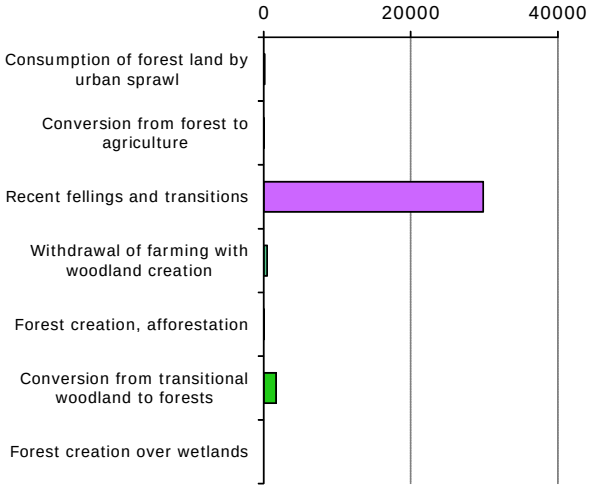
10.36. Formation of non-forest/nature land from forest & nature 2006-2012 [% of total]



10.37. Forested land 2012 [% of total area]

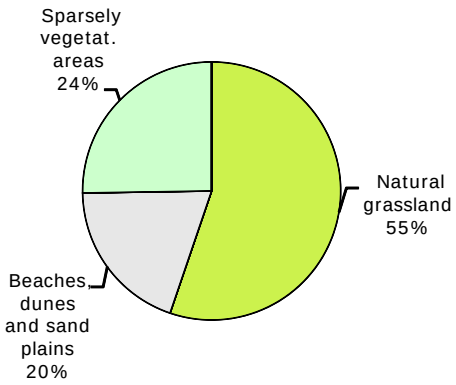


10.38. Main trends in woodland & forests consumption/formation 2006-2012 [ha/year]

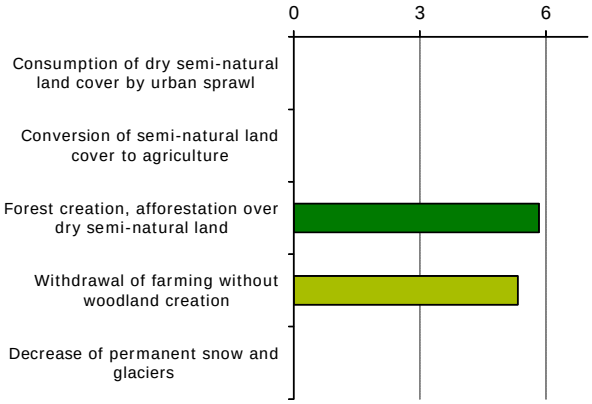


Latvia

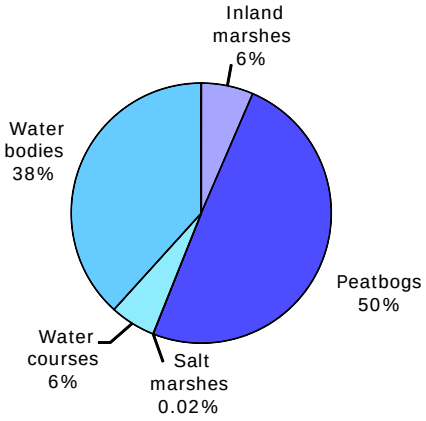
11.39. Dry semi-natural areas 2012 [% of total area]



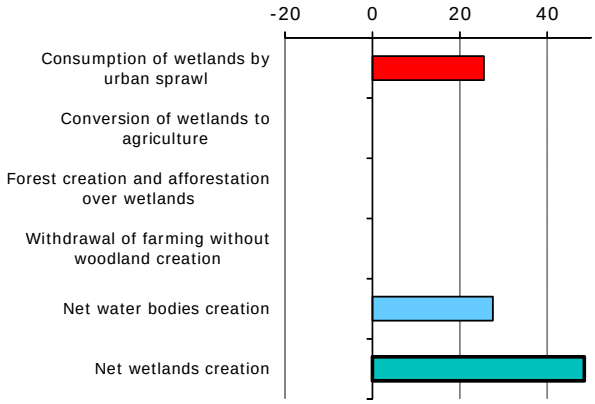
11.40. Main trends in dry semi-natural land consumption/formation 2006-2012 [ha/year]



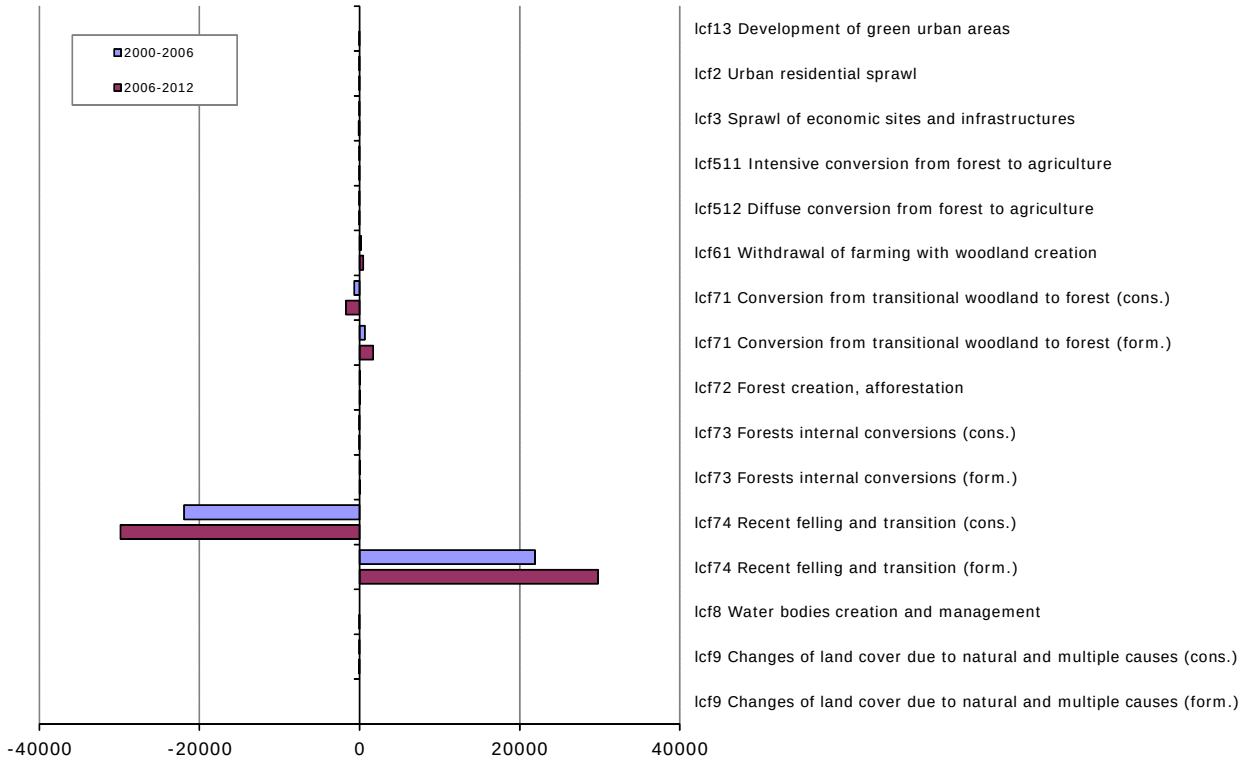
11.41. Wetlands & water 2012 [% of total area]



