

Land cover 2012



Norway 
September 2017

Photo: © Toni García, My City/EEA

Land cover 2012

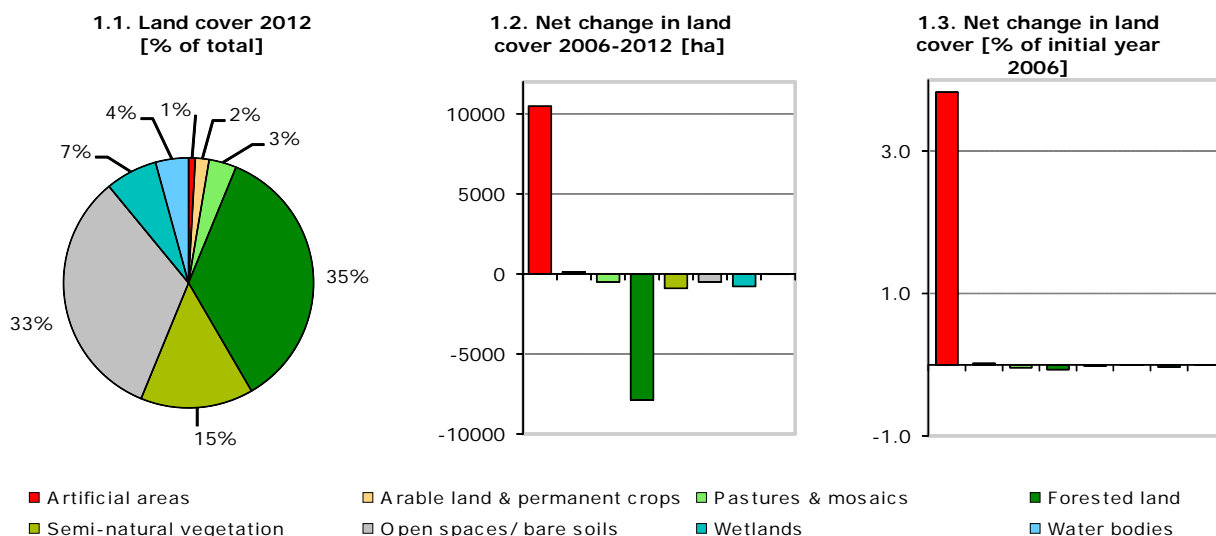
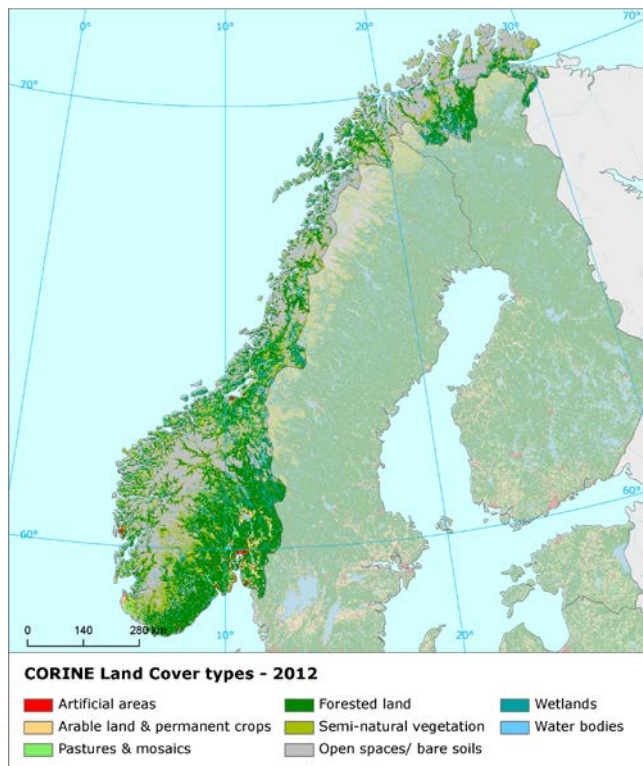
Overview of land cover & change 2006-2012

The Norwegian landscape is characterized by very low intensity of development, which is documented by one of the lowest annual land cover change rates (0.09% of total area), compared to other countries in Europe. This slow pace of land cover exchange was observed already during the previous period and also the internal structure of the land cover development shows similar pattern, compared to the period 2000-2006.

The land cover change in the country is driven by, almost exclusively, the internal forest conversions and by artificial land take. While the mean annual rate of internal forest changes is a bit lower, compared to the previous period, the intensity of the artificial sprawl is identical as in the 2000-2006 period. With 0.65% of the initial area, the annual land take rate is one of the highest, considering the situation in other European countries. The sprawl is driven mainly by the development of sport and leisure facilities and by residential development. Considering the structure of the landscape, it is not surprising, that this artificial development is concentrated in the southern part of the country and it consumes mostly forested land.

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 Norway: 6

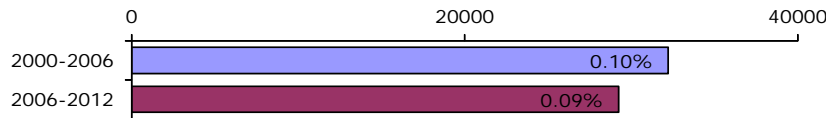


Summary balance table 2006-2012

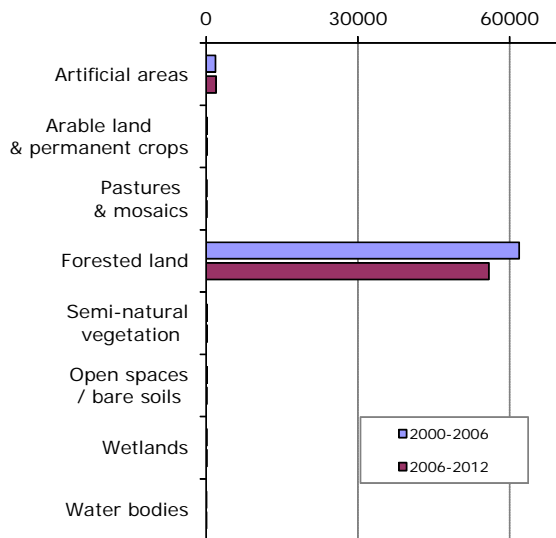
	Artificial areas	Arable land & permanent crops	Pastures & mosaics	Forested land	Semi-natural vegetation	Open spaces/ bare soils	Wetlands	Water bodies	TOTAL [hundreds ha]
Land cover 2006	2736	5757	11522	114801	47319	106415	21743	13802	324096
Consumption of initial LC	6.0	5.5	5.5	1715.9	9.0	5.1	7.8	0.1	1755
Formation of new LC	110.7	6.7	0.4	1637.0	0.0	0.1	0.0	0.0	1755
Net Formation of LC	104.7	1.1	-5.1	-78.9	-9.0	-5.0	-7.8	-0.1	0
Net formation as % of initial year	3.8	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	
Total turnover of LC	116.7	12.2	5.9	3352.9	9.0	5.3	7.8	0.1	3510
Total turnover as % of initial year	4.3	0.2	0.1	2.9	0.0	0.0	0.0	0.0	1.1
Land cover 2012	2841	5758	11516	114722	47310	106410	21736	13802	324096

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

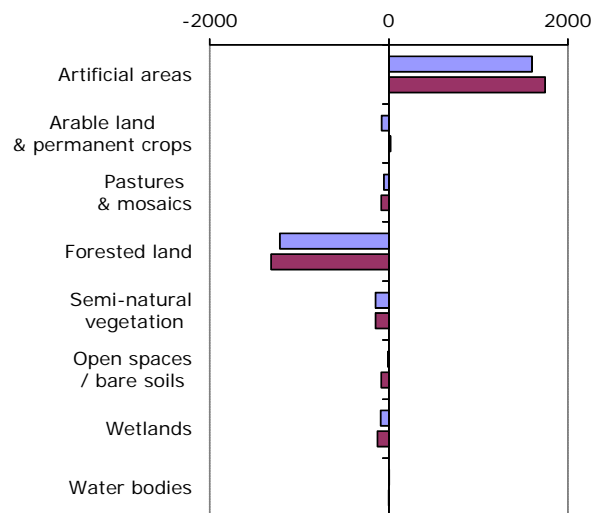
2.4. Annual land cover change
[ha/year, % of total area]



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

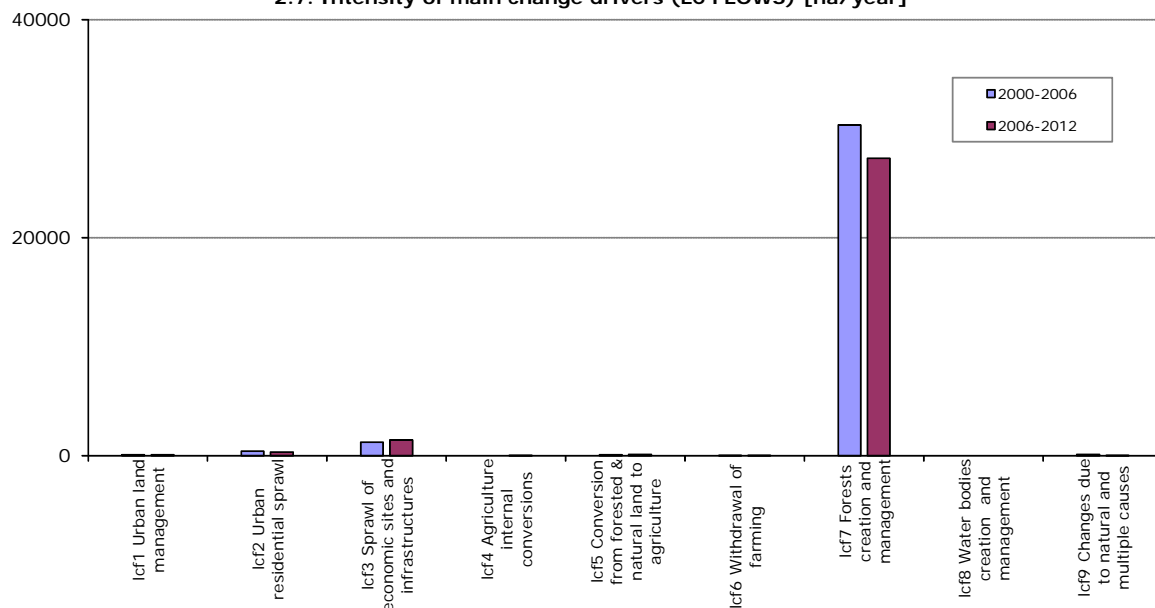


2.6. Net annual change of LC types [ha/year]



Summary trend figures		2000-2006	2006-2012
Annual land cover change [ha/year]		32223	29248
Annual land cover change as % of initial year		0.10%	0.09%
Land uptake by artificial development as mean annual change [ha/year]		1607	1751
Agricultural land uptake by urban and infrastructures development as mean annual change [ha/year]		216	175
Net uptake of forests and semi-natural land by agriculture as mean annual change [ha/year]		74	109
Net conversion from pasture to arable land and permanent crops as mean annual change [ha/year]		0	1
Forest & other woodland net formation as mean annual change [ha/year]		-1219	-1314
Dry semi-natural land cover net formation as mean annual change [ha/year]		-157	-233
Wetlands & water bodies net formation as mean annual change [ha/year]		-90	-131

