Country fact sheet

Land cover 2012

Sweden

September 2017

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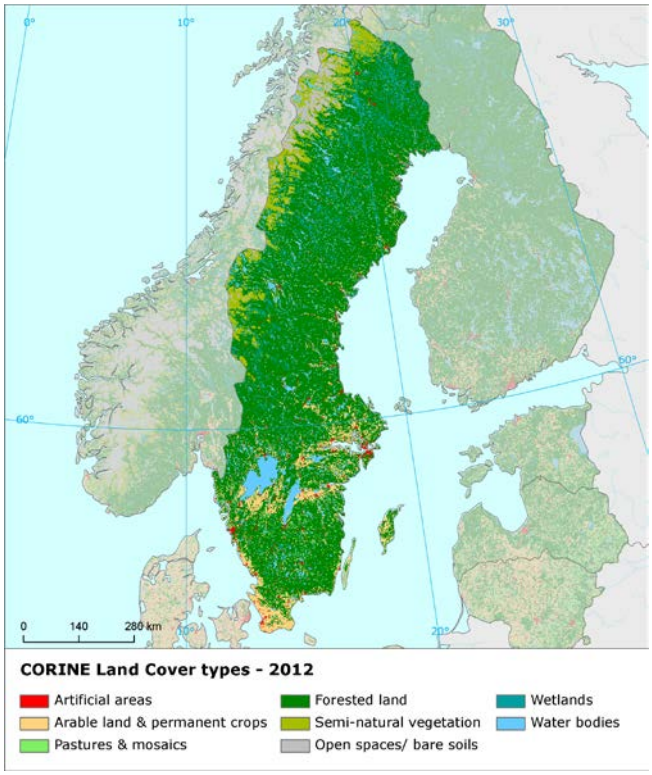
European Environment Agency

Sweden

Land cover 2012

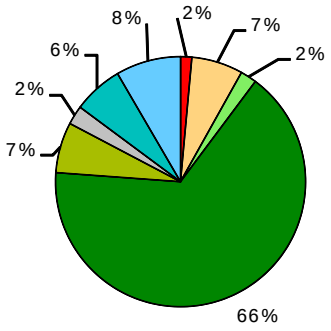
Overview of land cover & change 2006-2012

Landscape development in Sweden is very intensive in the 2006-2012 period, characterized by the highest mean annual land cover change rate in Europe (1,25%). Comparing with previous period 2000-2006, this is about twice and a half higher pace of development. Not surprisingly, this extremely high land cover change rate is caused by increased forest management and creation – considering the huge extent of forest coverage in Sweden, it is obvious that the intensity of land cover exchange in the country has to be very high. All this development is almost exclusively driven by internal forest conversions, with prevailing share of conversion from transitional woodland to forest, which is the opposite situation as in the previous period.
Comparing with these forest internal flows, the rest of the landscape development is rather insignificant. However, the intensity of artificial development is still below the European average, with a mean annual land take rate of 0.37%, which is slightly lower than in the previous period 2000-2006. The sprawl is driven mainly by residential development, construction and extension of quarries and mining areas, which is a bit different situation as in the period 2000-2006, during which the sprawl had two major drivers: the sprawl of sport and leisure facilities and construction. Both of them occur with lower intensity in the period 2006-2012.
The intensity of agricultural development in the country is very low, with internal agricultural flows much lower than consumption of agricultural land by the artificial sprawl.

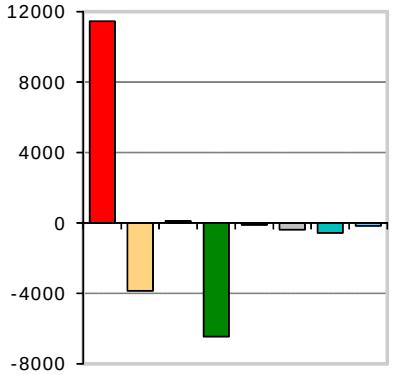


Note: The results presented here are based on a change analysis of 44 land cover types mapped consistently on a 1:100.000 scale across Europe over more than decade between 2000-2006-2012 - see Corine land cover (CLC) programme for details.
Number of years between CLC2006-CLC2012 data for Sweden: 6

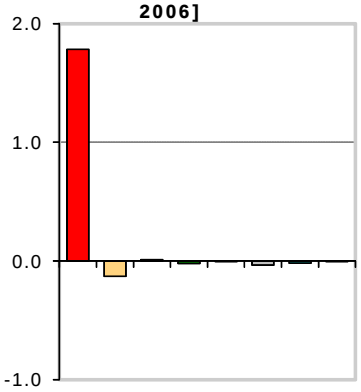
1.1. Land cover 2012 [% of total]



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

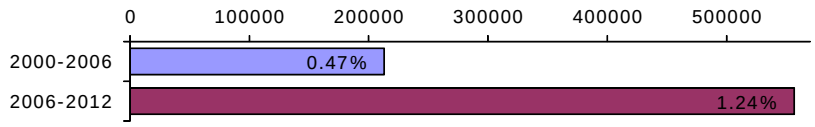
Summary balance table 2006-2012

	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	**6423**	**29966**	**9460**	**296624**	**29436**	**11028**	**28981**	**37761**	**449680**
Consumption of initial LC	47.6	50.3	13.3	33259.4	1.5	12.8	12.2	2.1	33399
Formation of new LC	162.1	11.6	14.3	33194.8	0.4	8.9	6.5	0.4	33399
Net Formation of LC	**114.6**	**-38.7**	**1.0**	**-64.5**	**-1.1**	**-3.9**	**-5.7**	**-1.8**	**0**
Net formation as % of initial year	*1.8*	*-0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	
Total turnover of LC	**209.7**	**61.9**	**27.7**	**66454.2**	**1.8**	**21.7**	**18.7**	**2.5**	**66798**
Total turnover as % of initial year	*3.3*	*0.2*	*0.3*	*22.4*	*0.0*	*0.2*	*0.1*	*0.0*	*14.9*
Land cover 2012	**6537**	**29928**	**9461**	**296560**	**29435**	**11024**	**28975**	**37759**	**449680**

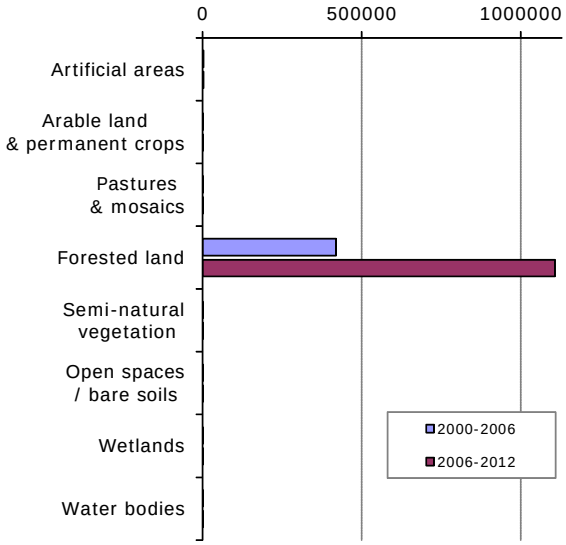
Sweden

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

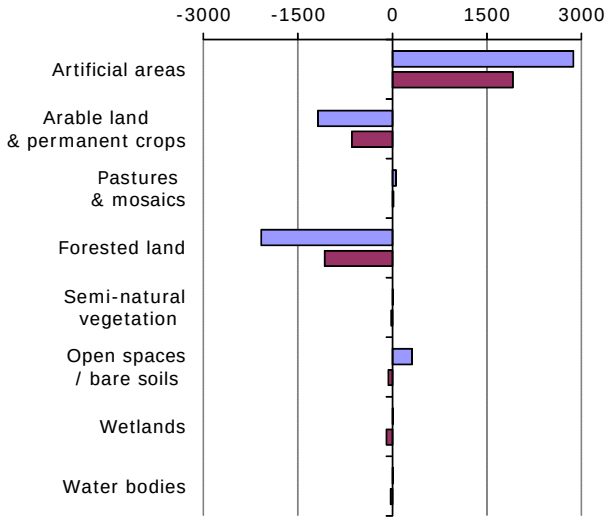
2.4. Annual land cover change [ha/year, % of total area]



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

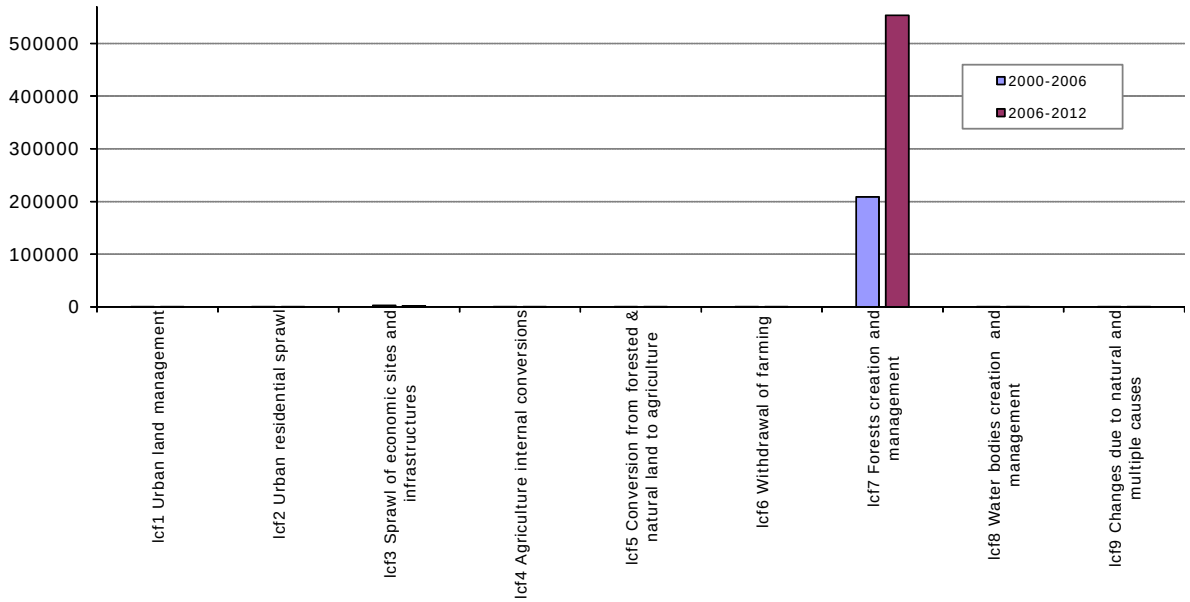


2.6. Net annual change of LC types [ha/year]



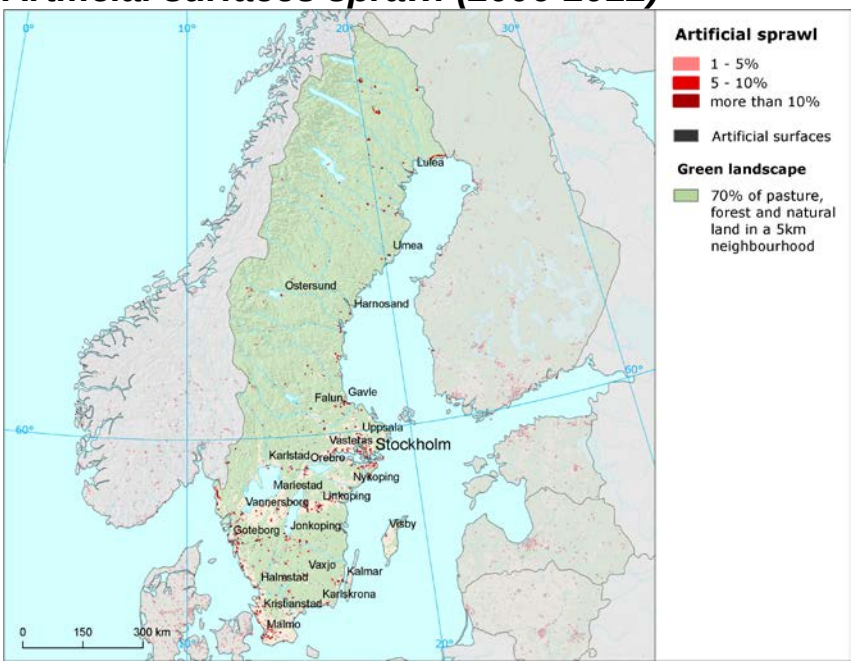
Summary trend figures	2000-2006	2006-2012
Annual land cover change [ha/year]	**213041**	**556652**
Annual land cover change as % of initial year	**0.47%**	**1.24%**
Land uptake by artificial development as mean annual change [ha/year]	2891	2328
Agricultural land uptake by urban and infrastructures development as mean annual change [ha/year]	1142	706
Net uptake of forests and semi-natural land by agriculture as mean annual change [ha/year]	0	29
Net conversion from pasture to arable land and permanent crops as mean annual change [ha/year]	-199	-80
Forest & other woodland net formation as mean annual change [ha/year]	-2082	-1075
Dry semi-natural land cover net formation as mean annual change [ha/year]	313	-82
Wetlands & water bodies net formation as mean annual change [ha/year]	23	-124