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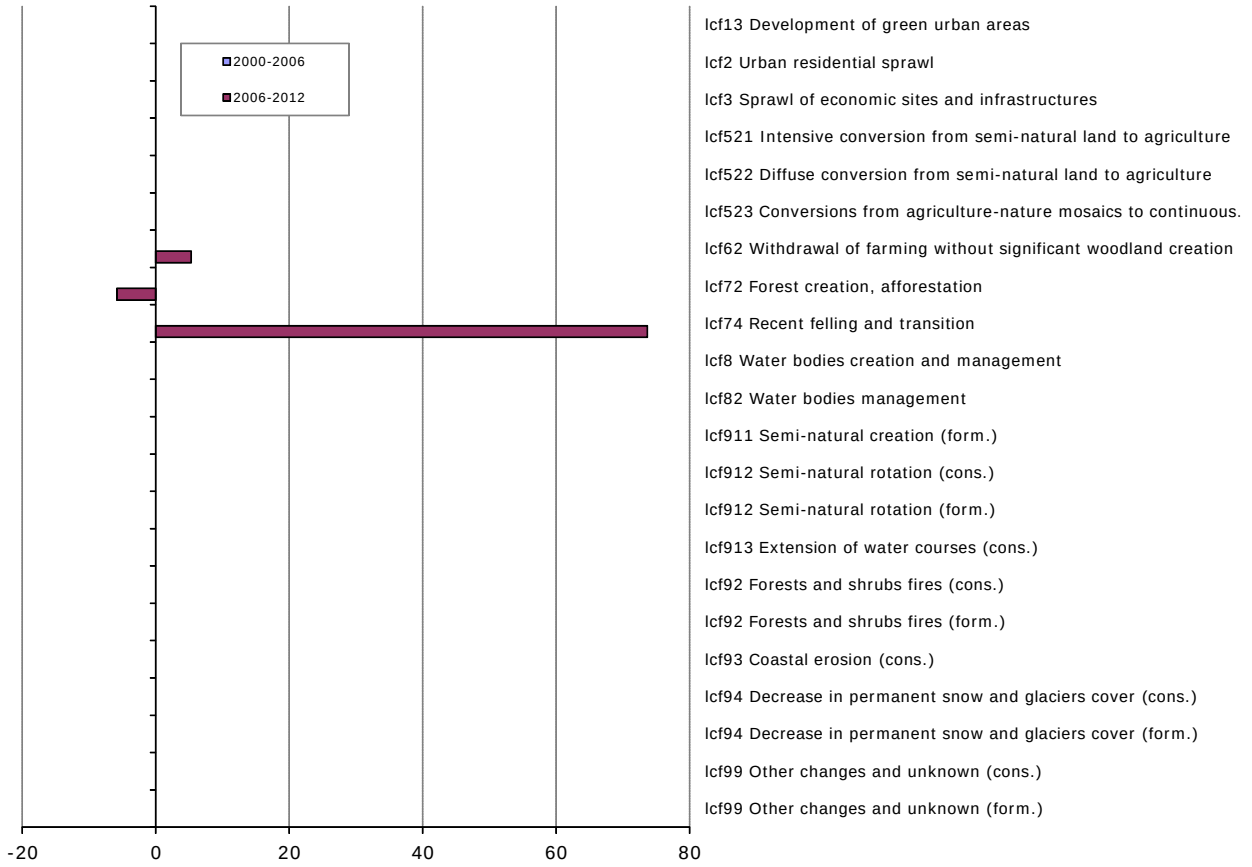
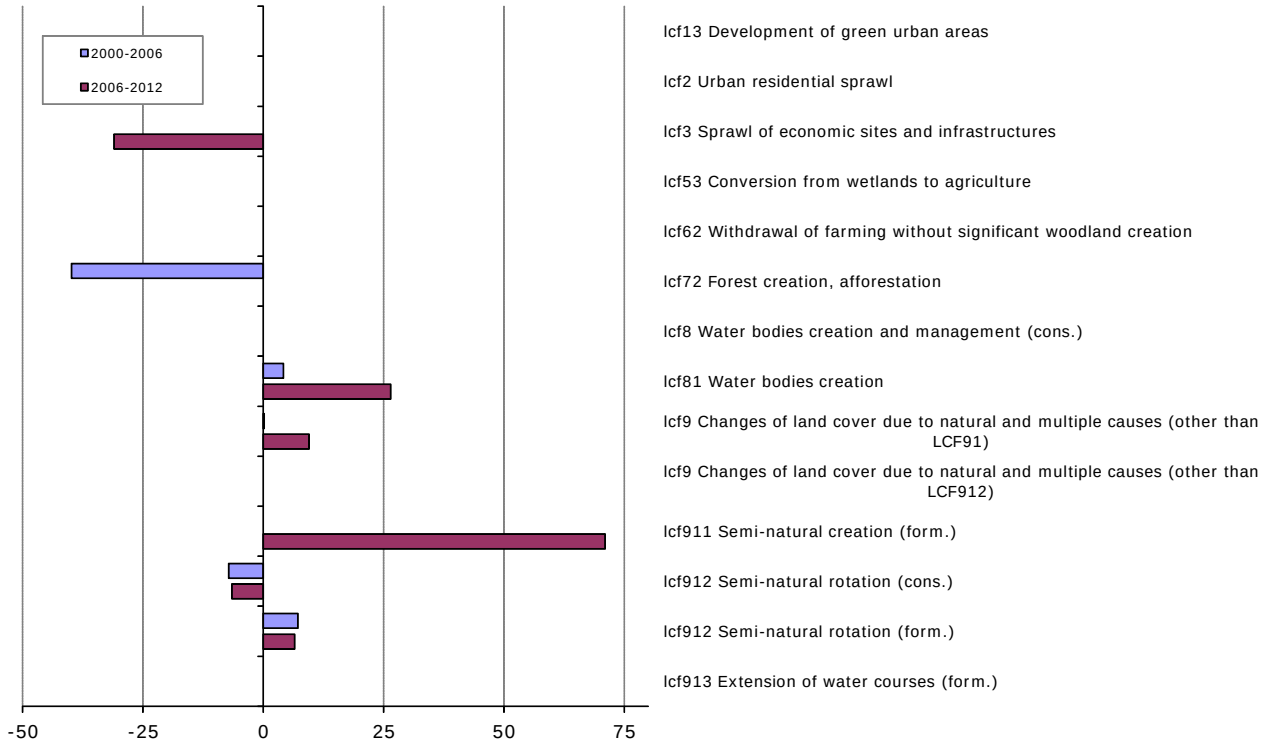
12.44. Mean annual conversions of dry semi-natural LC [ha/year]