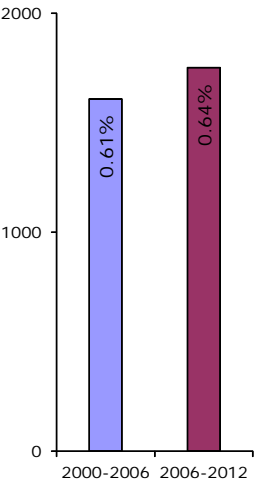
2.7. Intensity of main change drivers (LC FLOWS) [ha/year]



Artificial surfaces sprawl (2006-2012)



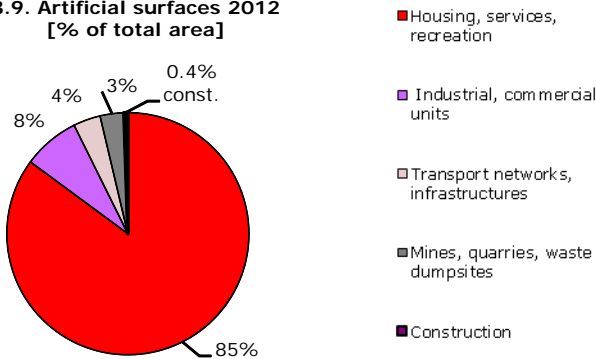
3.8. Artificial land take [ha/year, % of initial year]



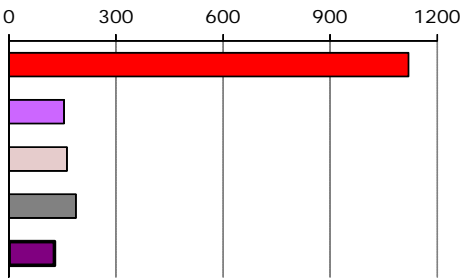
Sprawl of sport and leisure facilities continues

The Norwegian artificial land take rate belongs to the highest among European countries. The intensity of the sprawl as well as its structure is comparable with the previous period. The main drivers of the artificial development are almost identical in both periods – the most intensive sprawl is the extension of the sport and leisure facilities, followed by the diffuse residential sprawl. The intensity of the first one is a bit higher and of the second one a bit lower than in the period 2000-2006. The other significant sprawl types in the country are the sprawl of mines and quarrying areas, industrial and commercial sites, construction and also the extension of transport network, which was insignificant during the previous period. Geographically, the artificial development is scattered over the southern part of the country, which is a similar pattern as in the 2000-2006 period. Former forested land is the main surface type consumed by artificial land take.

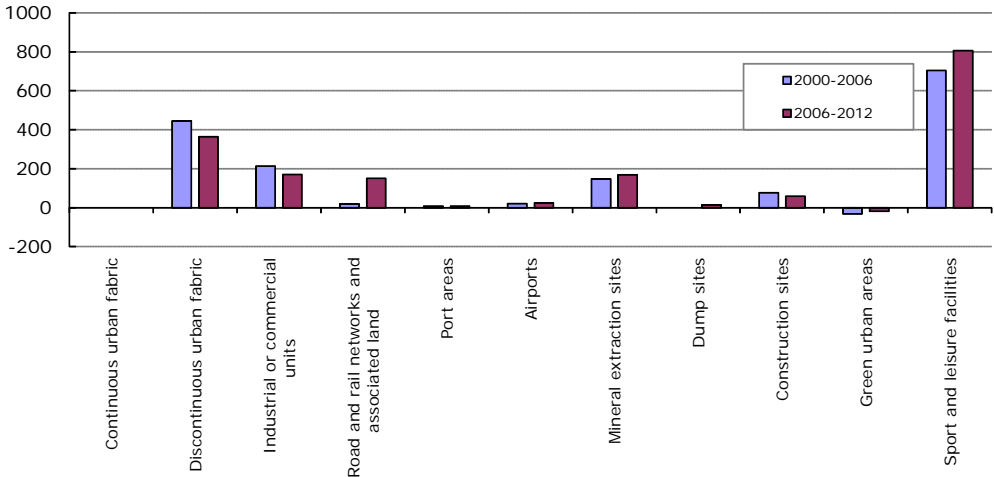
3.9. Artificial surfaces 2012 [% of total area]



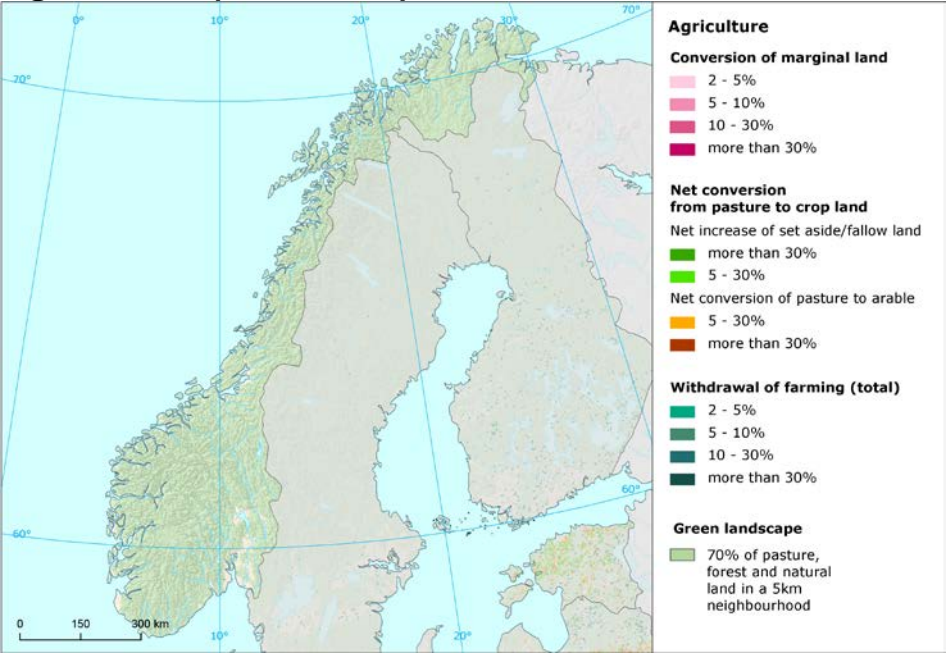
3.10. Artificial land take 2006-2012 [ha/year]



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



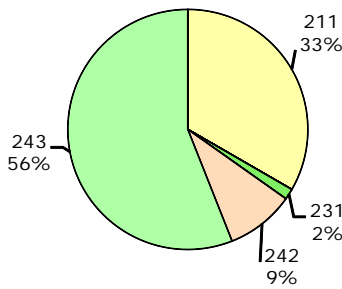
Agriculture (2006-2012)



Low intensity of agricultural development

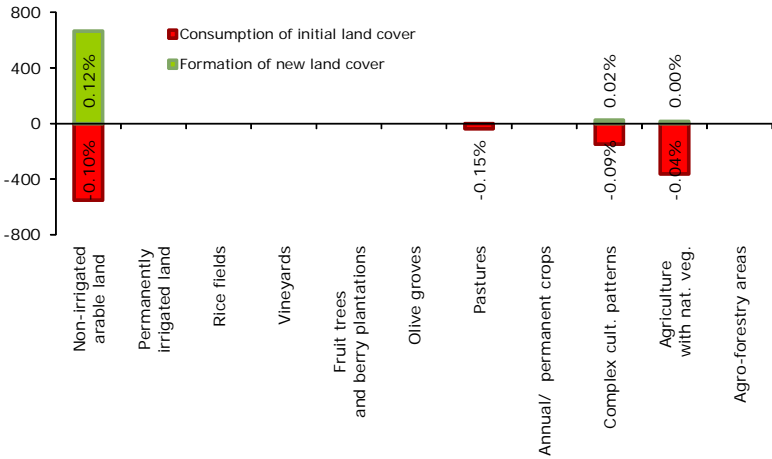
With a very low share of agricultural land (only 5% of total area), Norway is a country with only limited agricultural development. The intensity of the internal development of agricultural land in Norway is negligible and the exchange of agricultural land is realized almost exclusively via external conversions between agriculture and other land cover types. The intensive conversion from forested land to agriculture is the main source of agricultural land formation. This flow, which was insignificant in the previous period, is represented mostly by the transition from coniferous forest to arable land. In the opposite flow, agricultural land is consumed by the extension of residential fabric, transportation network and also commercial or industrial areas. The structure of this consumption shows that mainly arable land (50%) and agriculture with natural vegetation (34%) are consumed by artificial land take.

4.12. Agricultural areas 2012 [% of total area]

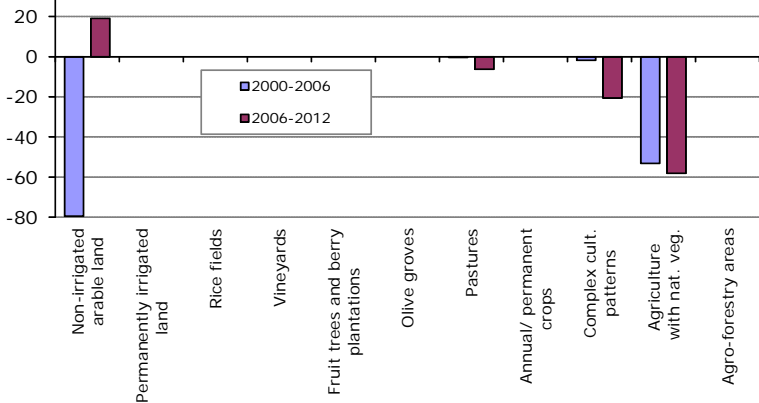


- 211 Non-irrigated arable land
- 212 Permanently irrigated land
- 213 Rice fields
- 221 Vineyards
- 222 Fruit trees and berry plantations
- 223 Olive groves
- 231 Pastures
- 241 Annual crops associated with permanent crops
- 242 Complex cultivation patterns
- 243 Agriculture land with significant areas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