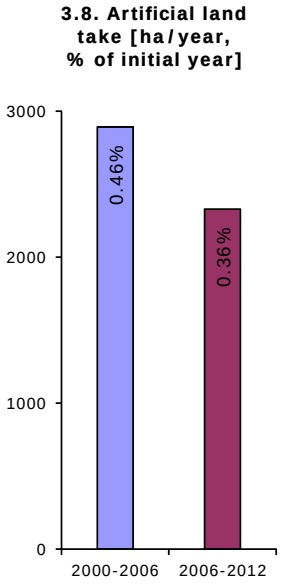
2.7. Intensity of main change drivers (LC FLOWS) [ha/year]



Sweden

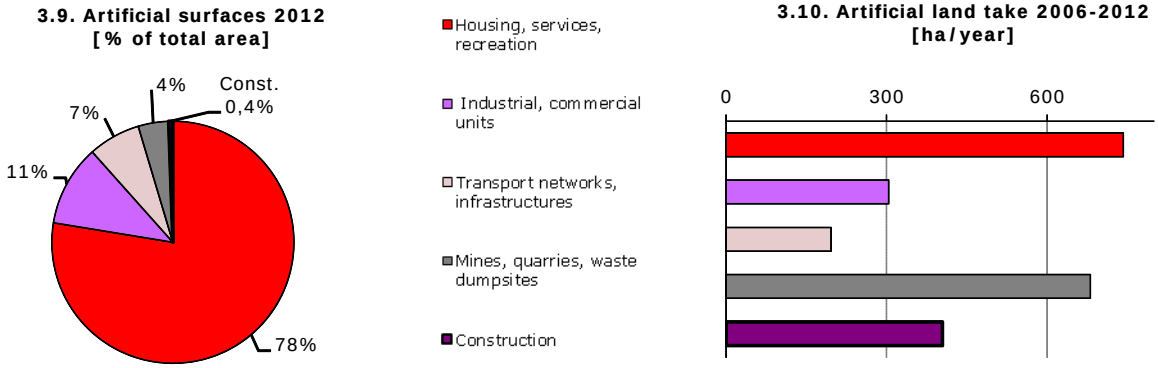
Artificial surfaces sprawl (2006-2012)

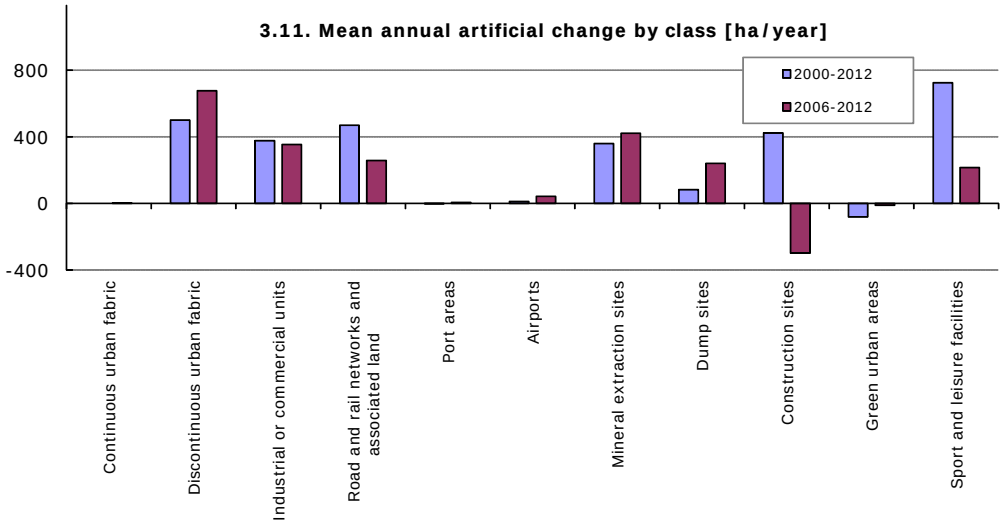




Residential development takes the lead

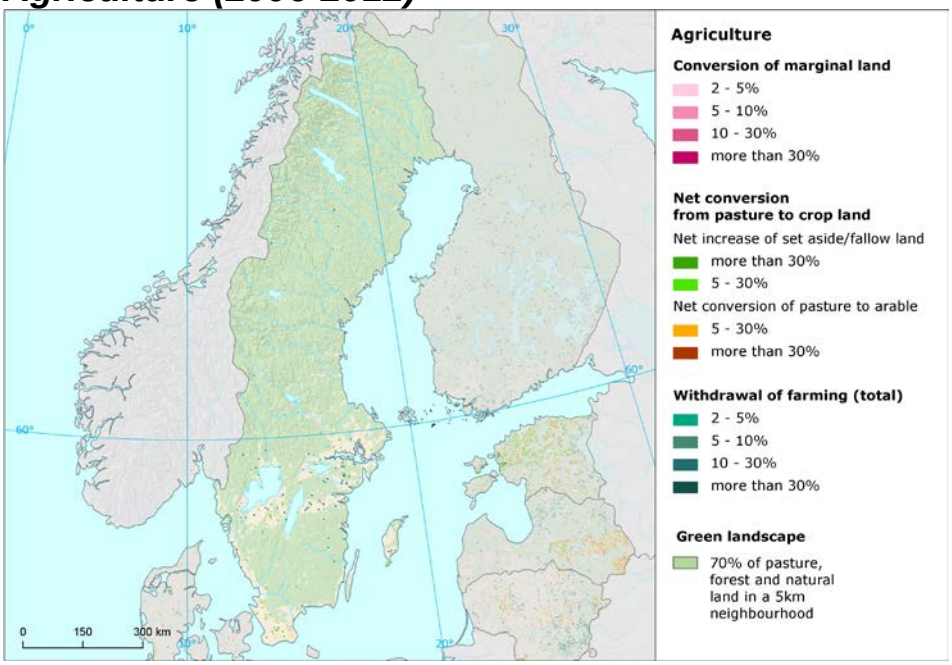
The overall pace of artificial development in Sweden is just below the European average in 2006-2012. The overall mean annual land take rate is slightly lower, compared with the previous period 2000-2006. Residential sprawl is the most intensive driver of artificial development recently, with a bit higher intensity than in the previous period. Also the sprawl of mines and quarries has strengthened a bit and became the second most powerful artificial driver. On the other hand, both sprawl of sport and leisure facilities and construction, which were two major drivers of artificial development in the period 2000-2006, became significantly weaker in the period 2006-2012. In general, artificial development in Sweden is quite diversified, as also the sprawl of industrial and commercial sites and of dump site are significant. The sprawl is compensated a bit through afforestation of former construction sites. Also the recycling of developed urban land is present in Sweden, represented mostly by conversion of construction sites into developed urban fabric, transportation and industrial or commercial units.





Sweden

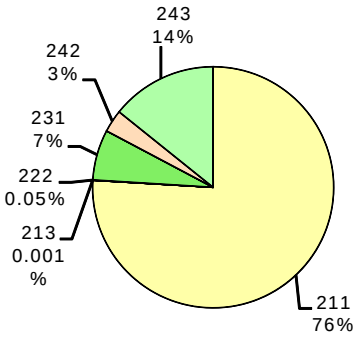
Agriculture (2006-2012)

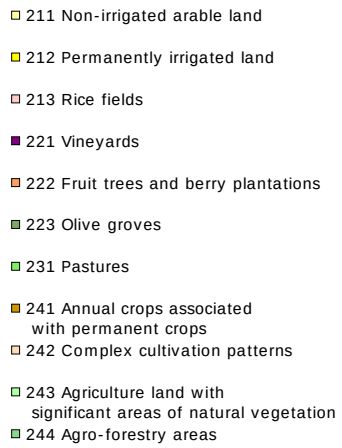


Slowdown of agricultural development

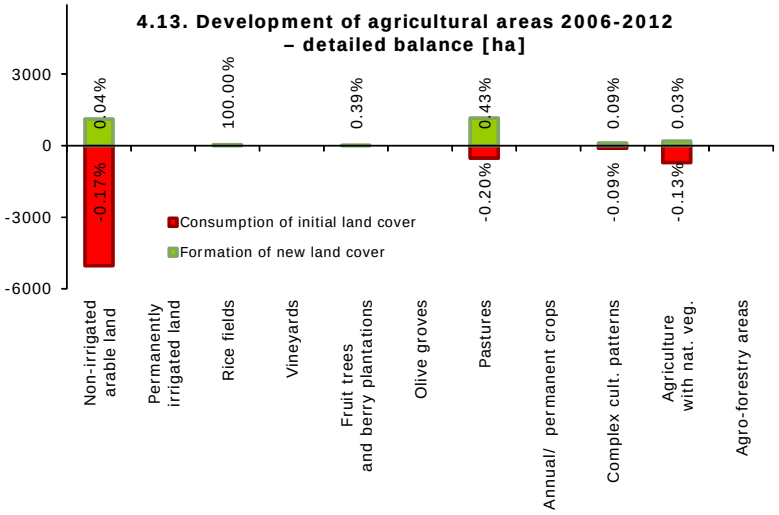
The overall intensity of agricultural development in Sweden is rather low, which is not surprising taking into account that agricultural land covers only 9% of the total area of the country. Moreover, both internal agricultural conversions and consumption of agricultural land became less intensive, compared to the previous period 2000-2006. The most frequent consumption of agriculture by sprawl of economic sites and infrastructures and by residential sprawl is much lower, in the period 2006-2012, which is caused mainly by decrease of intensity of the sprawl of sport and leisure facilities and of construction. Mostly arable land (80%) and agriculture with natural vegetation (13%) were consumed by the sprawl. Regarding the internal agricultural development, the extension of pasture and fallow land is still the prevailing direction, which is the same balance of power as in the previous period. However, the intensity of both conversions between pasture and arable is more than twice lower than in the period 2000-2006 and there were no other types of internal agricultural flows observed in the Swedish agriculture.

4.12. Agricultural areas 2012 [% of total area]

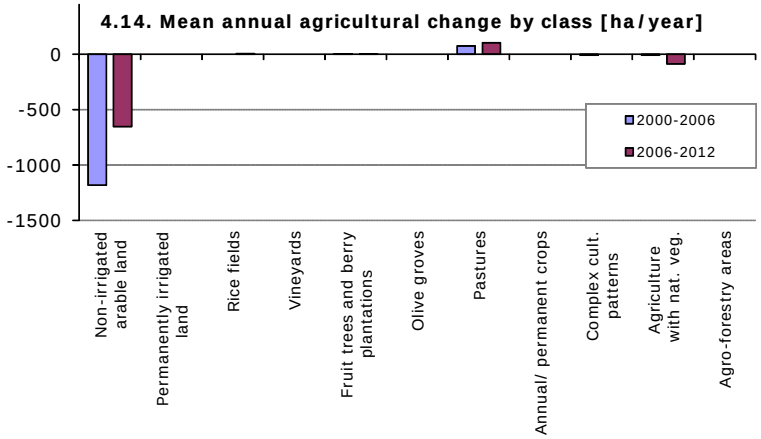




4.13. Development of agricultural areas 2006-2012 – detailed balance [ha]

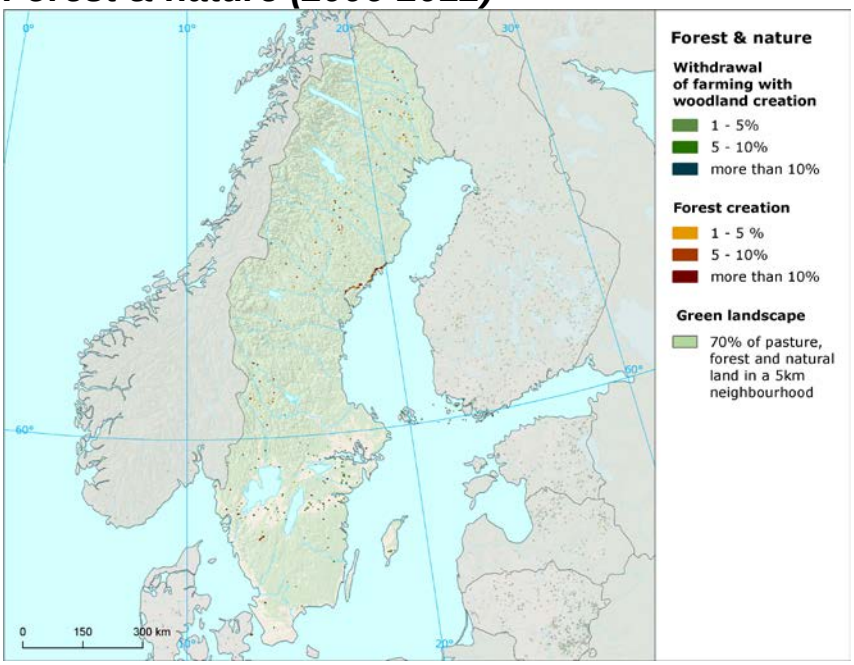


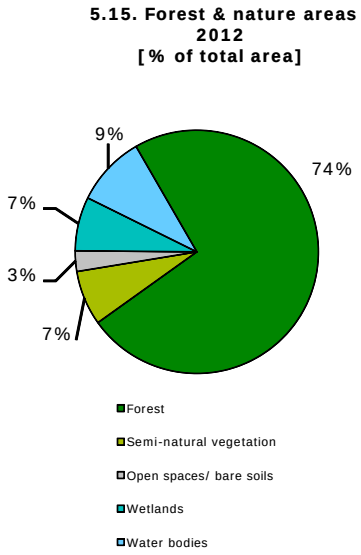
4.14. Mean annual agricultural change by class [ha/year]