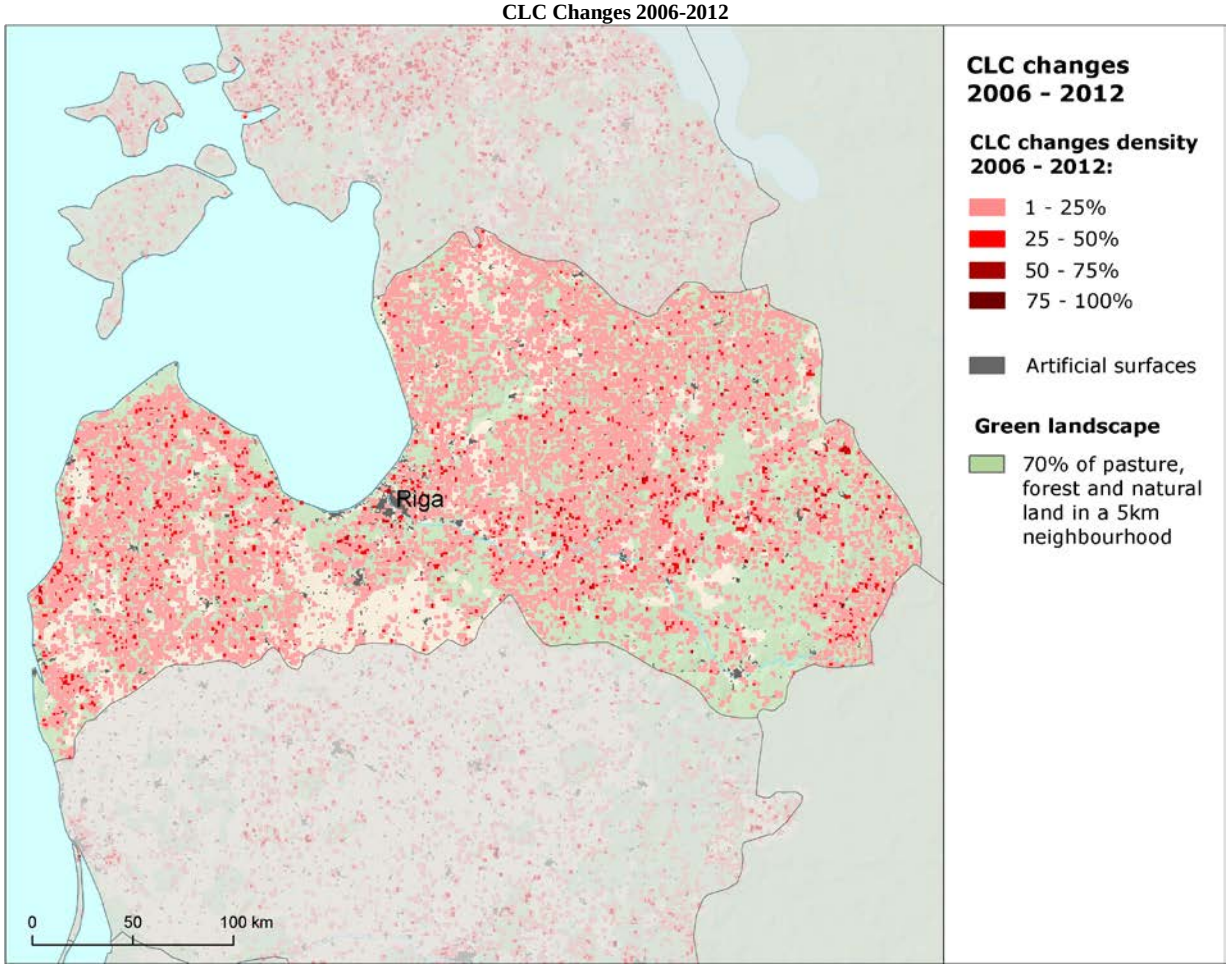


12.45. Mean annual conversions of wetlands and water LC [ha/year]