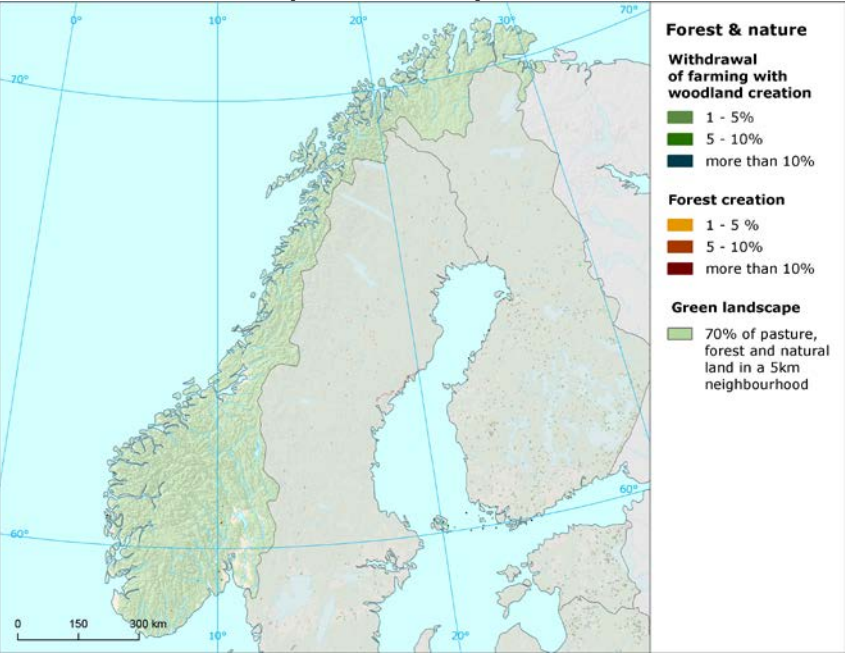
4.13. Development of agricultural areas 2006-2012 – detailed balance [ha]



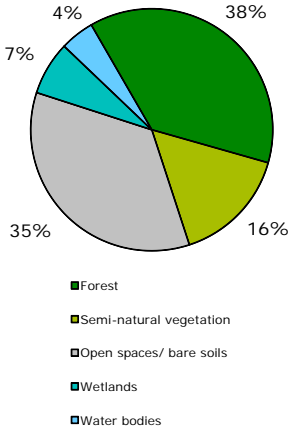
4.14. Mean annual agricultural change by class [ha/year]



Forest & nature (2006-2012)



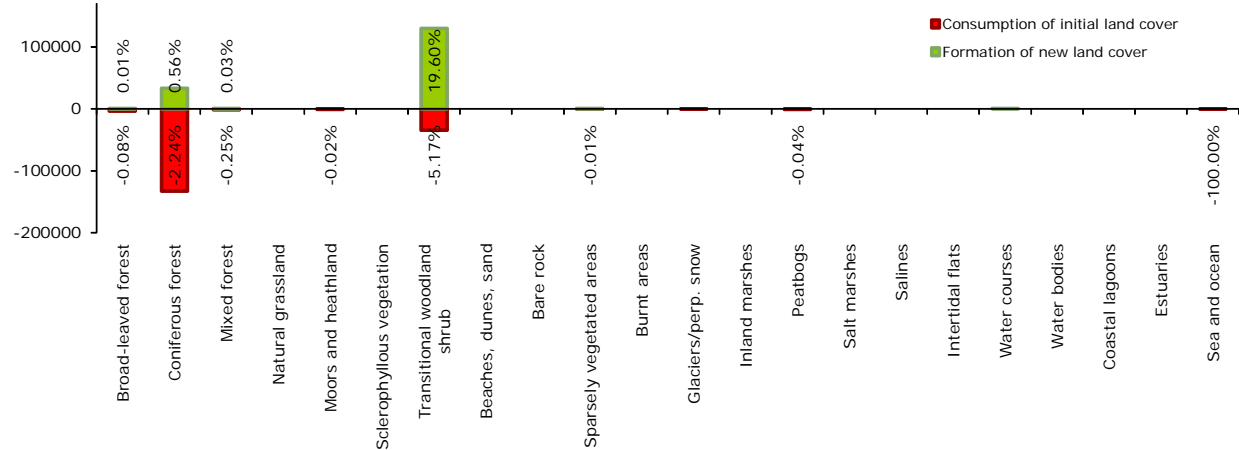
5.15. Forest & nature areas 2012 [% of total area]



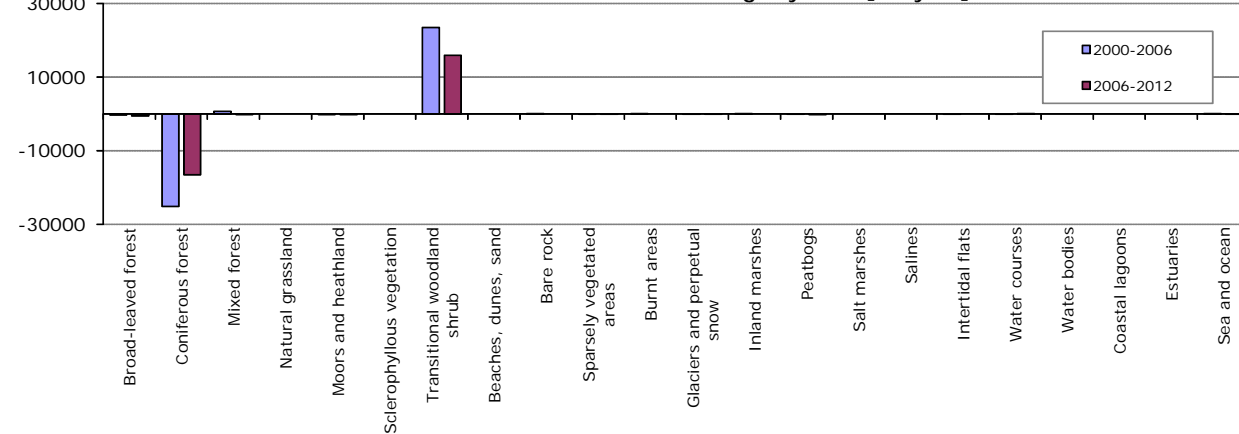
Slight slowdown of forest conversions

The forest creation and management is the main driver of the landscape development in Norway. The recent felling and transition is much more frequent than the opposite conversion from the transitional woodland to forest, which is the same situation as in the previous period. However, the intensity of recent felling decreased, in contrast to the conversion from transitional woodland to forest, which intensity is higher than in the period 2000-2006. Beside these internal flows, which occur with slightly lower intensity, compared to the period 2000-2006, the forested and natural land is also consumed by artificial land take, mostly by the creation of new sport and leisure sites. Mainly coniferous forest (52%) is consumed by the sprawl. The result of these flows is the negative net change balance of coniferous forest and positive balance of the transitional woodland and shrub, with prevailing formation (by circa 16% of the initial area, which is significantly lower compared to the previous period with circa 27% formation).

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



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



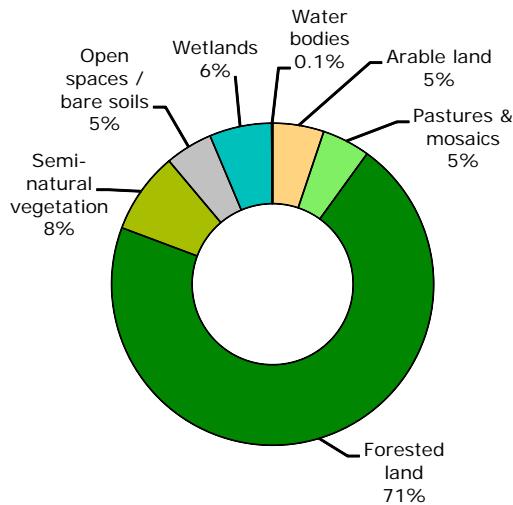
Annex: Land cover flows and trends

Land cover flows 2006-2012

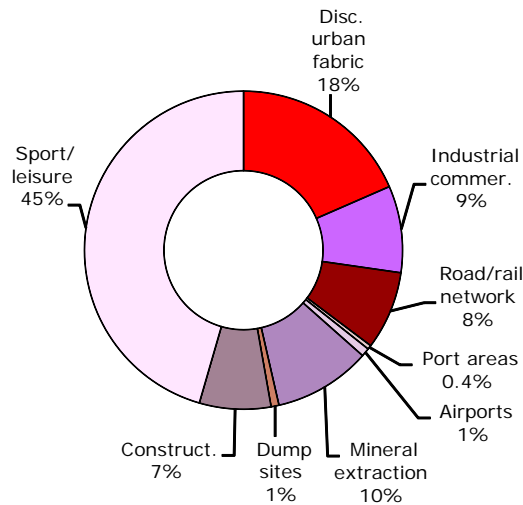


Artificial areas

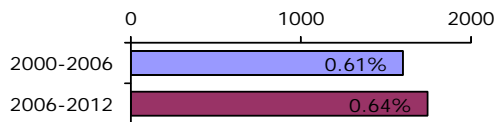
7.21. Consumption by artificial land take
2006-2012 [% of total]



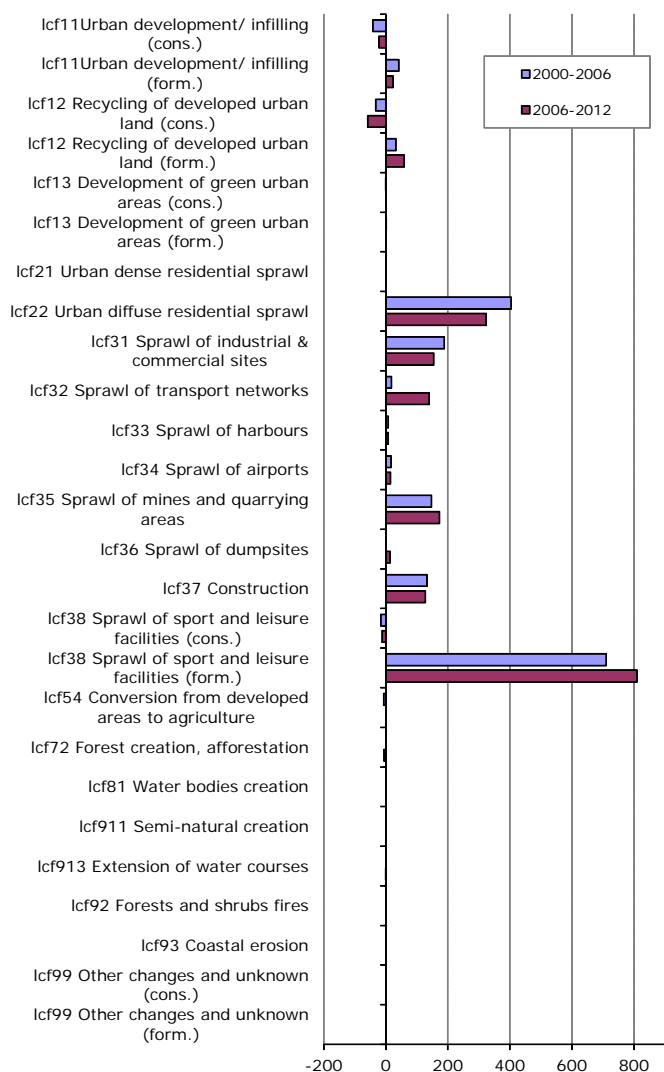
7.22. Formation by artificial land take
2006-2012 [% of total]