Sweden

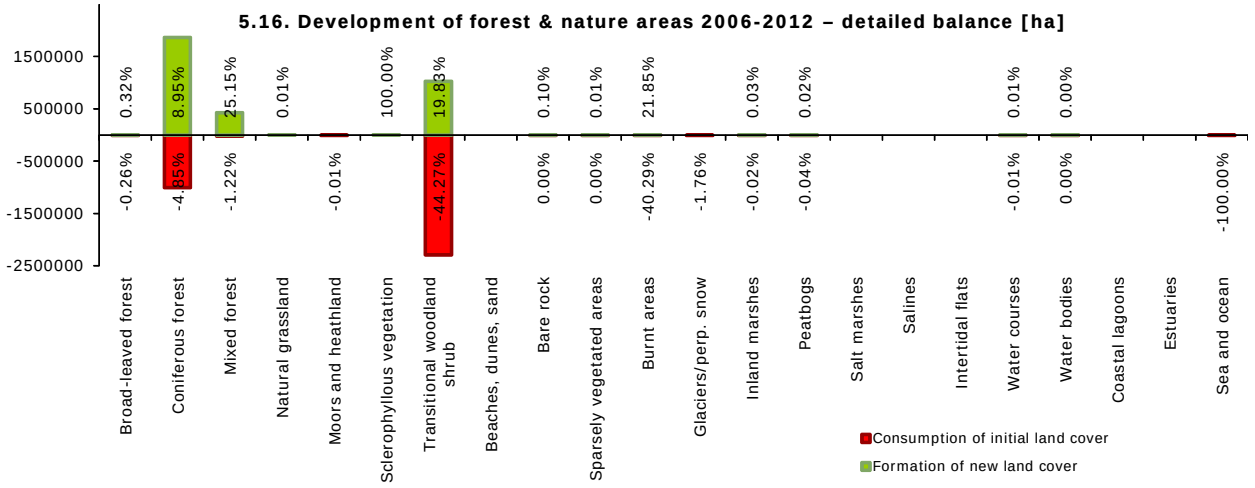
Forest & nature (2006-2012)

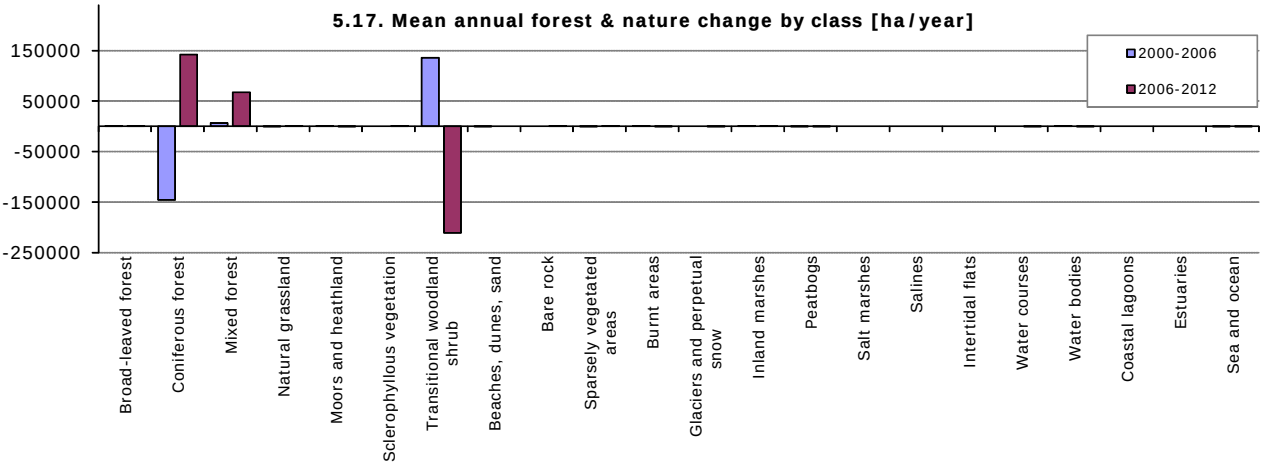




Conversion from transitional woodland to forest increased rapidly

In Sweden, the natural land covers about 90% of the total country area, 74% of it is covered by forests. Therefore, it is not surprising that natural land cover flows, in particular forest internal conversions, are the major drivers of landscape exchange in the country. Compared to the previous period, the conversion from transitional woodland to forest increased rapidly and became the prevailing direction of internal forest development, with opposite recent felling and transition having comparable intensity as in the period 2000-2006. The increase of conversion from transitional woodland to forest is also the main reason of the increase of the overall intensity of the land cover development in the country. Mainly coniferous and mixed forests are created through this conversion. Beside these forest internal flows, new forested areas were also created through afforestation of former construction sites, peatbogs or burnt areas. Forest fires were much less frequent, than during the period 2000-2006. The other flows observed in the Swedish natural landscape are decrease of permanent snow and glaciers cover and consumption of mainly coniferous forest by the sprawl of economic sites and infrastructures.

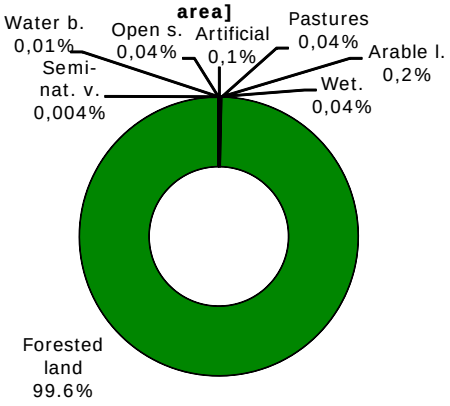




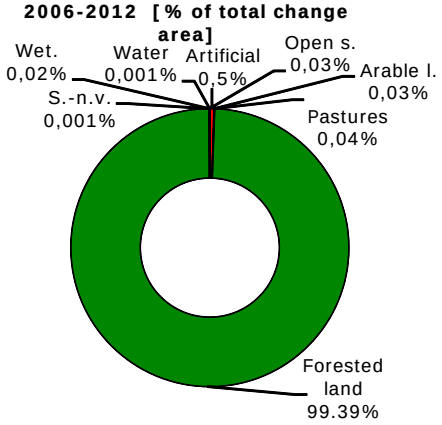
Annex: Land cover flows and trends

Land cover flows 2006-2012

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

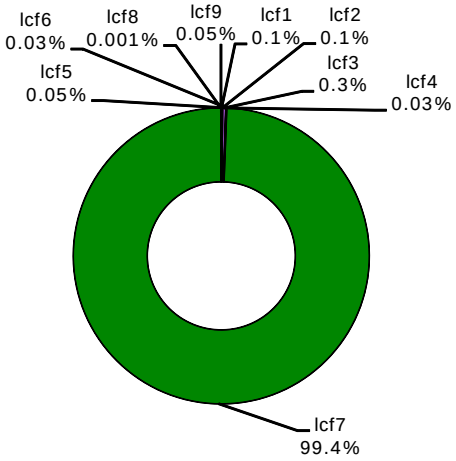


6.19. Formation of land cover 2006-2012 [% of total change area]



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]

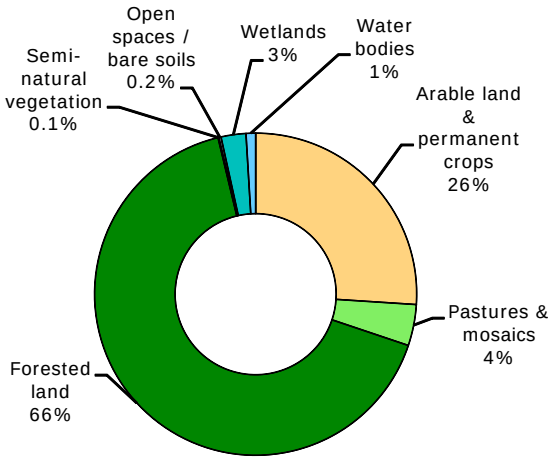


lcf1 Urban land management
lcf2 Urban residential sprawl
lcf3 Sprawl of economic sites and infrastructures
lcf4 Agriculture internal conversions
lcf5 Conversion from forested & natural land to agriculture
lcf6 Withdrawal of farming
lcf7 Forests creation and management
lcf8 Water bodies creation and management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

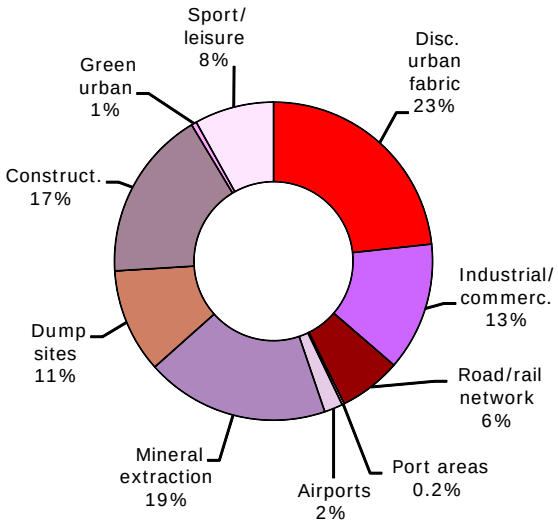
Sweden

Artificial areas

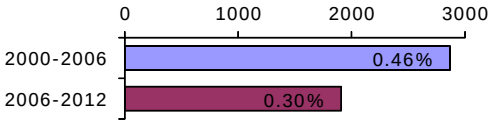
7.21. Consumption by artificial land take 2006-2012 [% of total]



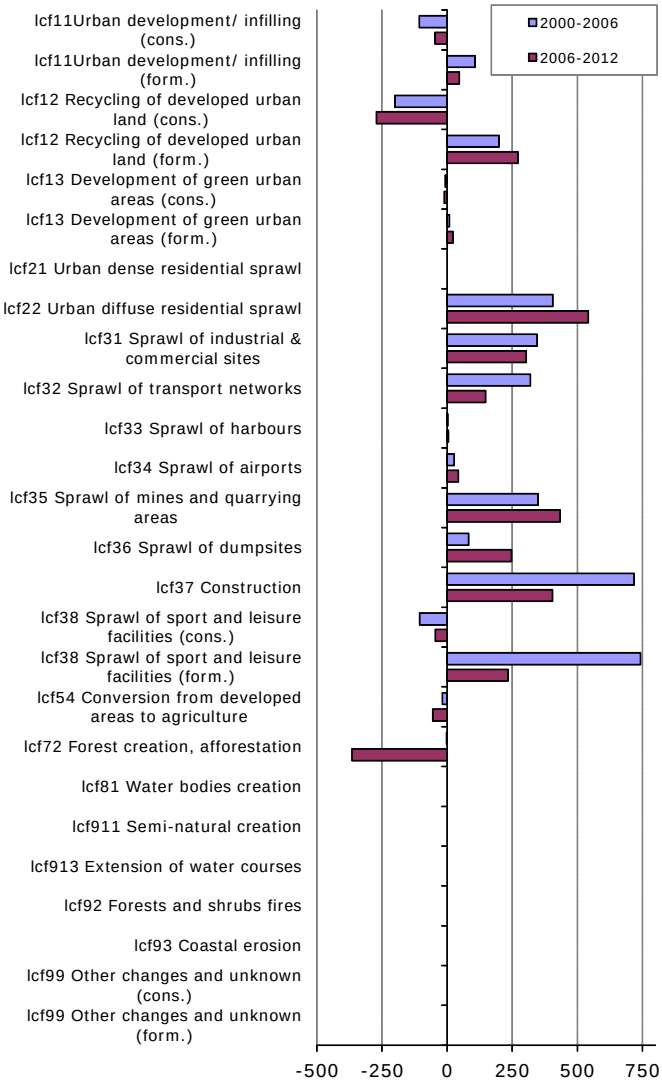
7.22. Formation by artificial land take 2006-2012 [% of total]