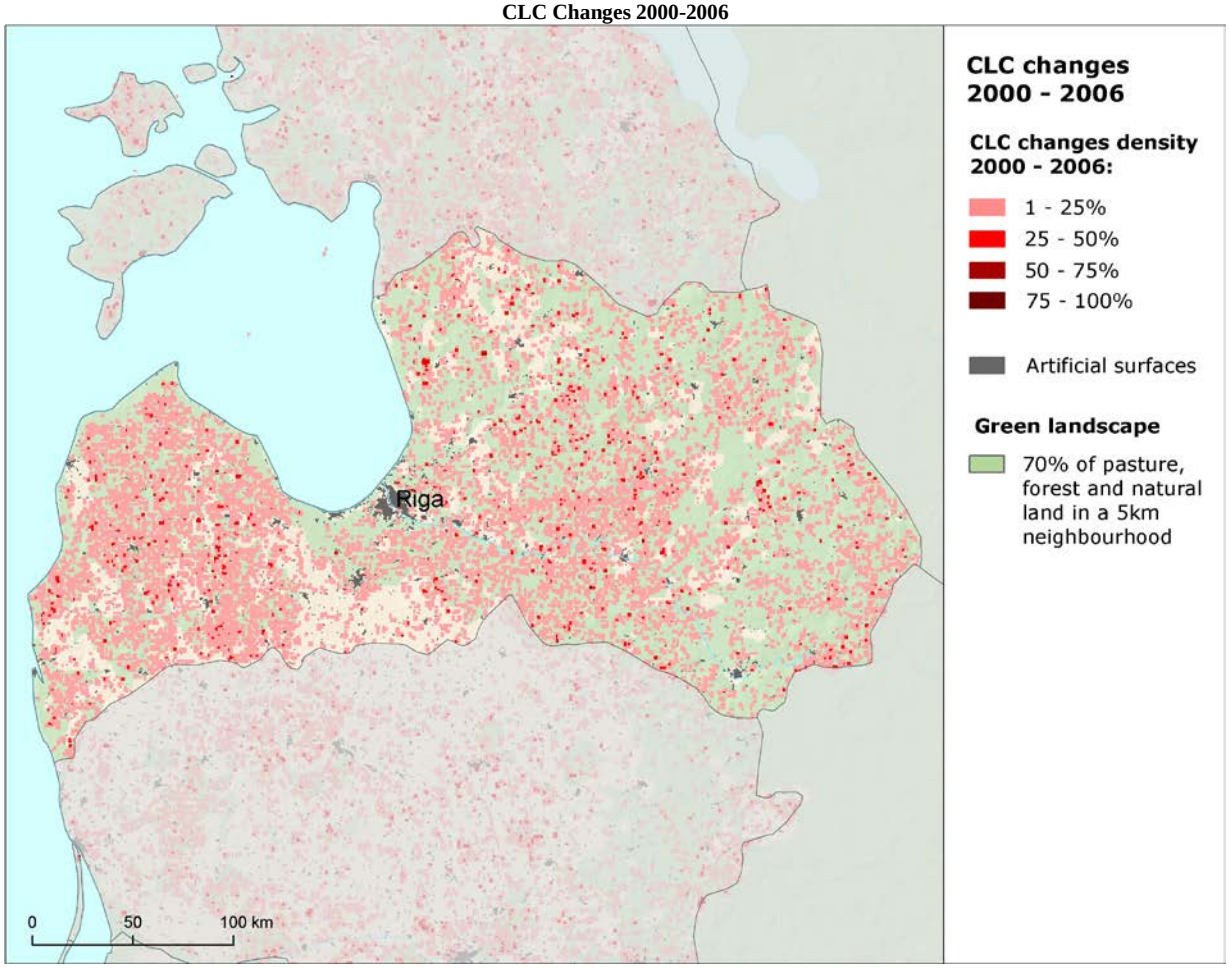


Latvia

CLC Changes 2006-2012



CLC Changes 2000-2006



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