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

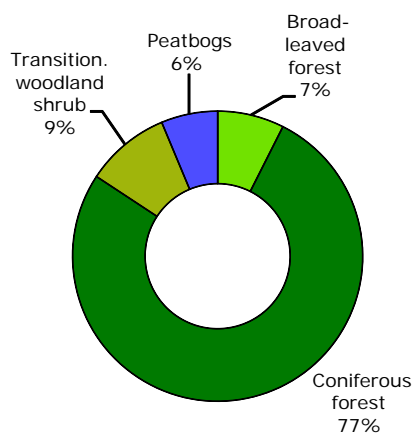


7.24. Artificial development by change drivers
(LC FLOWS) [ha/year]

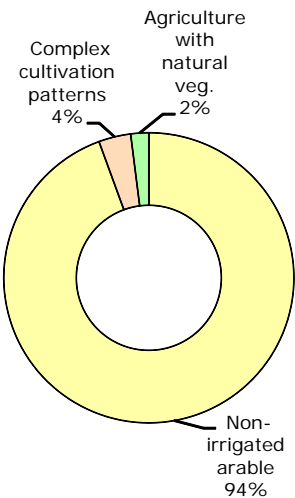


Agriculture

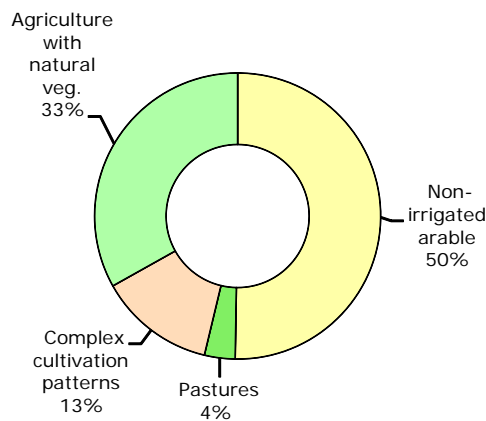
8.25. LC consumed by agriculture 2006-2012 [% of total]



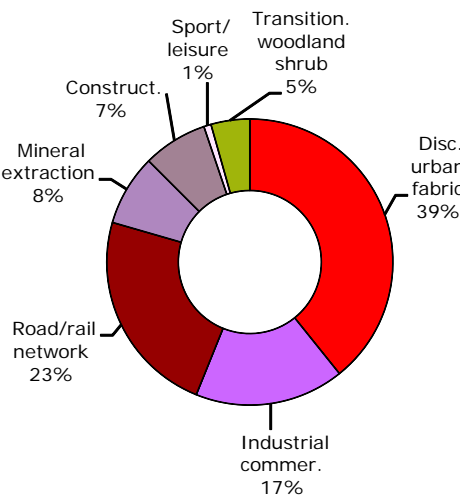
8.26. Formation of agricultural land from non-agriculture 2006-2012 [% of total]



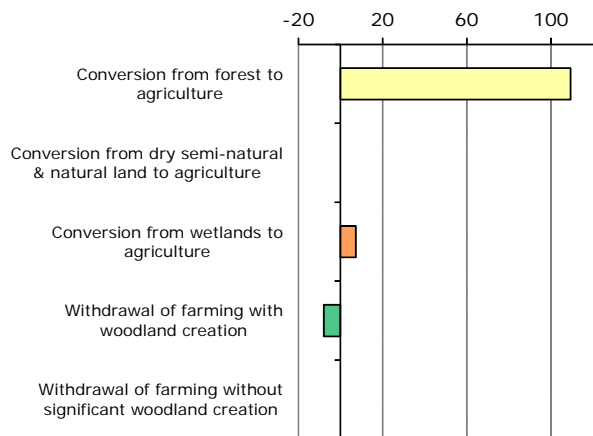
8.27. Consumption of agricultural land by non-agriculture 2006-2012 [% of total]



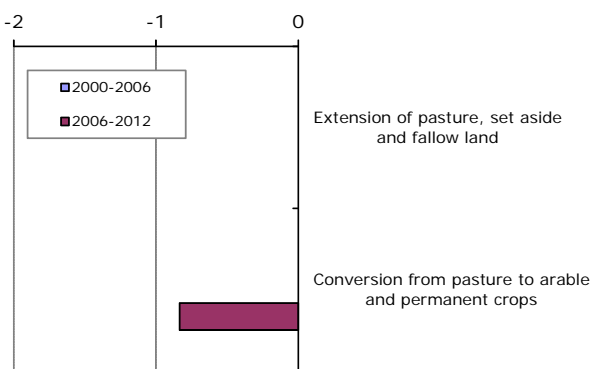
8.28. Formation of non-agricultural land from agriculture 2006-2012 [% of total]



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

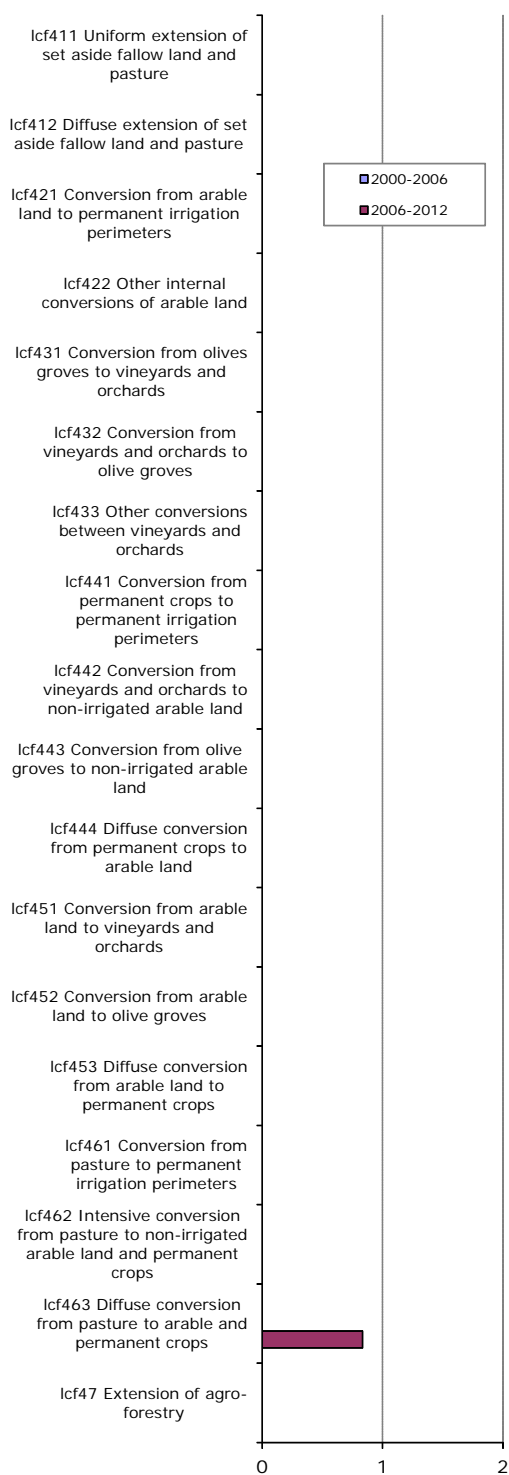


8.30. Mean annual conversion between arable land and pasture [ha/year]

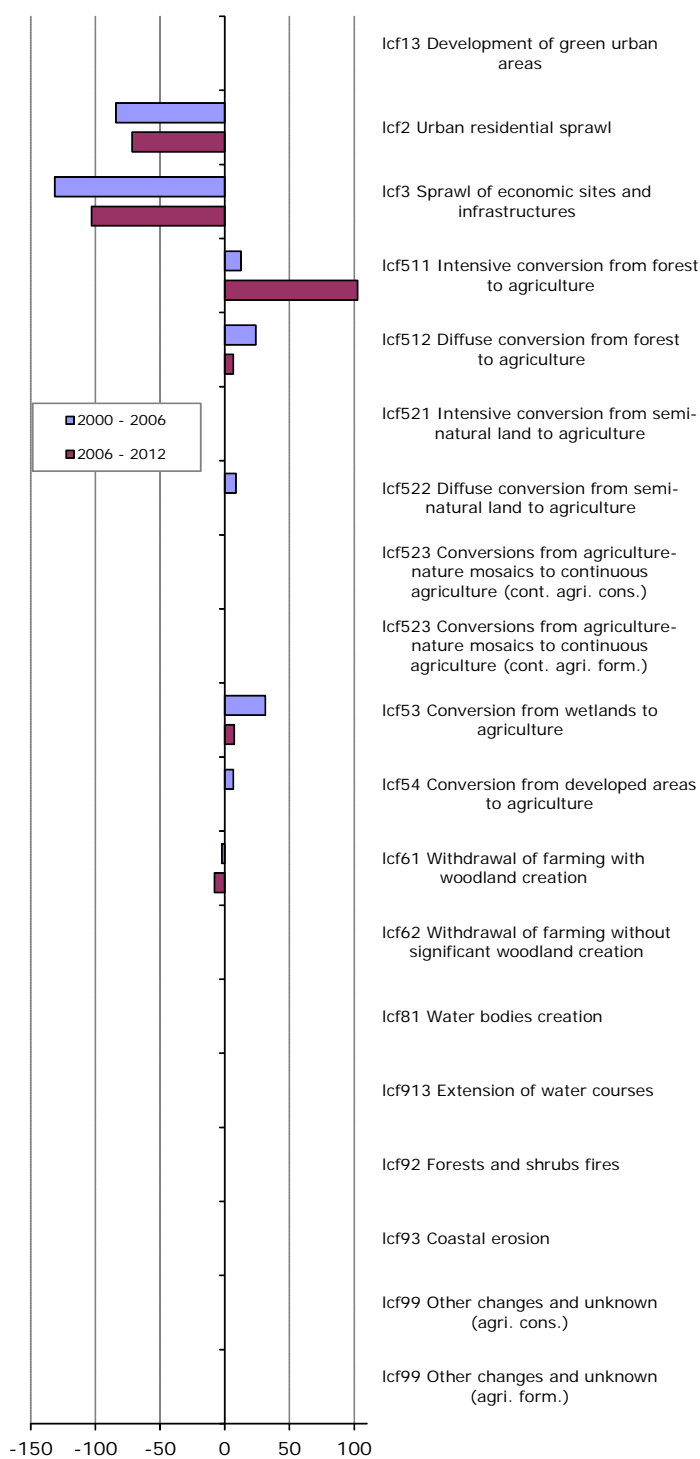


Norway

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

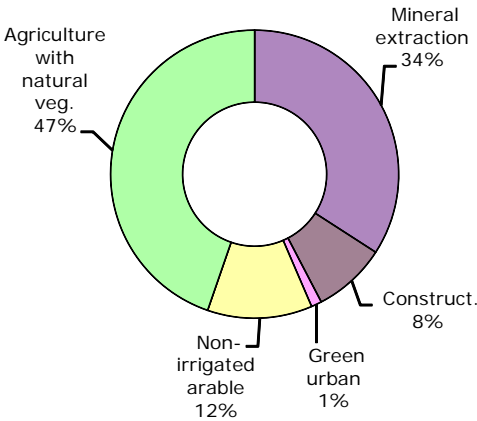


9.32. Mean annual conversions between agriculture and other LC types [ha/year]

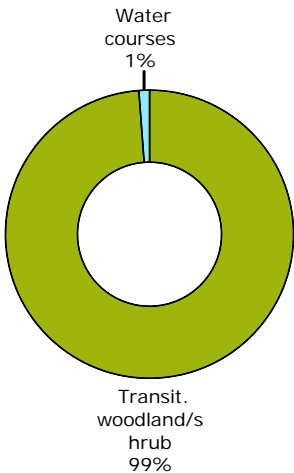


Forest & nature

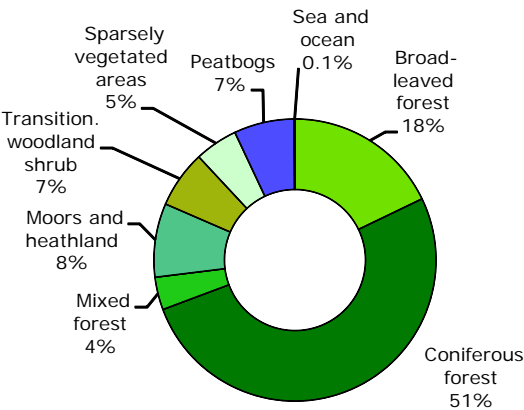
10.33. LC consumed by forest & nature
2006-2012 [% of total]