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



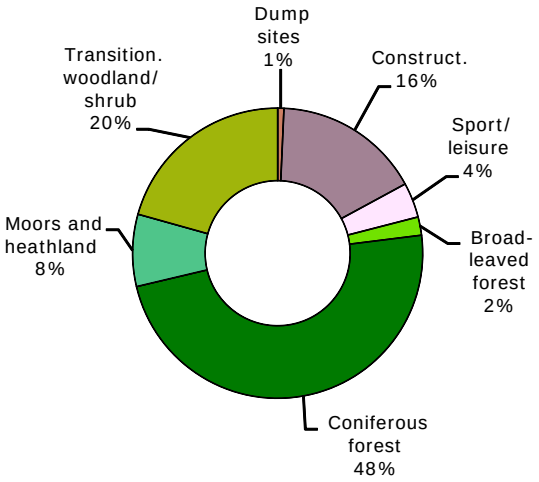
7.24. Artificial development by change drivers (LC FLOWS) [ha/year]



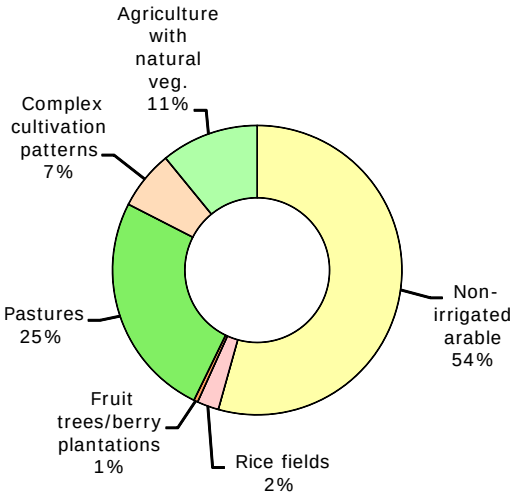
Sweden

Agriculture

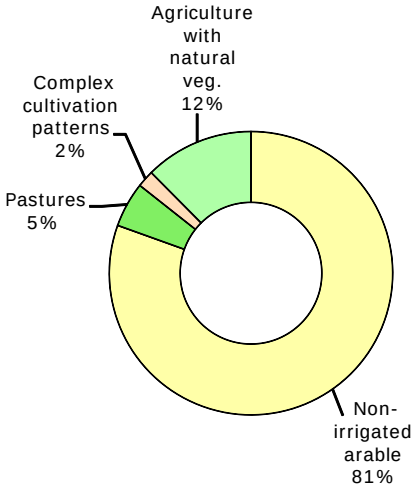
8.25. LC consumed by agriculture 2006-2012 [% of total]



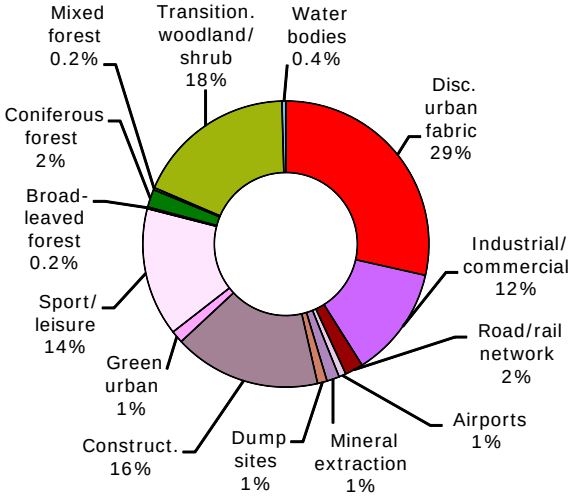
8.26. Formation of agricultural land from non-agriculture 2006-2012 [% of total]



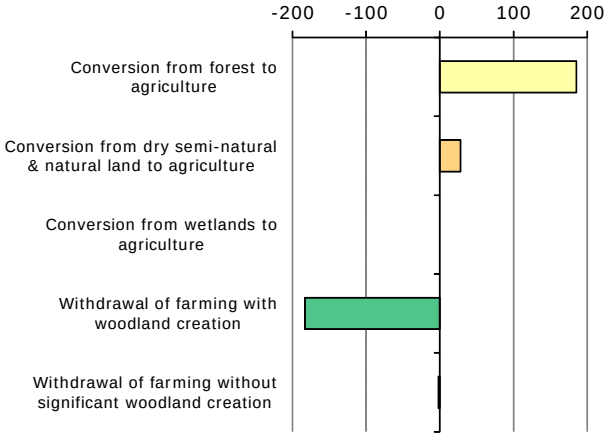
8.27. Consumption of agricultural land by non-agriculture 2006-2012 [% of total]



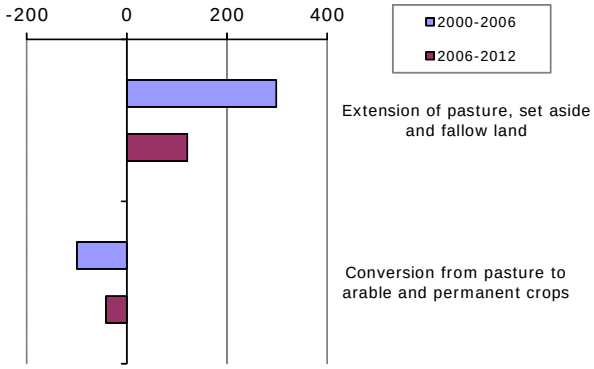
8.28. Formation of non-agricultural land from agriculture 2006-2012 [% of total]



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]



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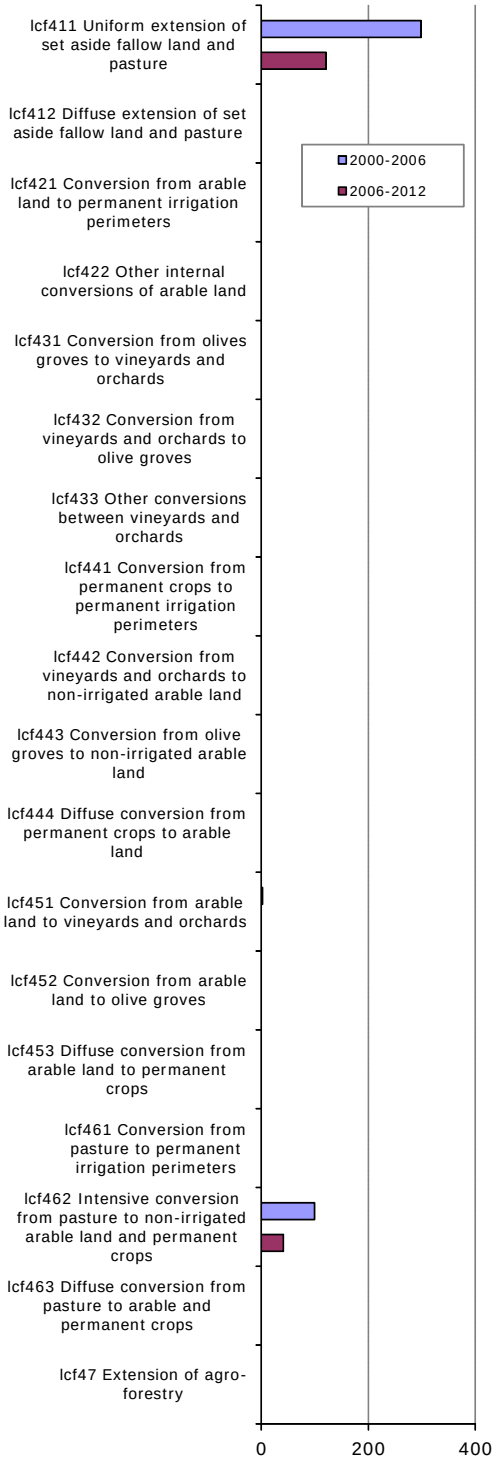
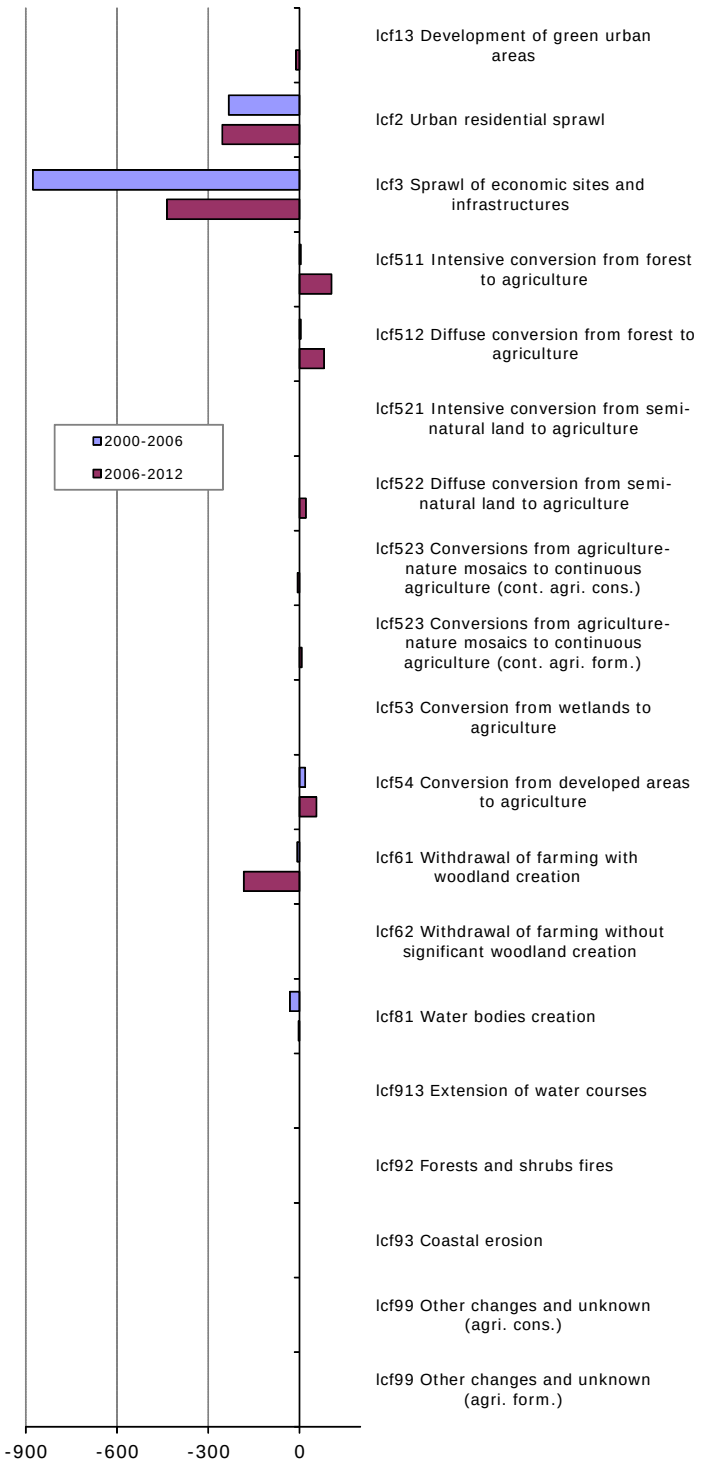
9.31. Mean annual agriculture internal conversions [ha / year]



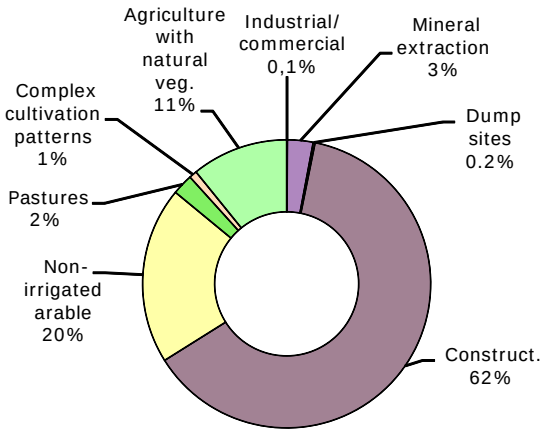
9.32. Mean annual conversions between agriculture and other LC types [ha / year]