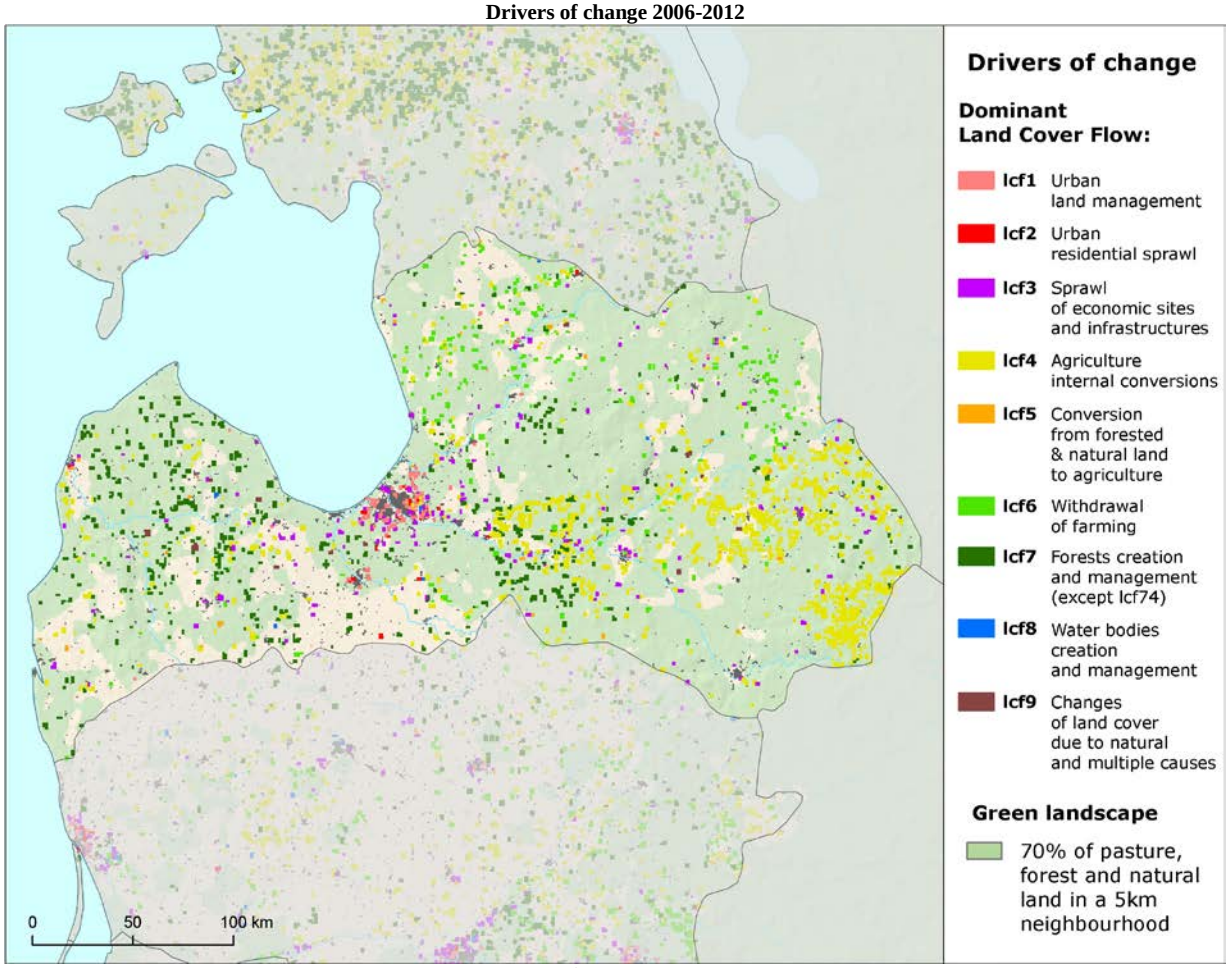
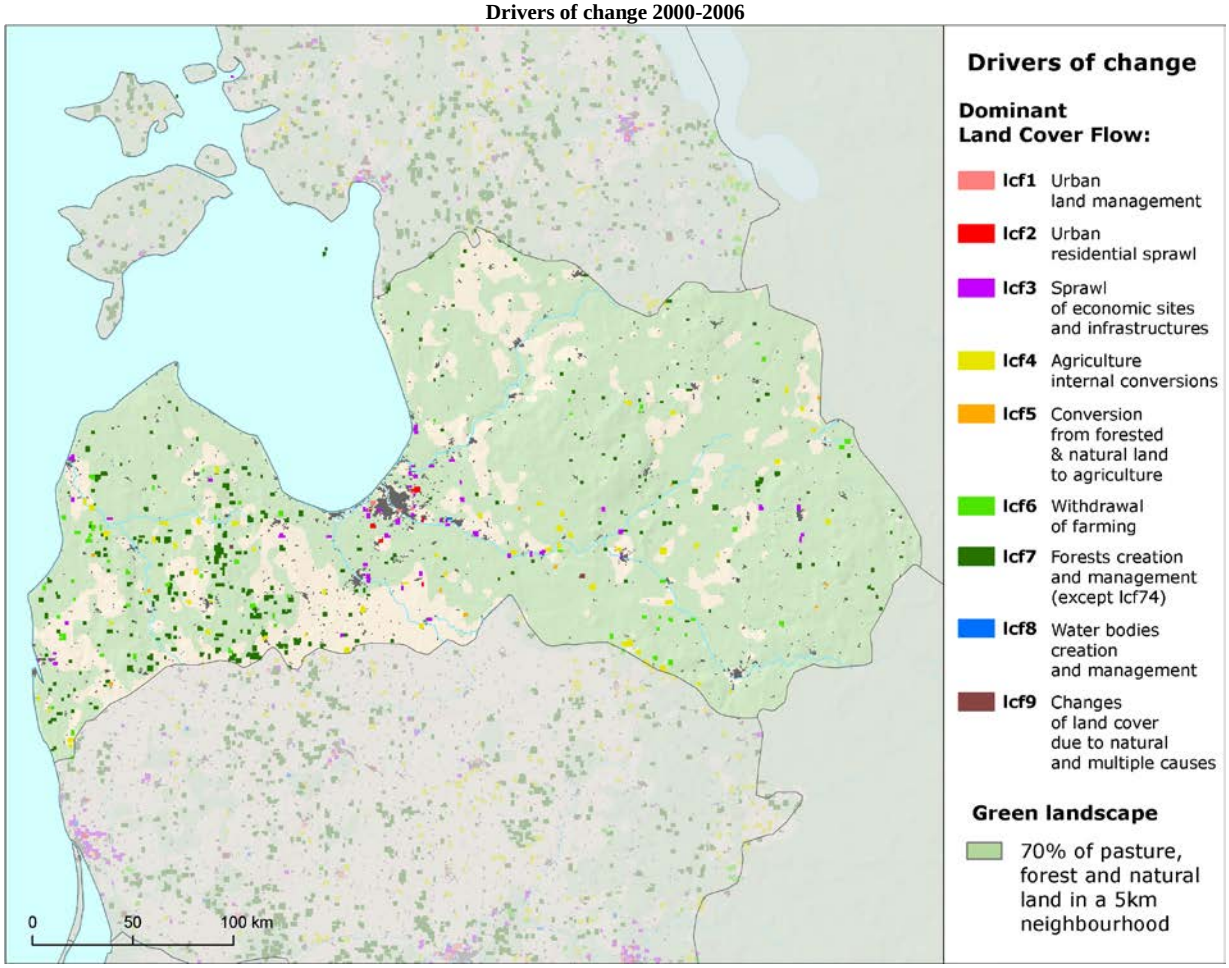
Drivers of change 2006-2012