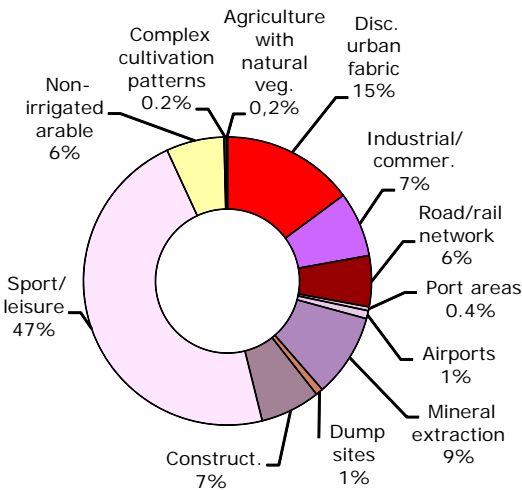
10.34. Formation of forest & nature land
from non-forest /nature 2006-2012
[% of total]



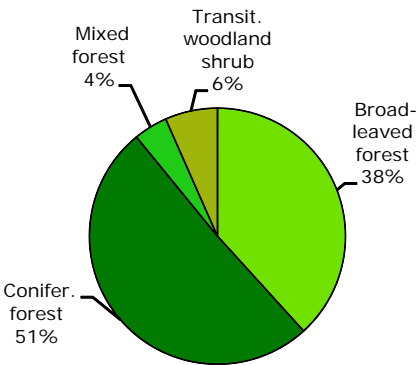
10.35. Consumption of forest & nature land
by non-forest/nature 2006-2012 [% of total]



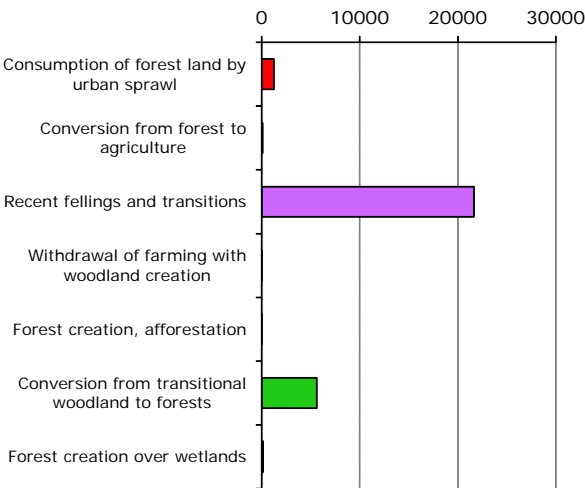
10.36. Formation of non-forest/nature land
from forest & nature 2006-2012 [% of total]



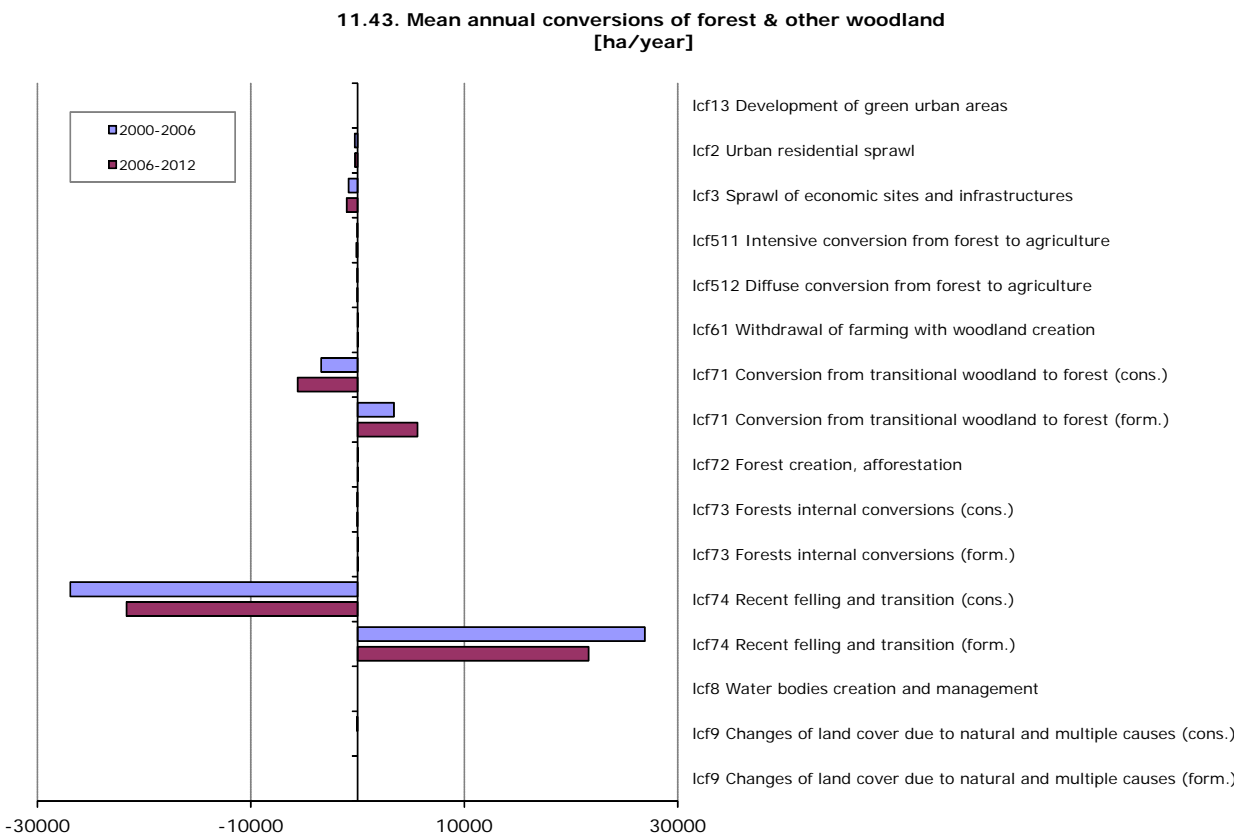
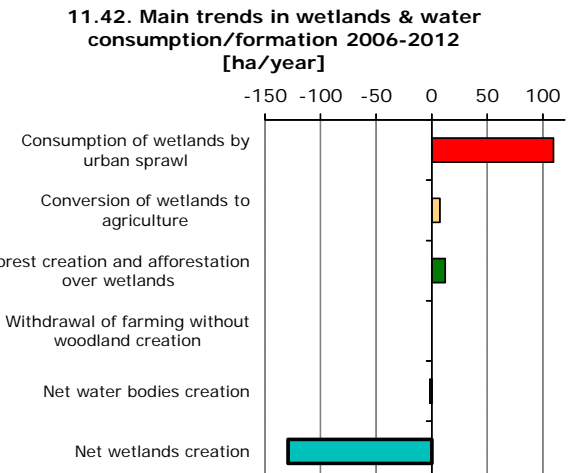
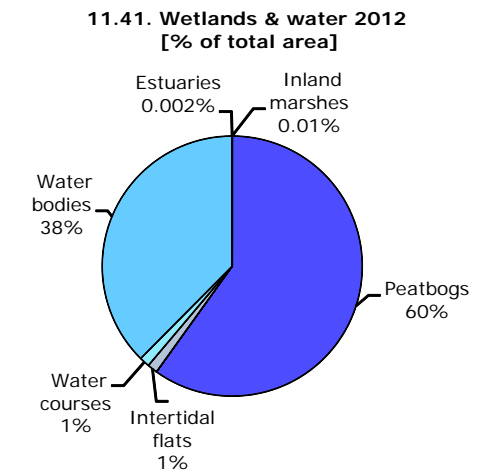
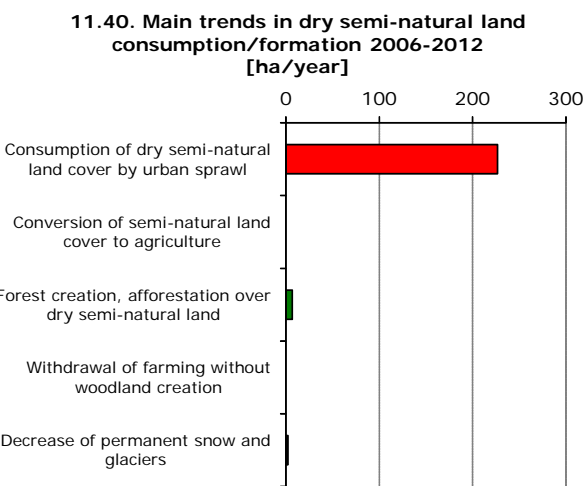
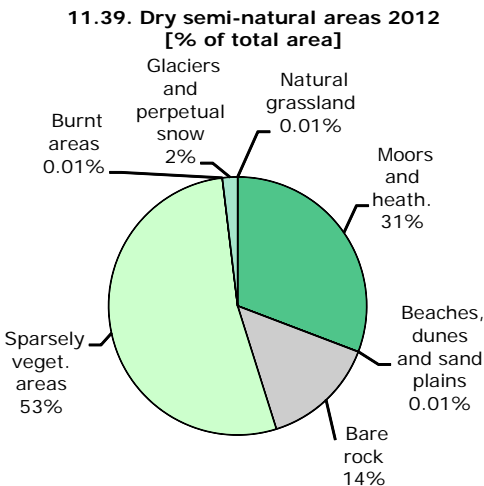
10.37. Forested land 2012
[% of total area]