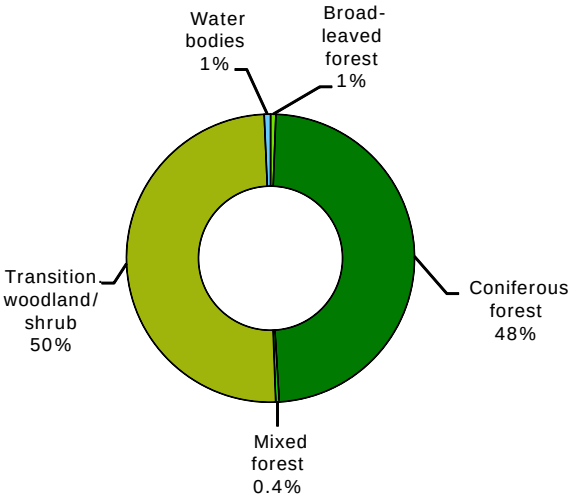
Sweden

Forest & nature

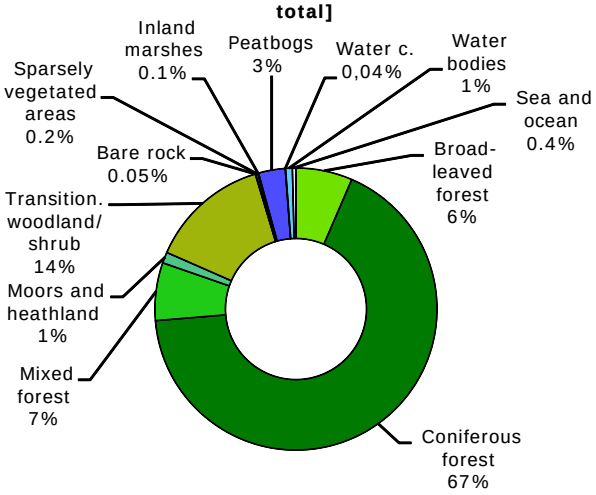
10.33. LC consumed by forest & nature 2006-2012 [% of total]



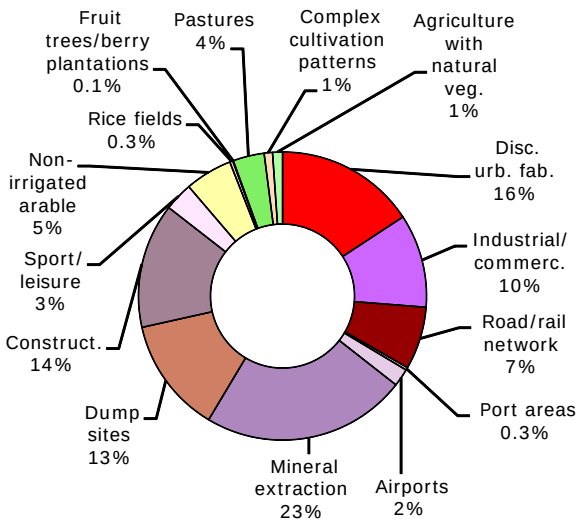
10.34. Formation of forest & nature land from non-forest /nature 2006-2012 [% of total]



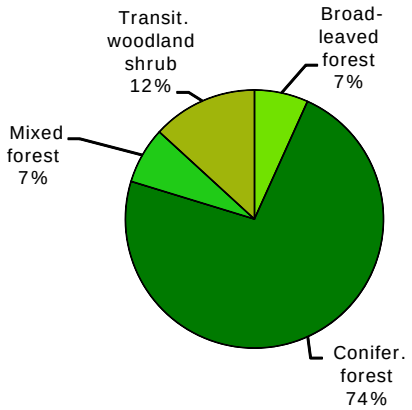
10.35. Consumption of forest & nature land by non-forest/nature 2006-2012 [% of total]



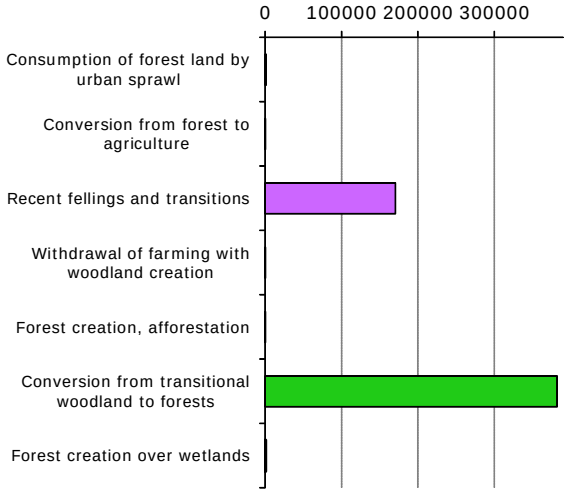
10.36. Formation of non-forest/nature land from forest & nature 2006-2012 [% of total]



10.37. Forested land 2012 [% of total area]

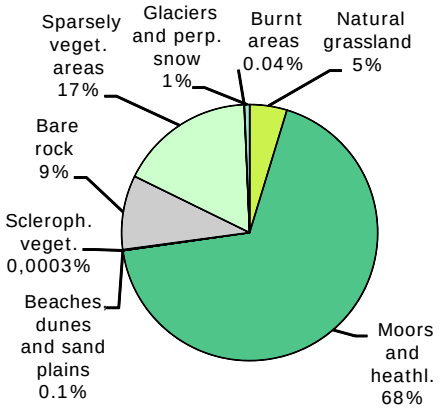


10.38. Main trends in woodland & forests consumption/formation 2006-2012 [ha/year]

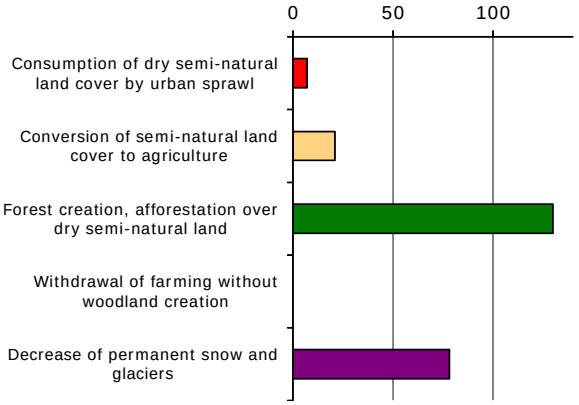


Sweden

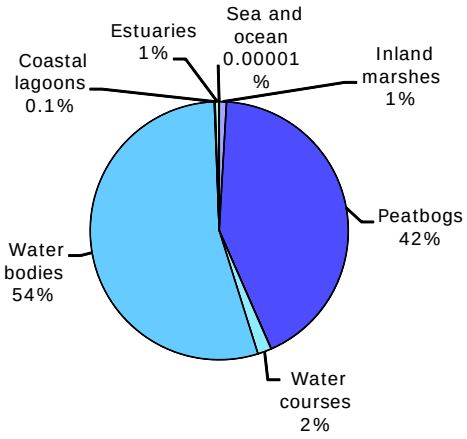
11.39. Dry semi-natural areas 2012 [% of total area]



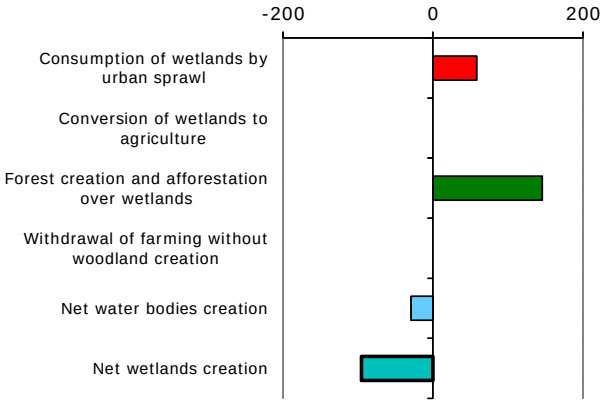
11.40. Main trends in dry semi-natural land consumption/formation 2006-2012 [ha/year]



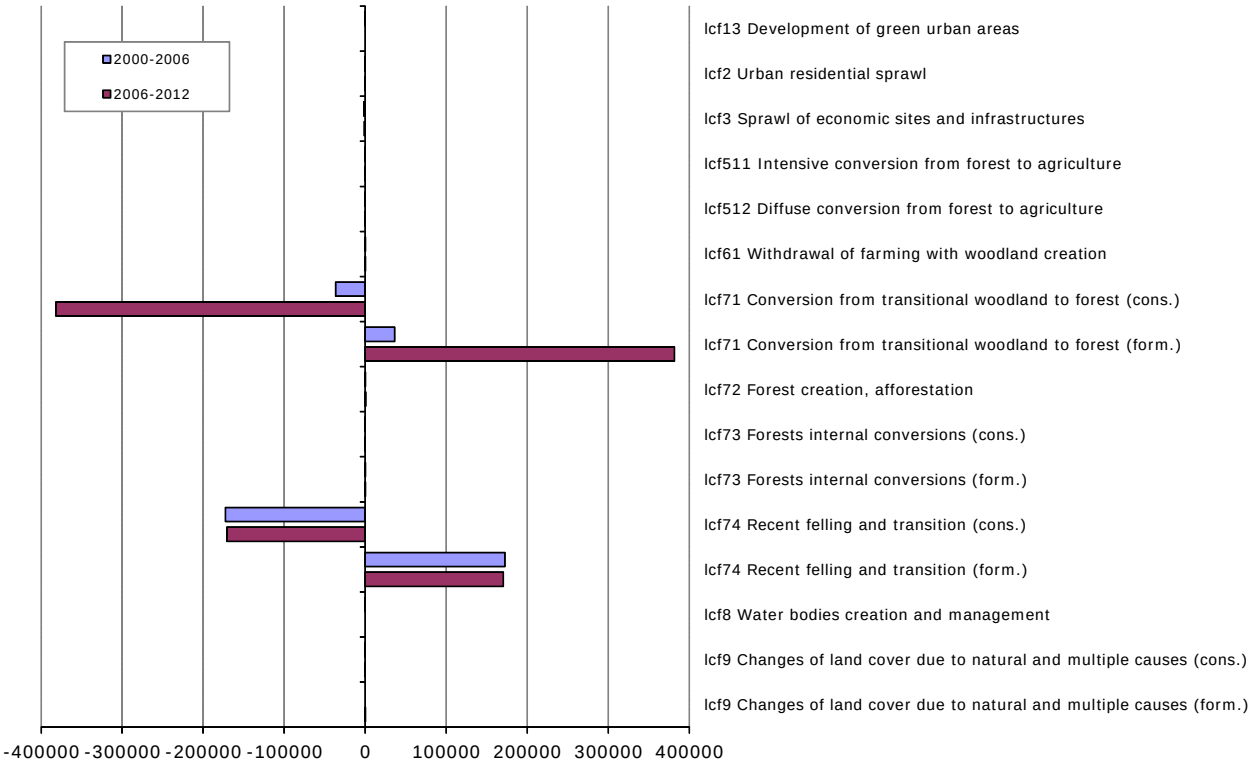
11.41. Wetlands & water 2012 [% of total area]