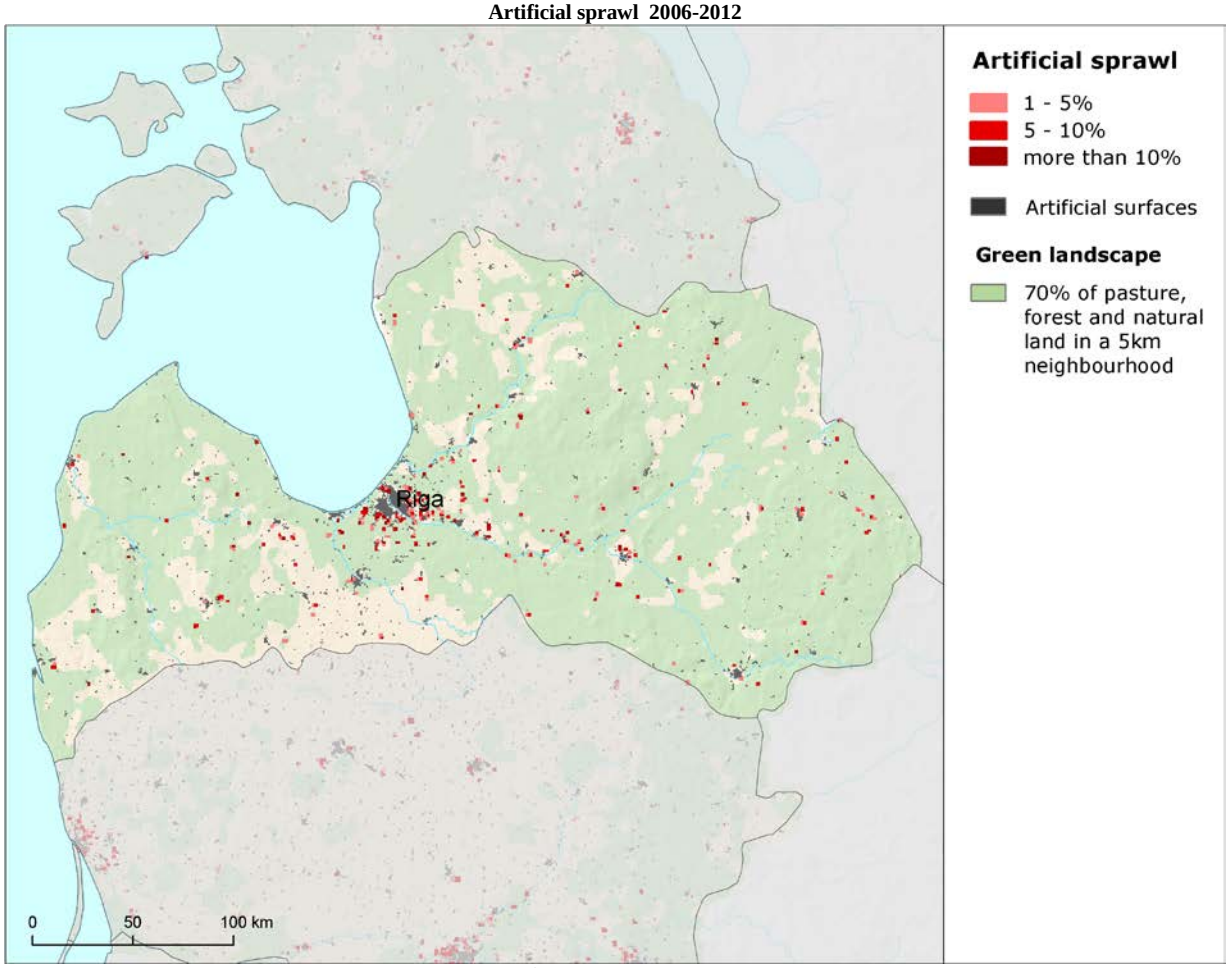


Drivers of change 2000-2006

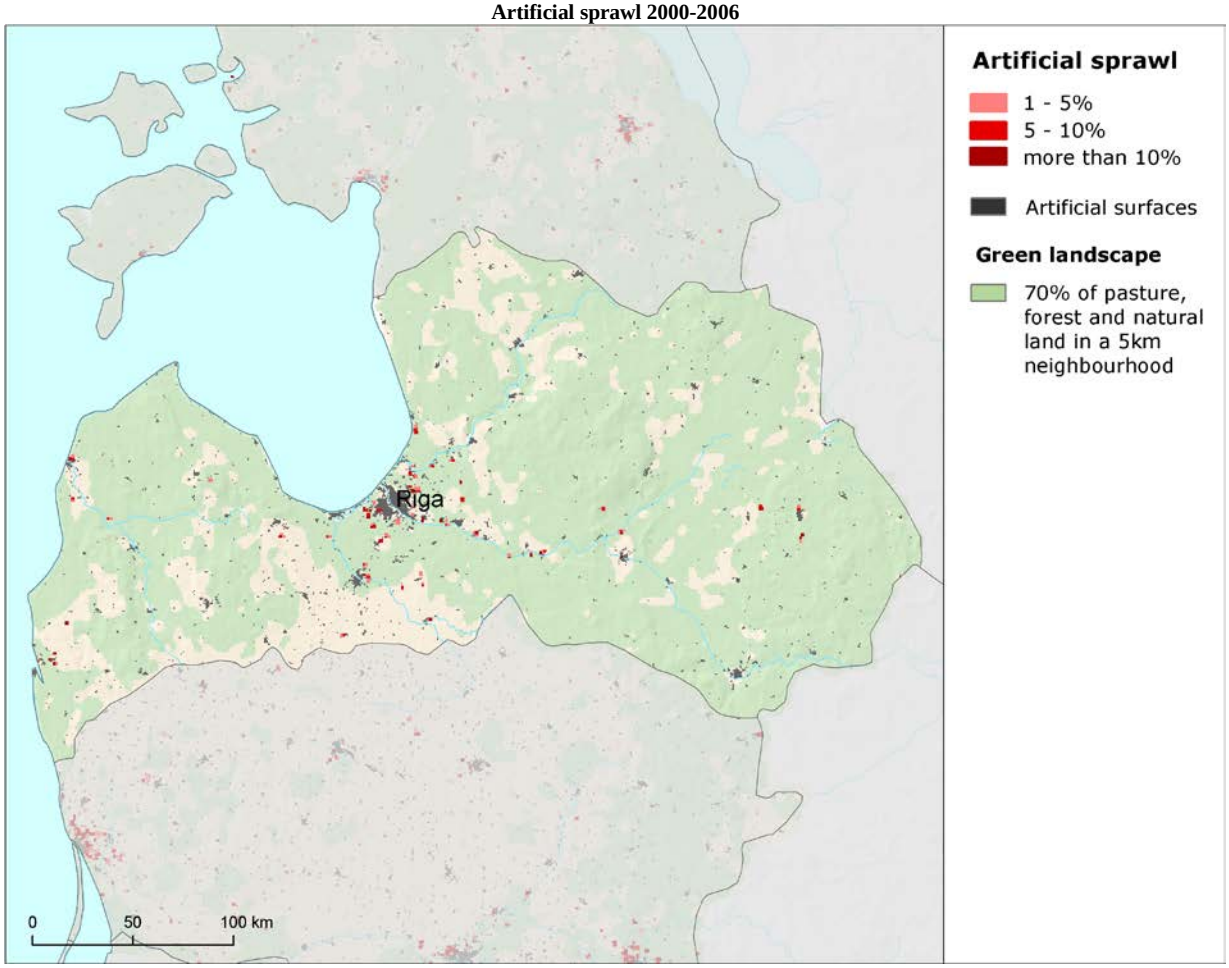


Latvia

Artificial sprawl 2006-2012