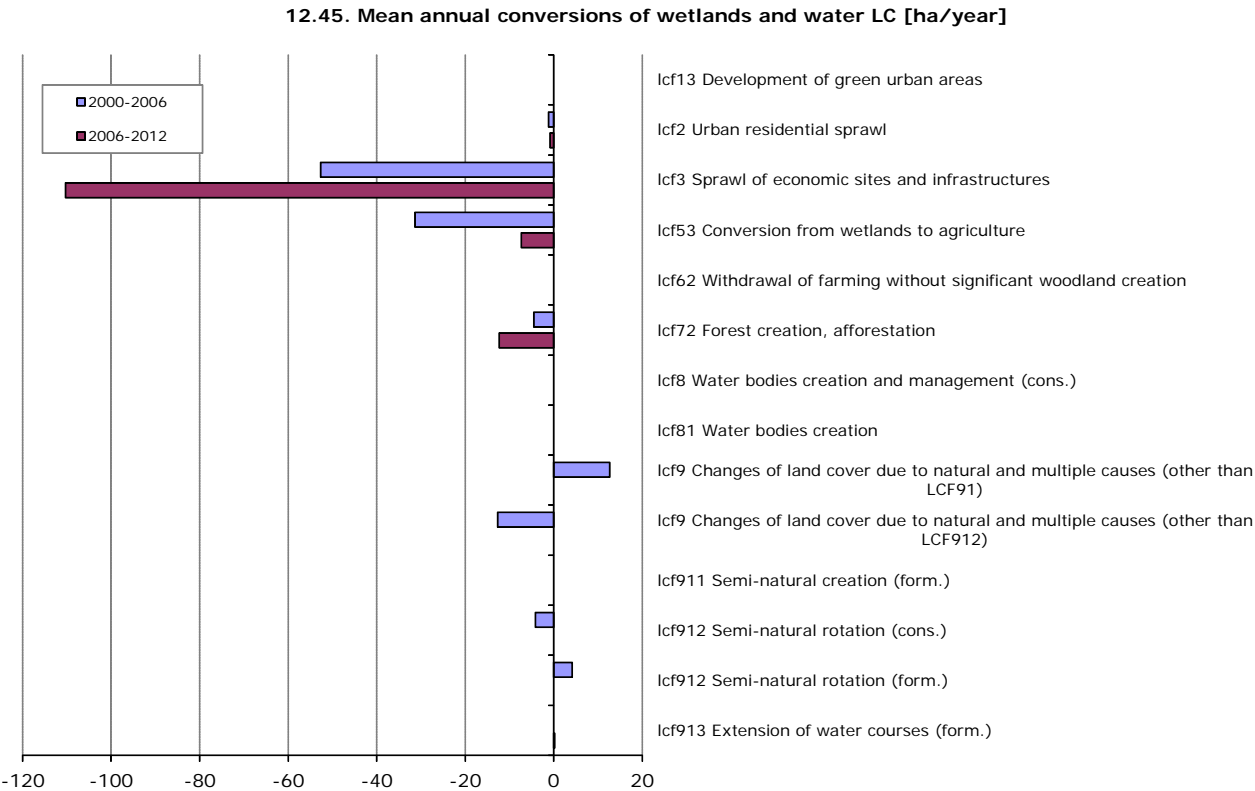
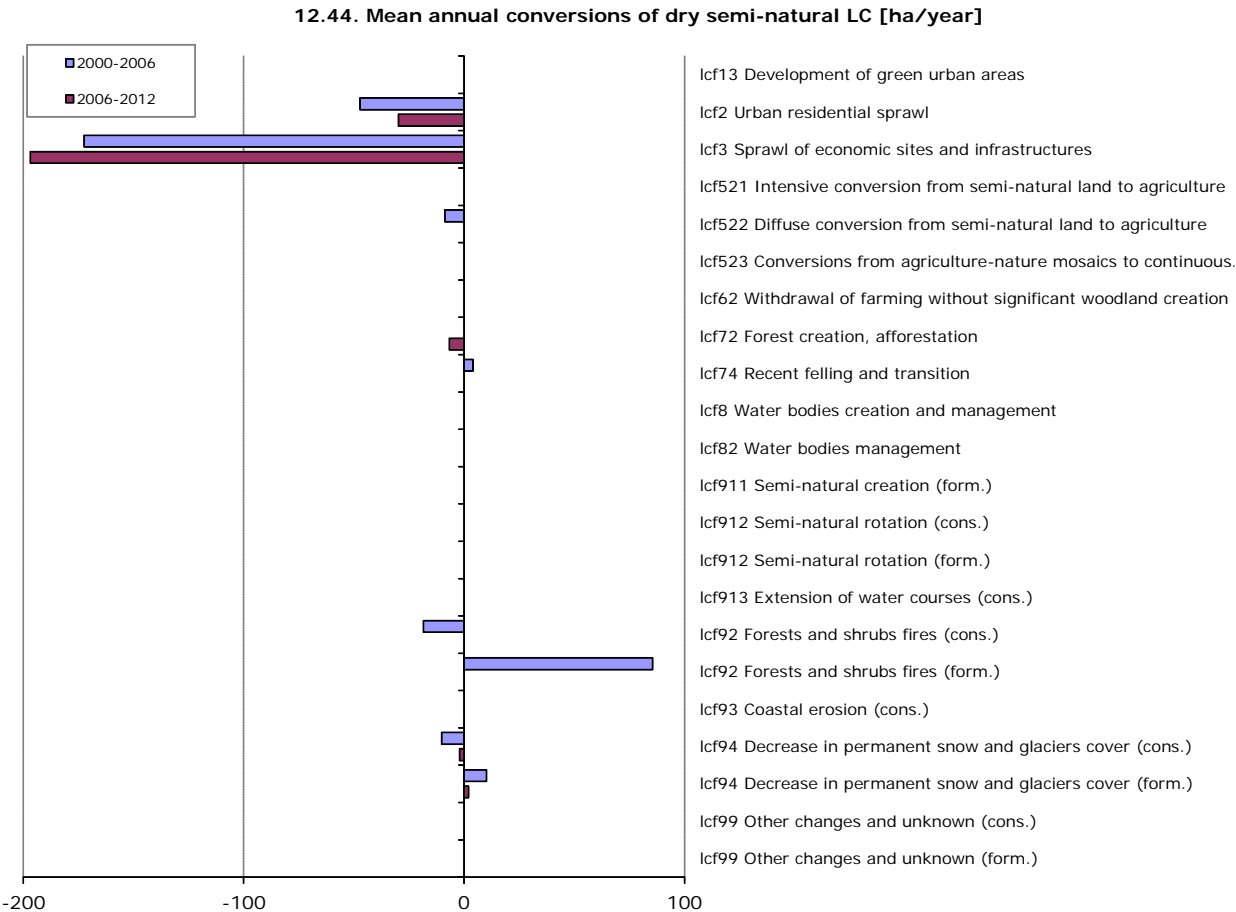