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

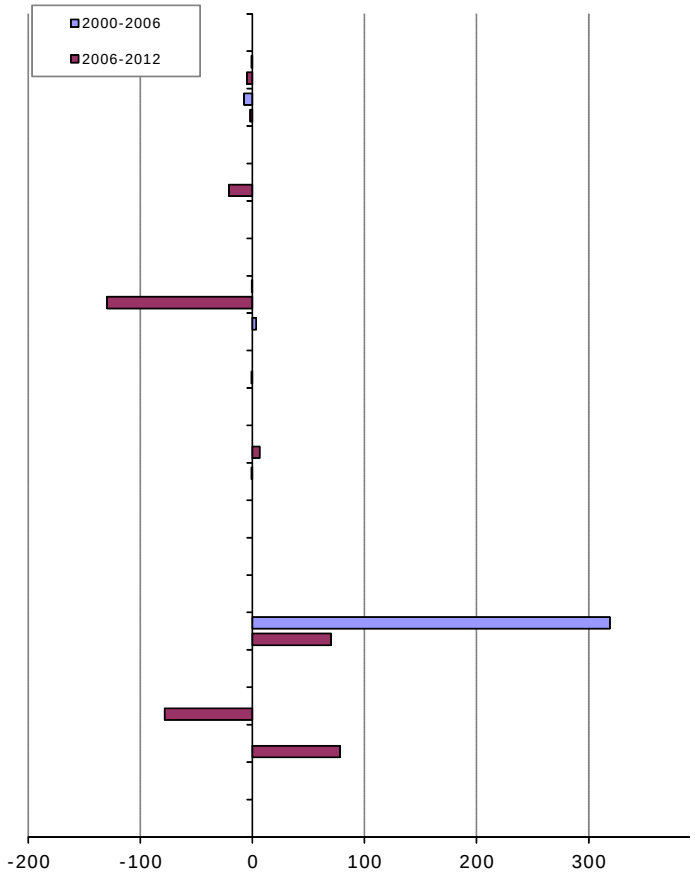


11.43. Mean annual conversions of forest & other woodland [ha/year]



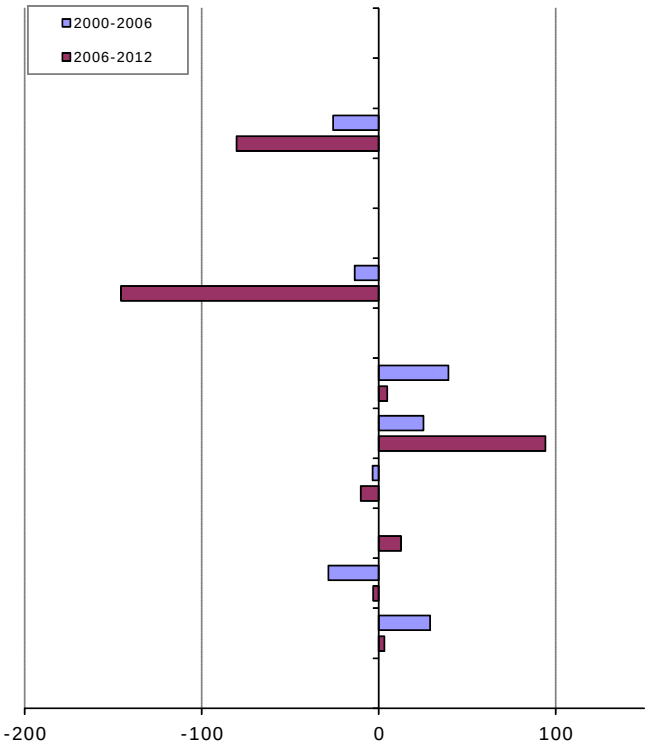
Sweden

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



lcf13 Development of green urban areas
lcf2 Urban residential sprawl
lcf3 Sprawl of economic sites and infrastructures
lcf521 Intensive conversion from semi-natural land to agriculture
lcf522 Diffuse conversion from semi-natural land to agriculture
lcf523 Conversions from agriculture-nature mosaics to continuous.
lcf62 Withdrawal of farming without significant woodland creation
lcf72 Forest creation, afforestation
lcf74 Recent felling and transition
lcf8 Water bodies creation and management
lcf82 Water bodies management
lcf911 Semi-natural creation (form.)
lcf912 Semi-natural rotation (cons.)
lcf912 Semi-natural rotation (form.)
lcf913 Extension of water courses (cons.)
lcf92 Forests and shrubs fires (cons.)
lcf92 Forests and shrubs fires (form.)
lcf93 Coastal erosion (cons.)
lcf94 Decrease in permanent snow and glaciers cover (cons.)
lcf94 Decrease in permanent snow and glaciers cover (form.)
lcf99 Other changes and unknown (cons.)
lcf99 Other changes and unknown (form.)

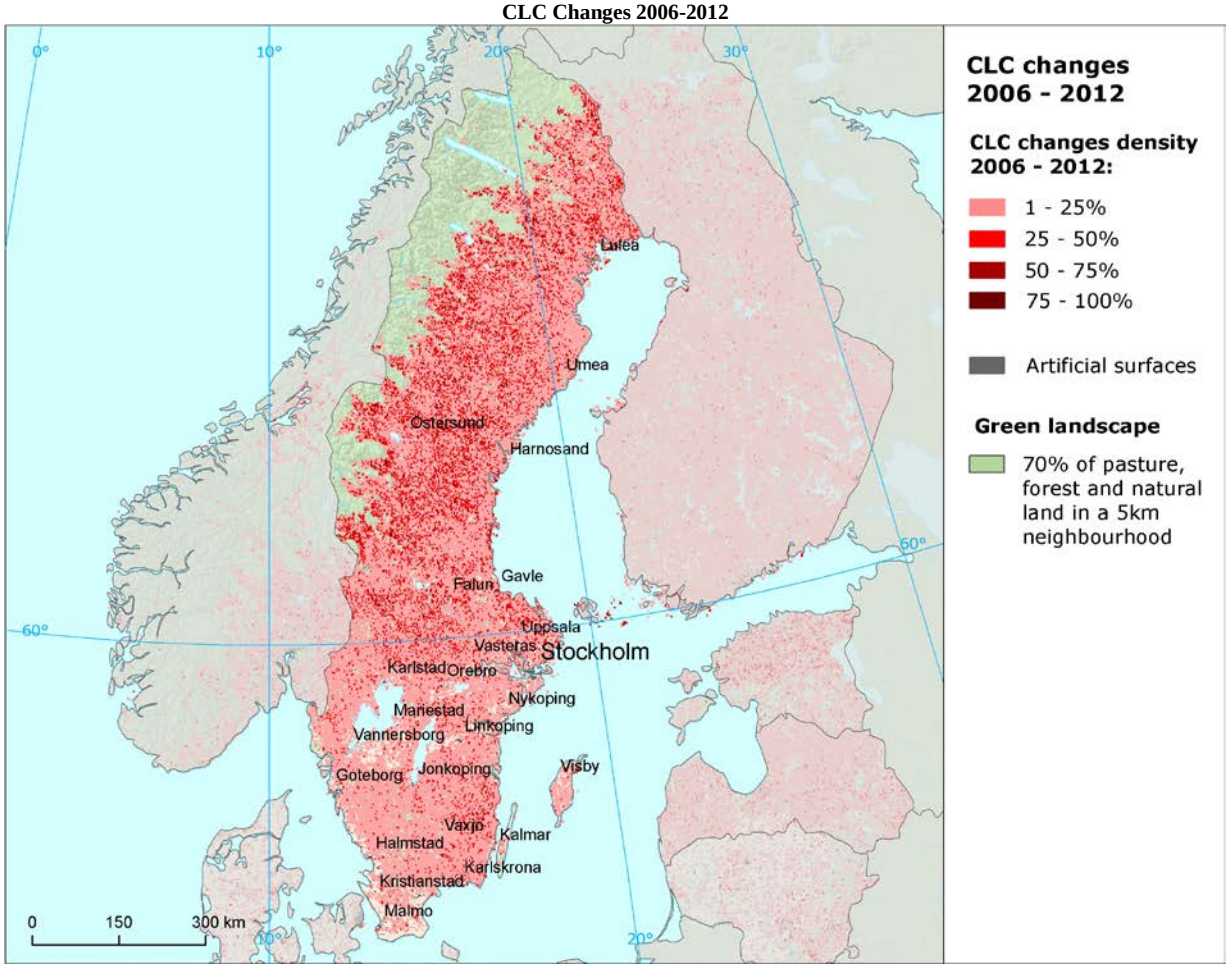
12.45. Mean annual conversions of wetlands and water LC [ha/year]



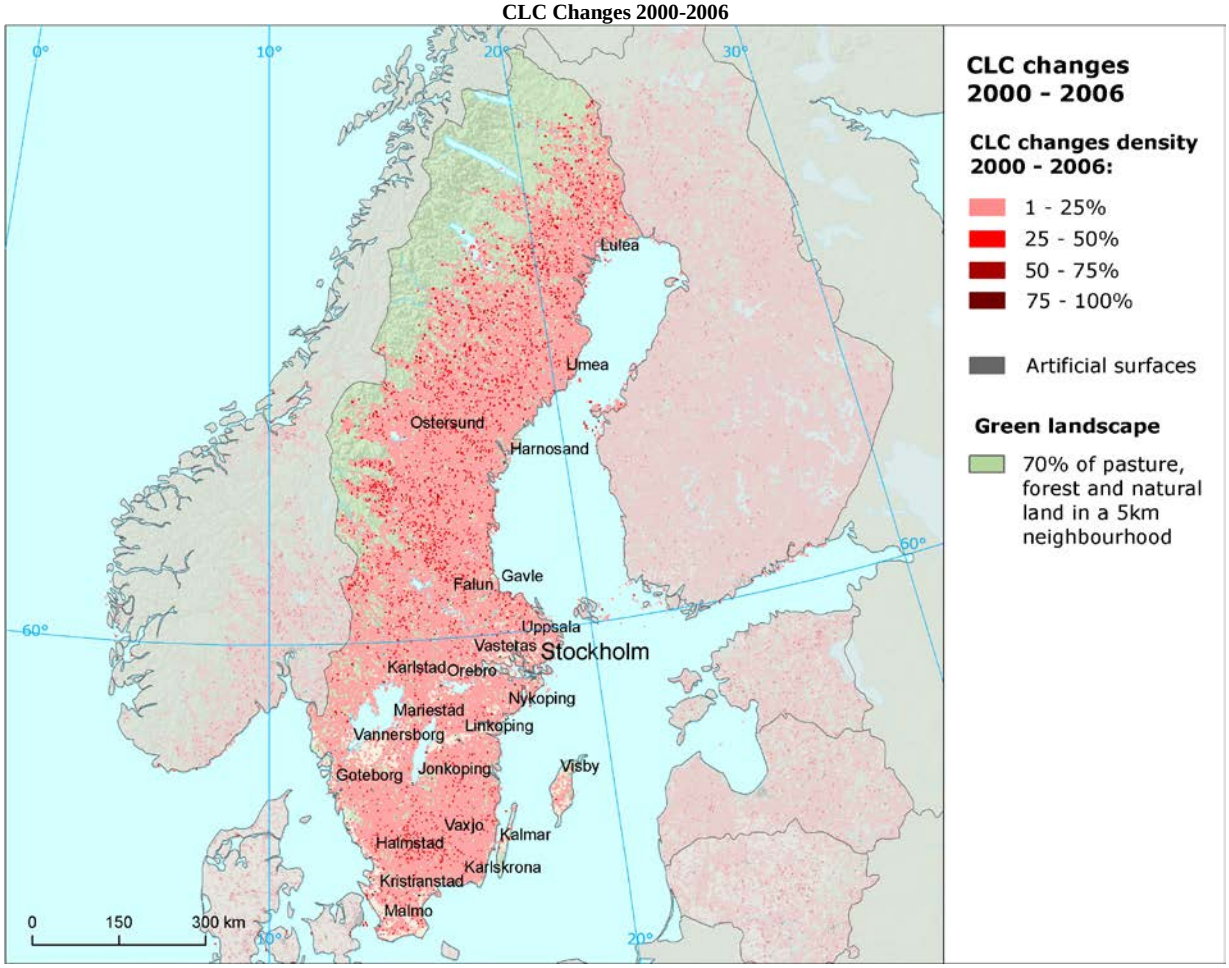
lcf13 Development of green urban areas
lcf2 Urban residential sprawl
lcf3 Sprawl of economic sites and infrastructures
lcf53 Conversion from wetlands to agriculture
lcf62 Withdrawal of farming without significant woodland creation
lcf72 Forest creation, afforestation
lcf8 Water bodies creation and management (cons.)
lcf81 Water bodies creation
lcf9 Changes of land cover due to natural and multiple causes (other than LCF91)
lcf9 Changes of land cover due to natural and multiple causes (other than LCF912)
lcf911 Semi-natural creation (form.)
lcf912 Semi-natural rotation (cons.)
lcf912 Semi-natural rotation (form.)
lcf913 Extension of water courses (form.)