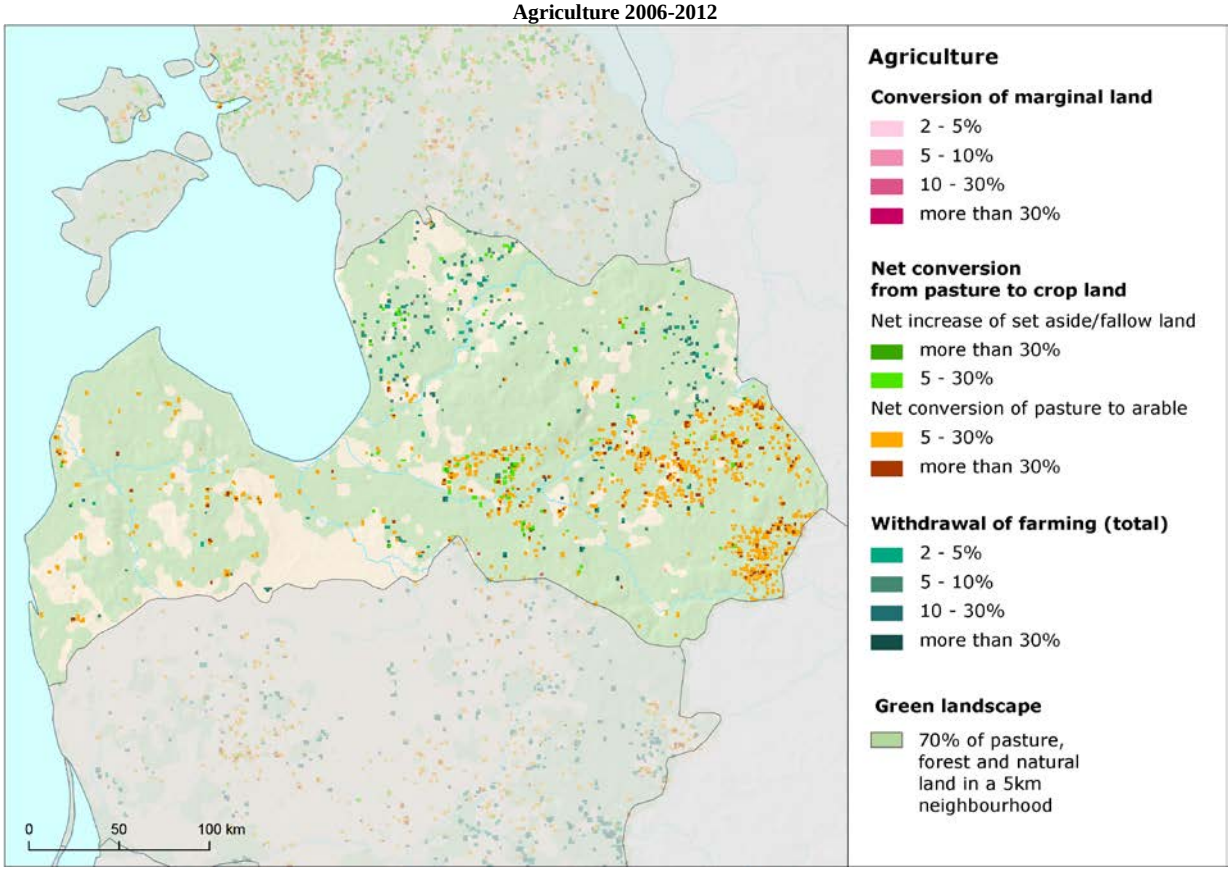


Artificial sprawl 2000-2006

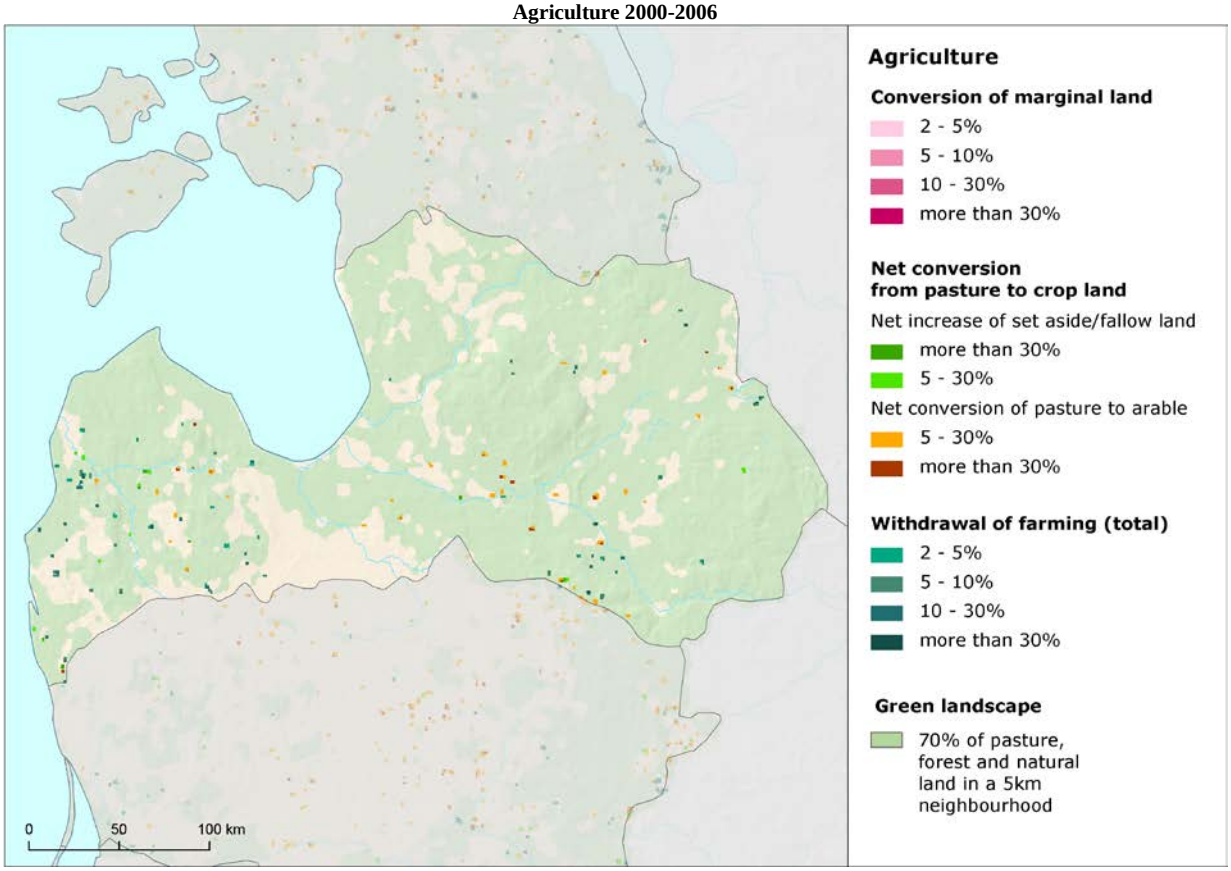


Latvia

Agriculture 2006-2012