10.38. Main trends in woodland & forests
consumption/formation 2006-2012
[ha/year]

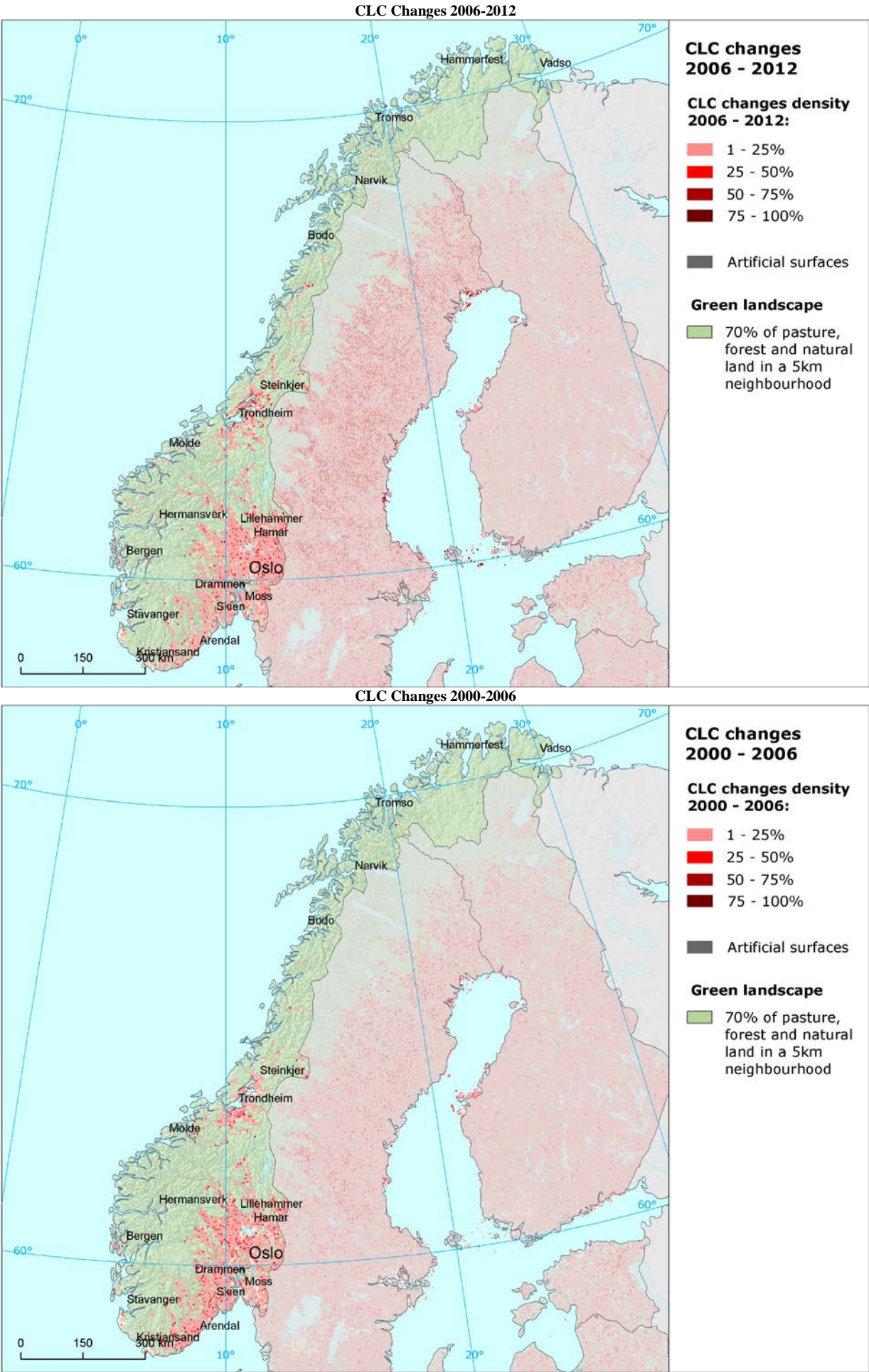


Norway

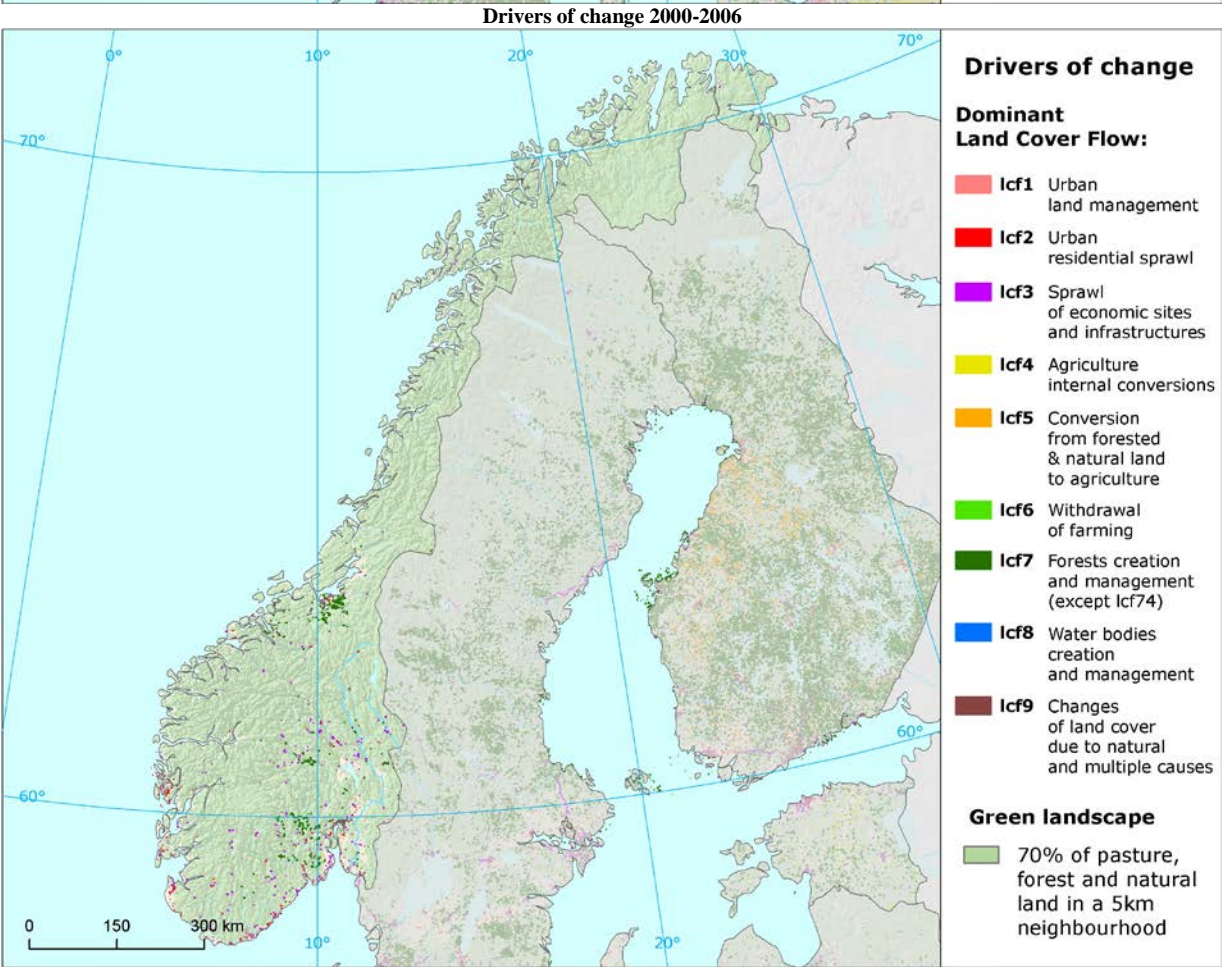
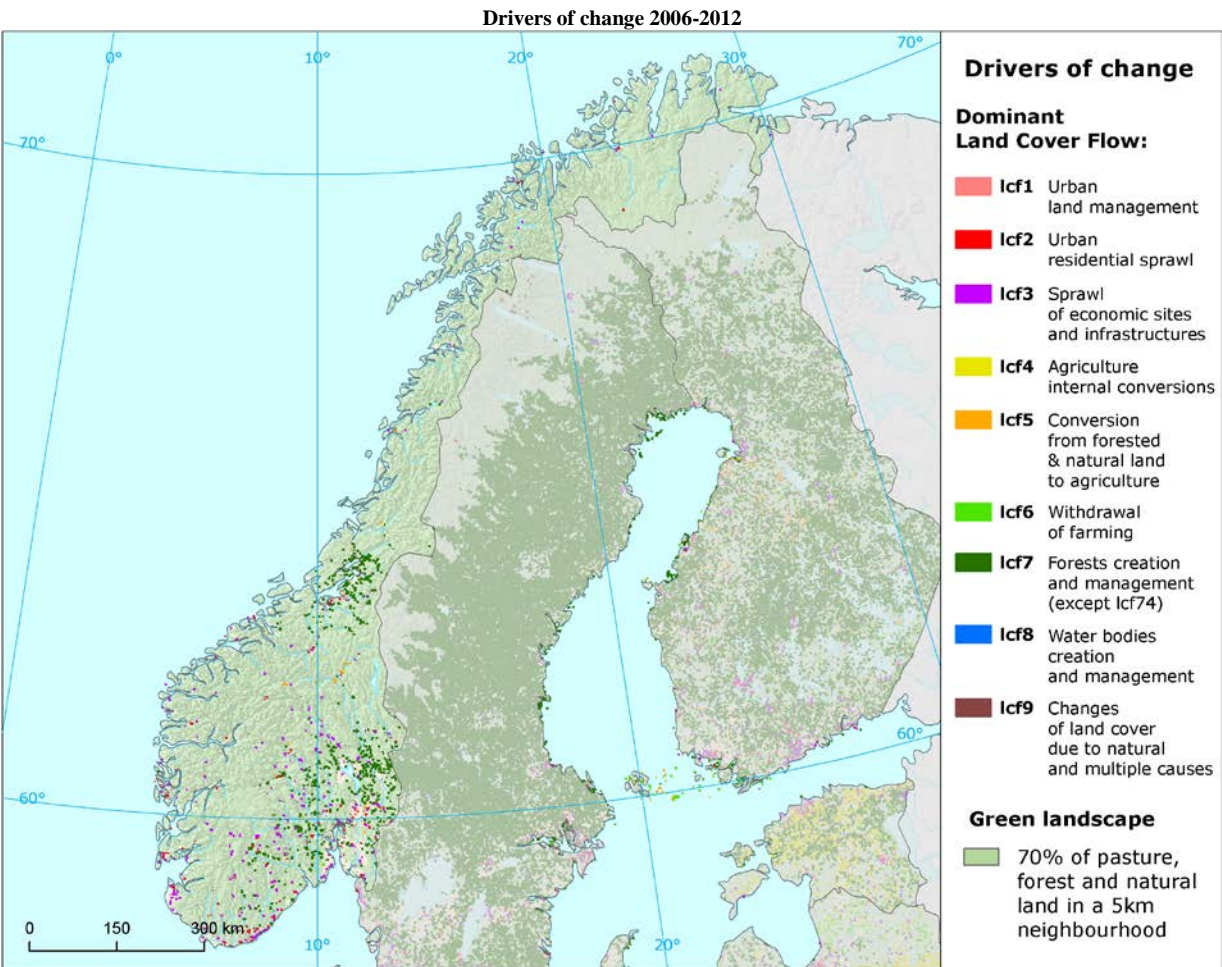