Sweden

CLC Changes 2006-2012

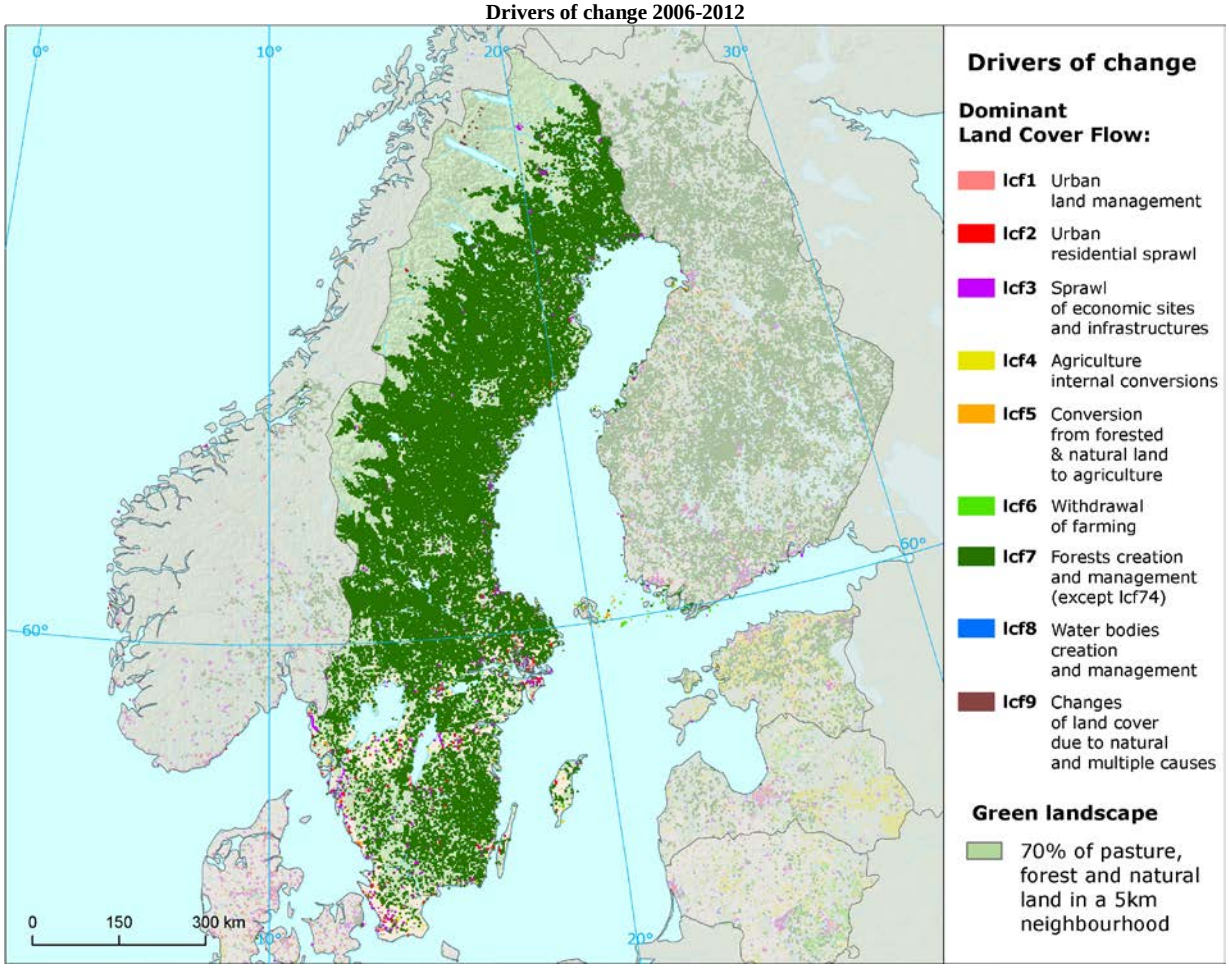


CLC Changes 2000-2006

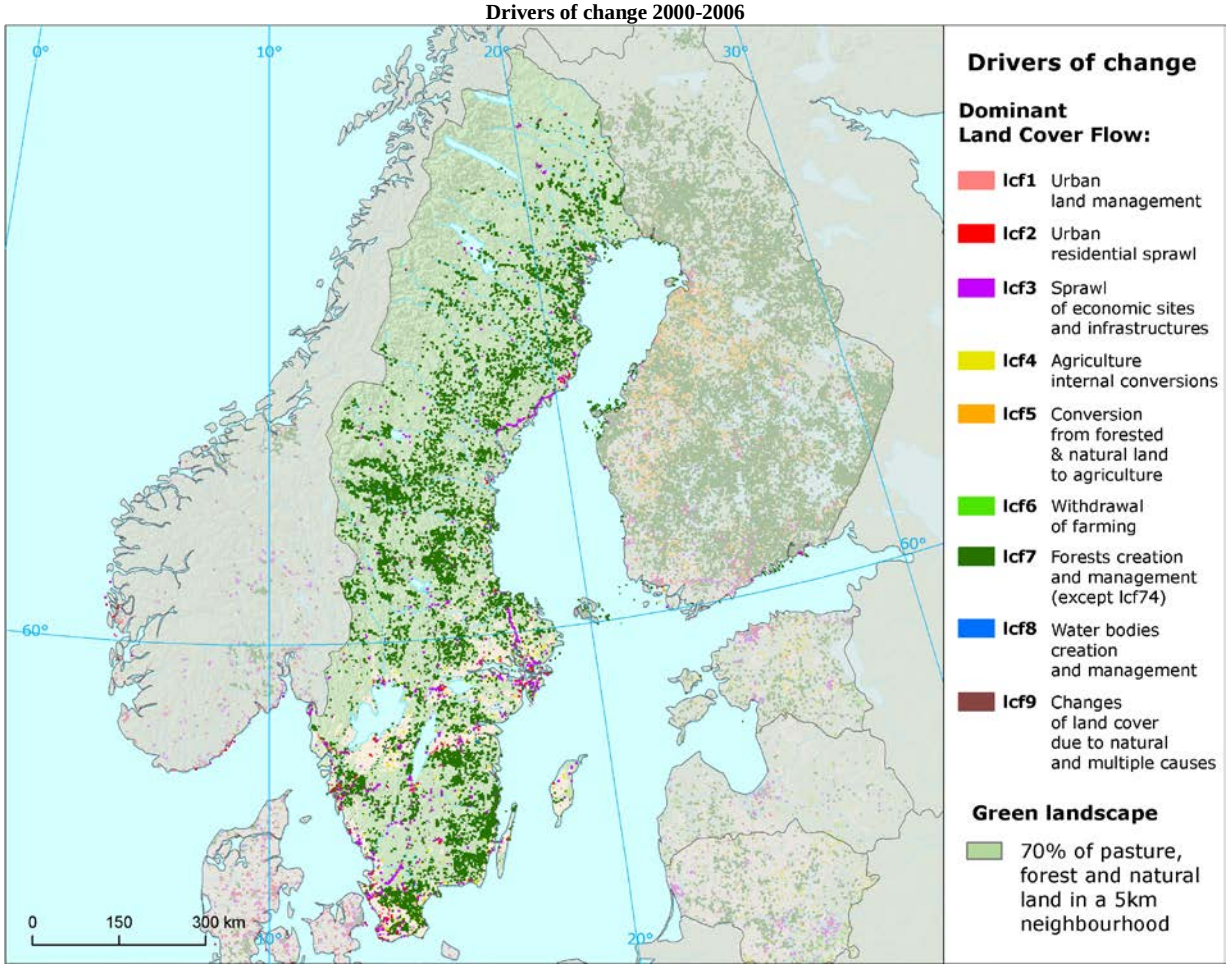


Sweden

Drivers of change 2006-2012

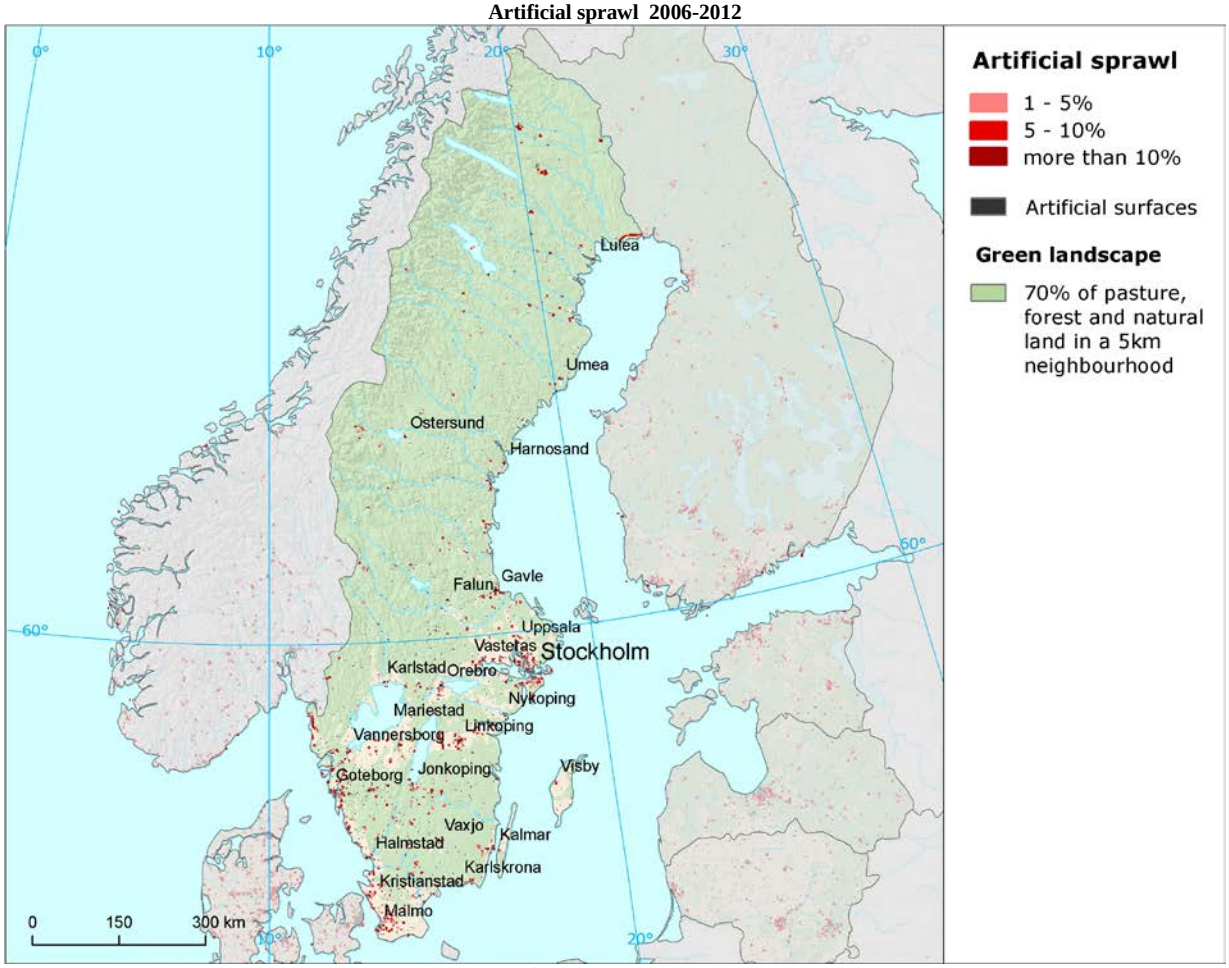


Drivers of change 2000-2006

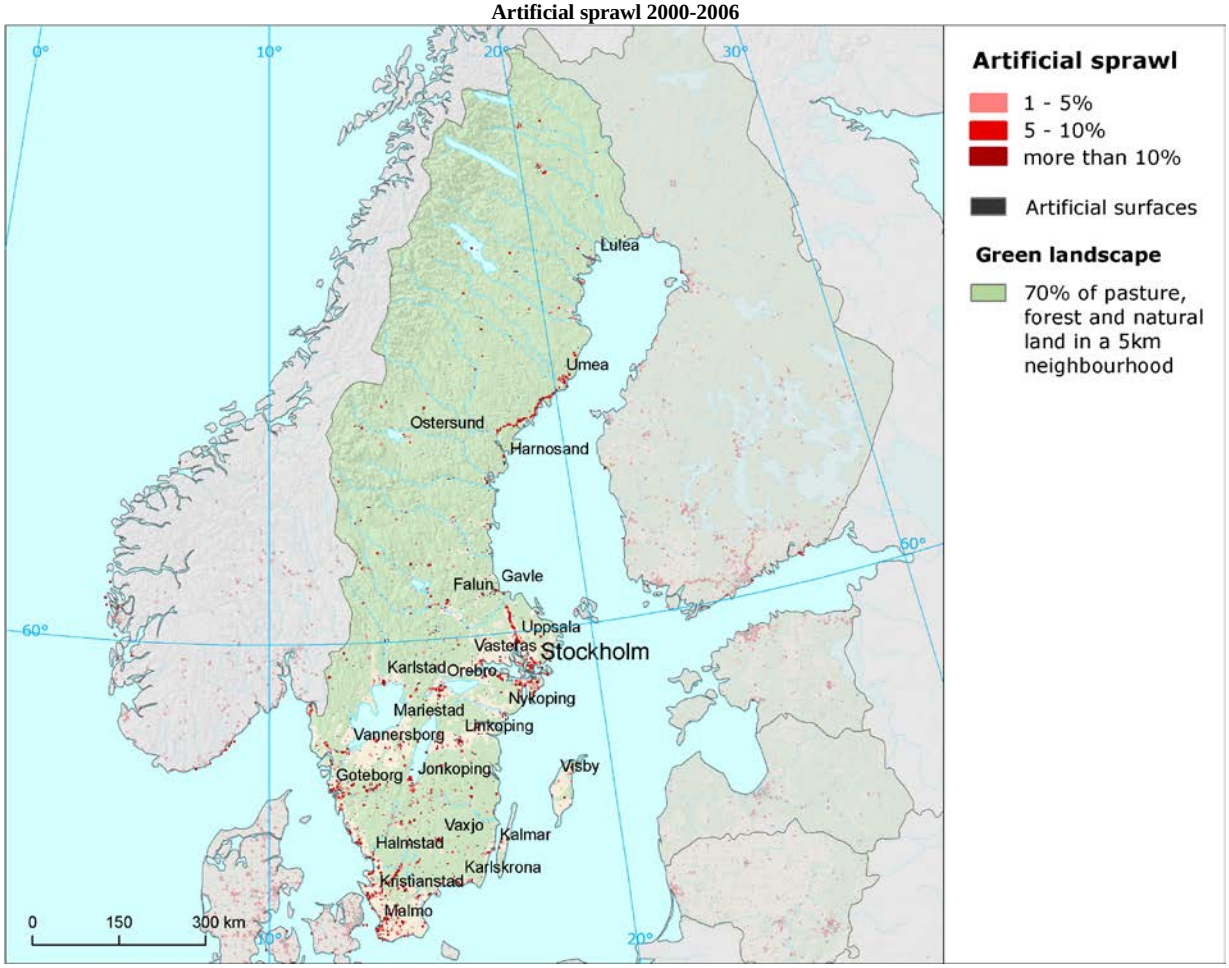


Sweden