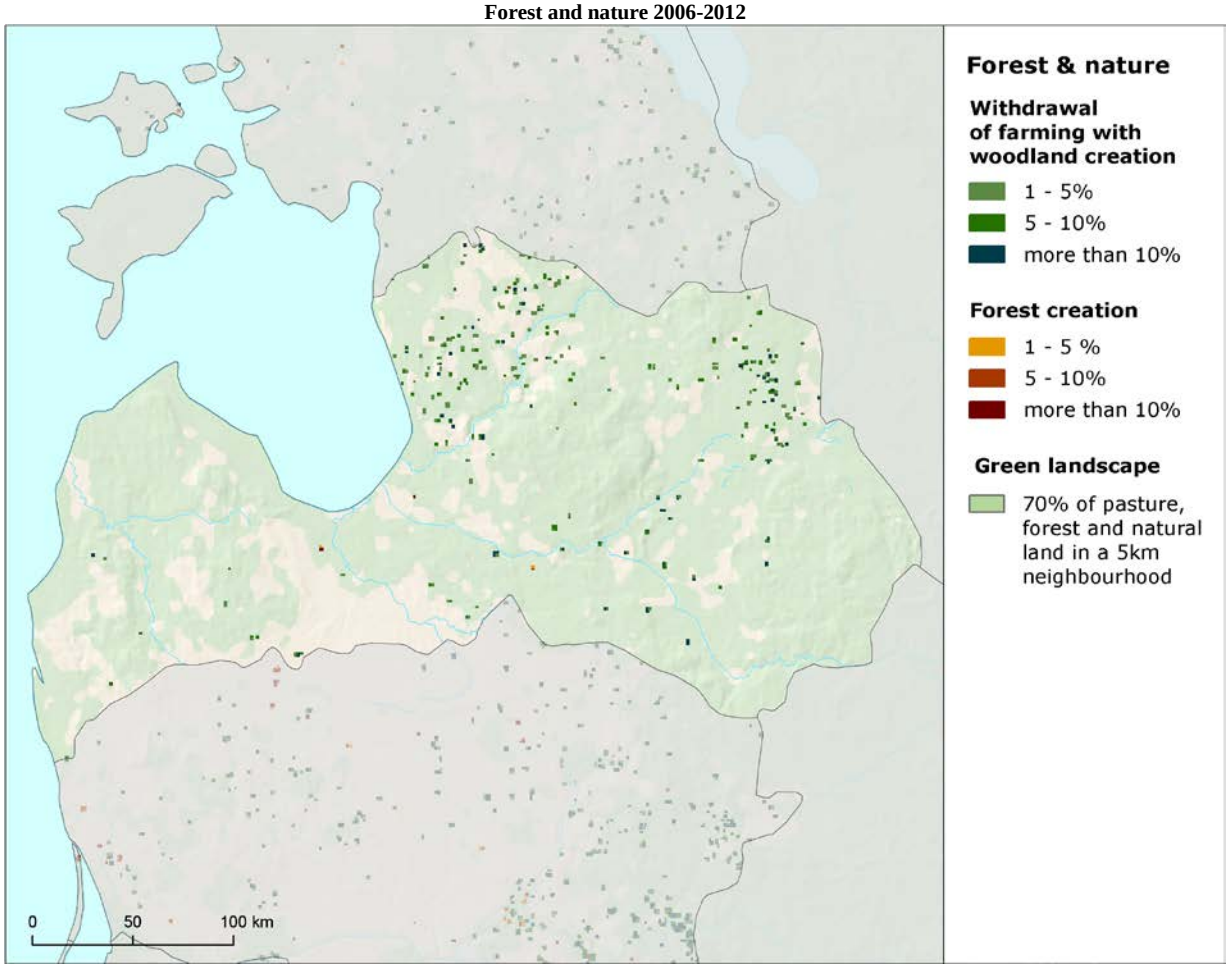


Agriculture 2000-2006



Latvia

Forest and nature 2006-2012



Forest and nature 2000-2006