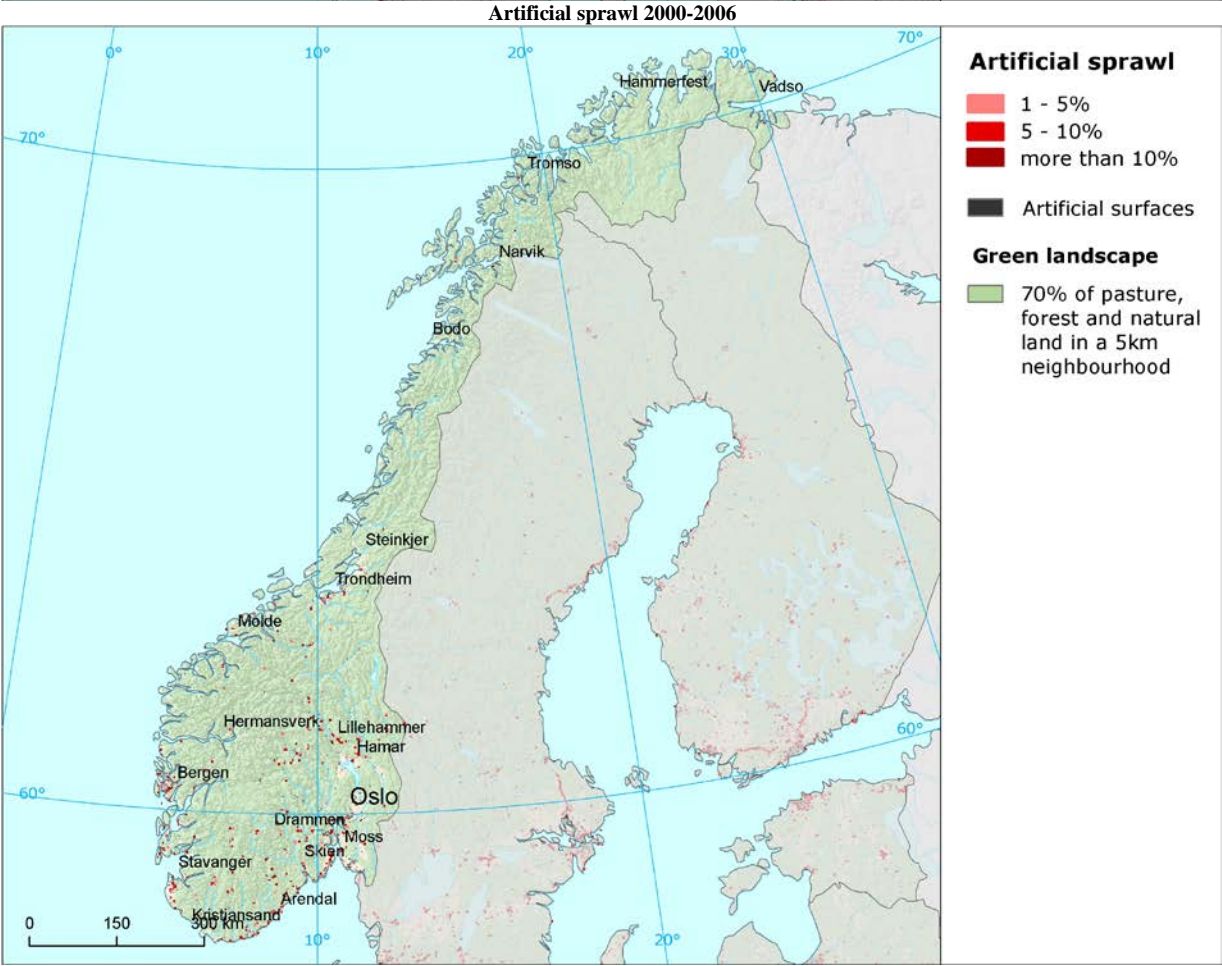
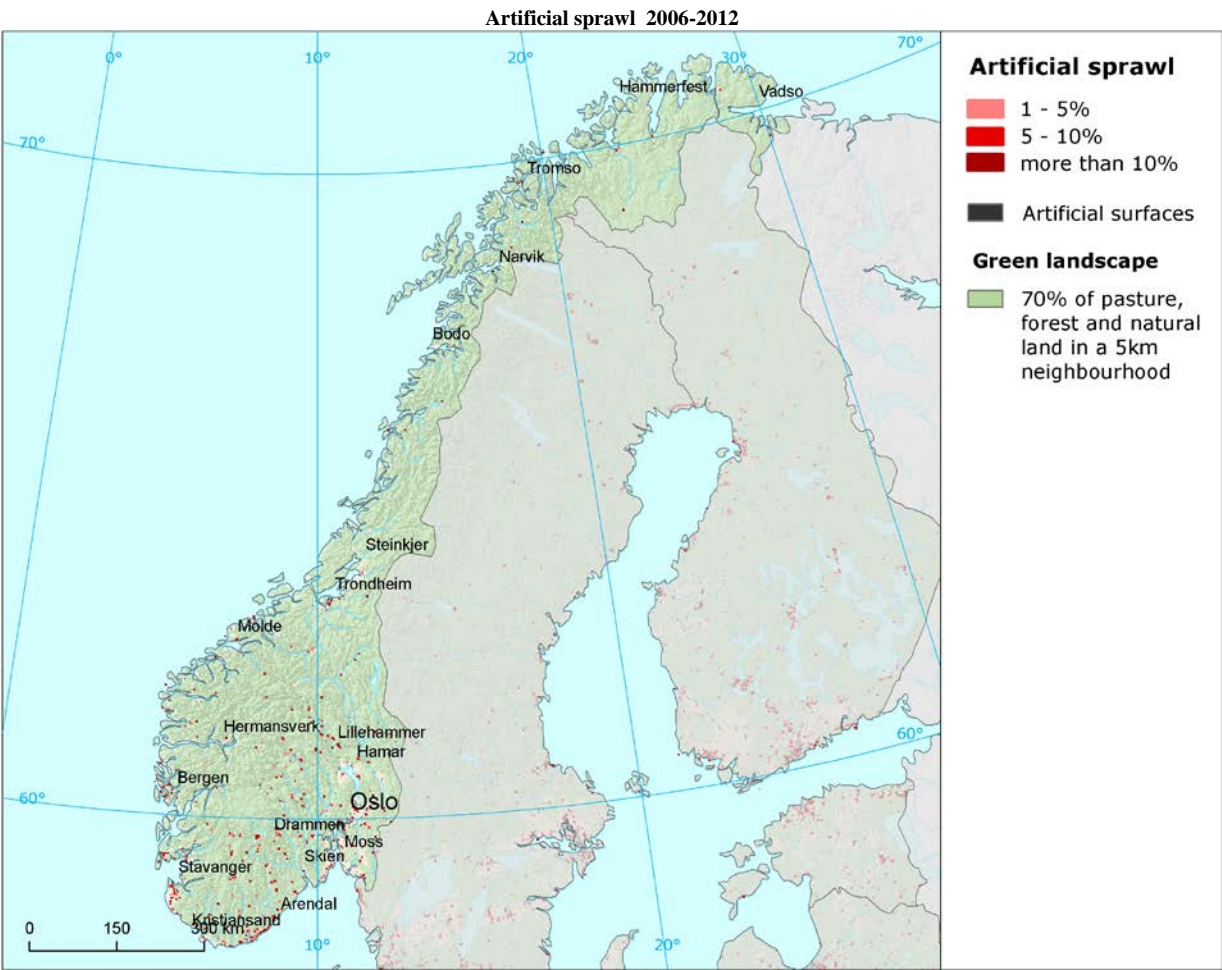
Norway



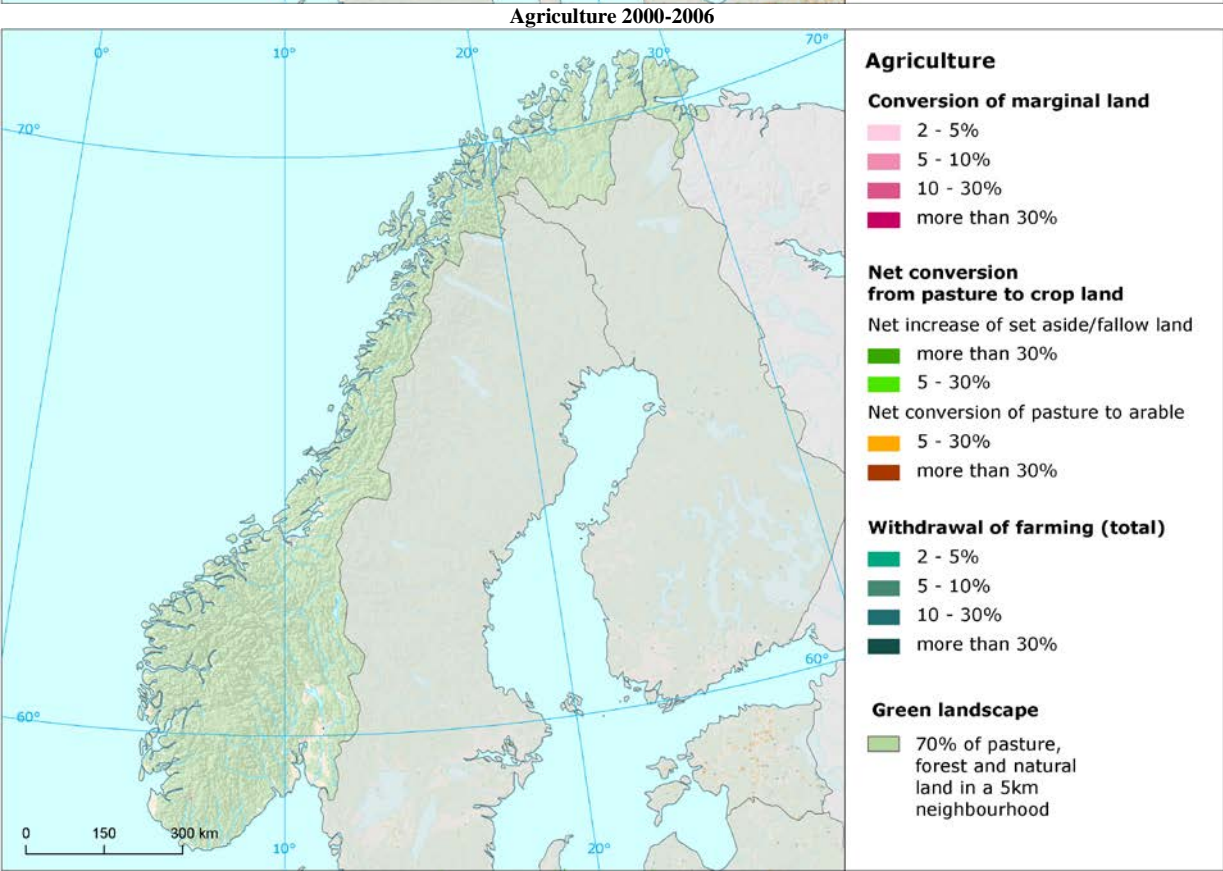
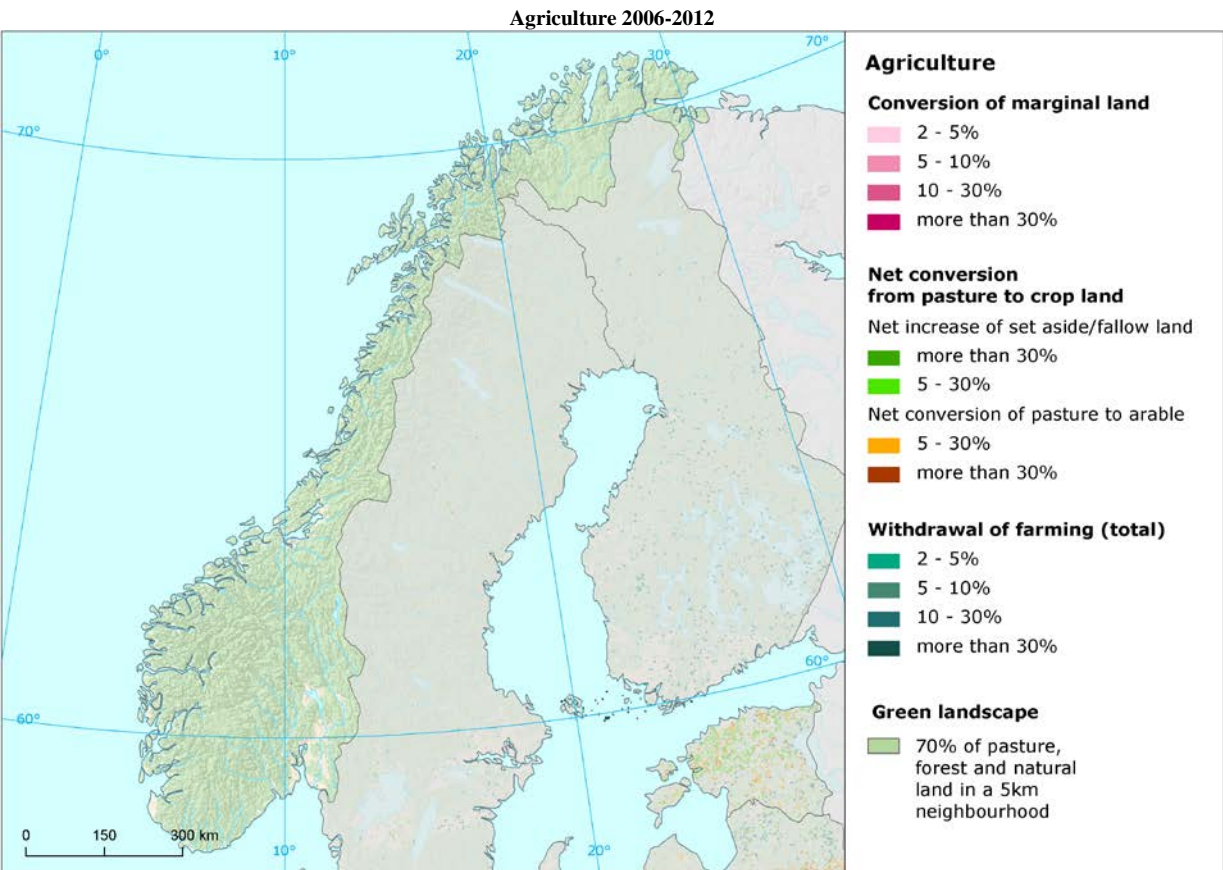
Norway



Norway



Norway



Norway