Artificial sprawl 2006-2012

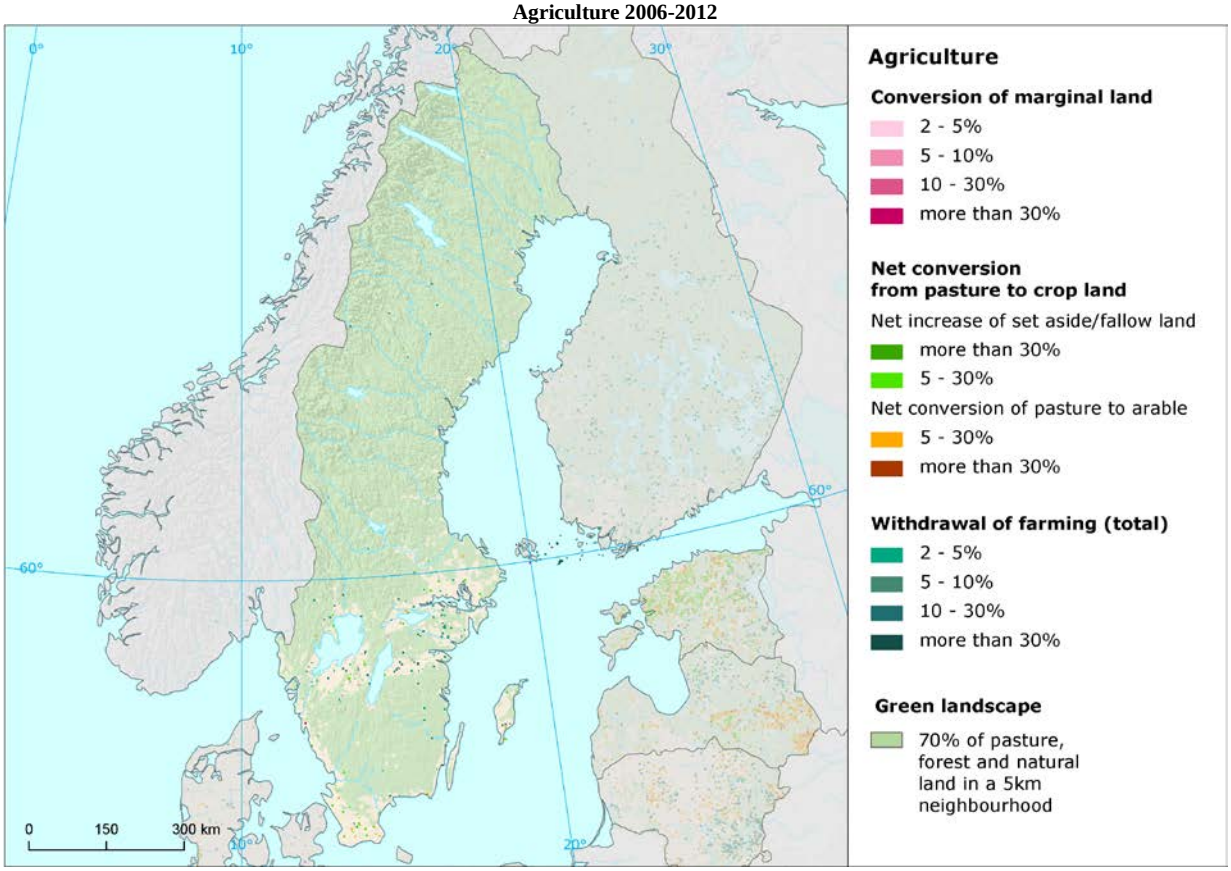


Artificial sprawl 2000-2006

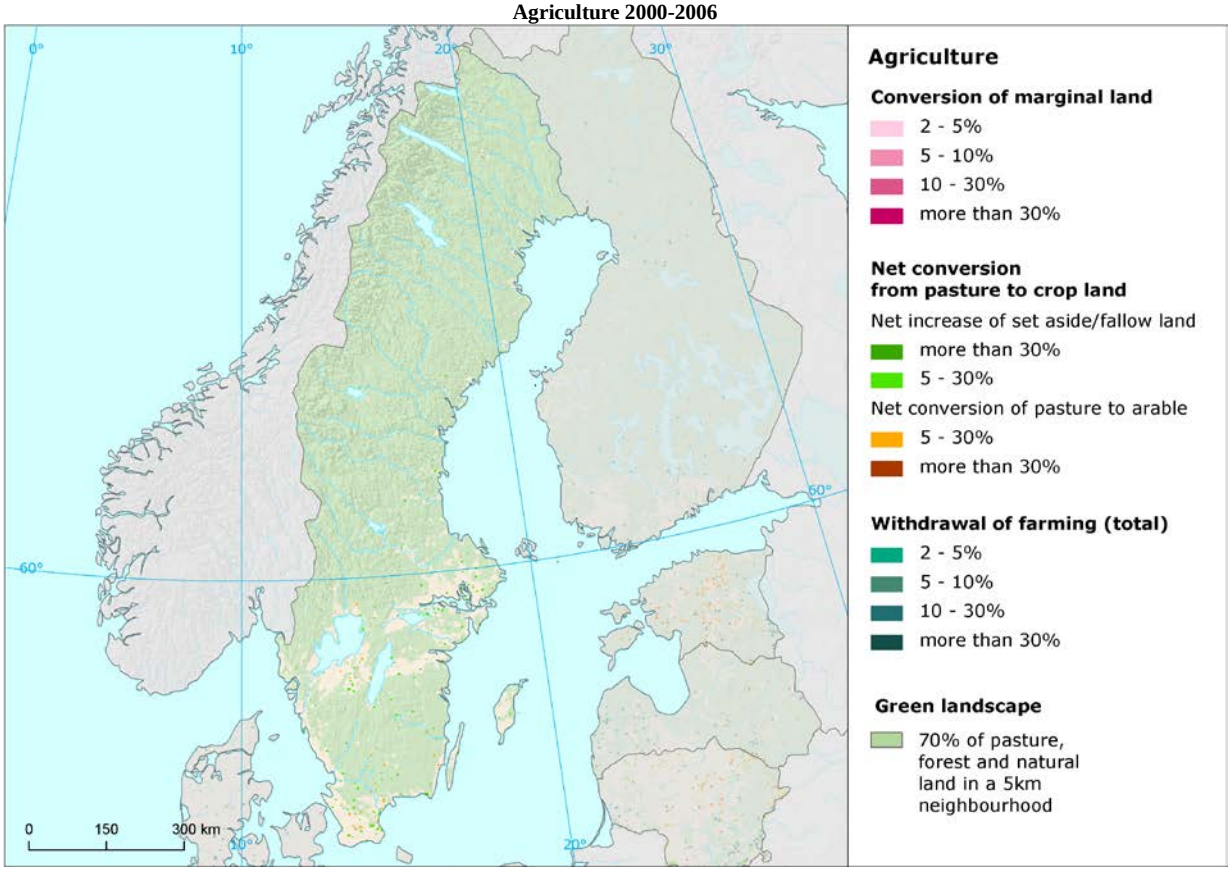


Sweden

Agriculture 2006-2012

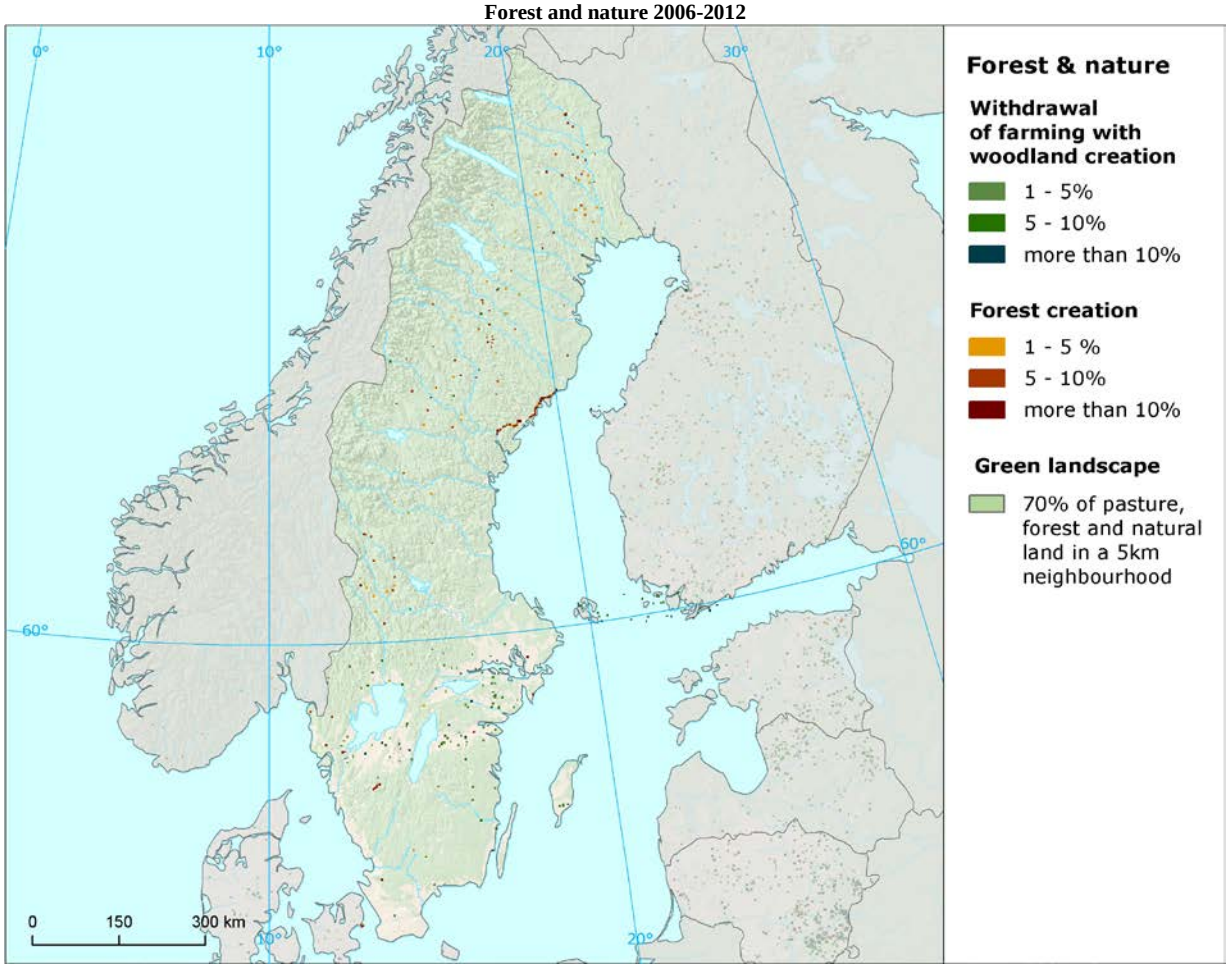


Agriculture 2000-2006



Sweden

Forest and nature 2006-2012



Forest and nature 2000-2006