

Turkey

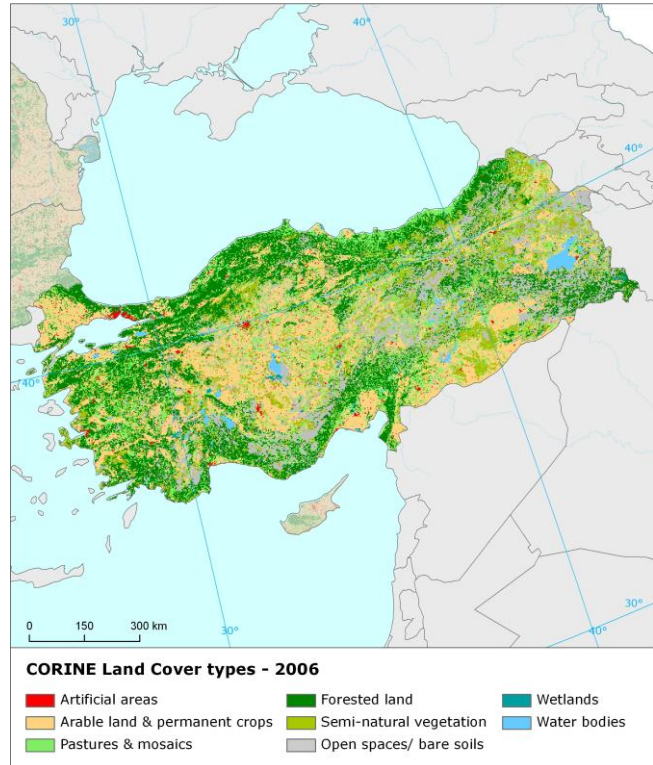
Land cover 2006

Overview of land cover & change 2000-2006

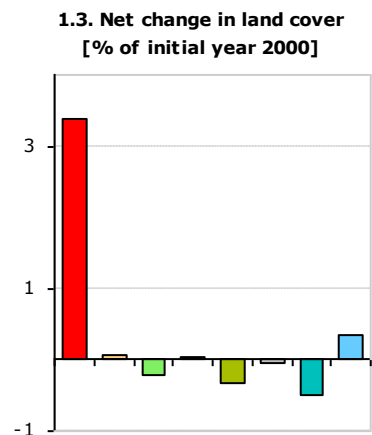
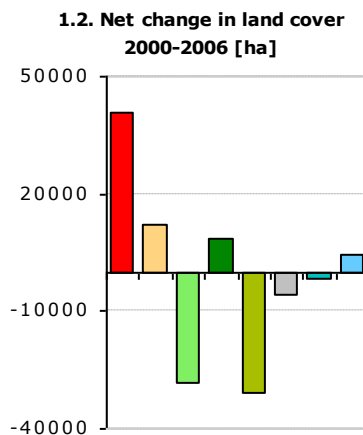
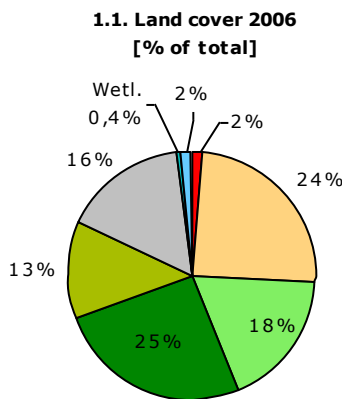
Landscape in Turkey is composed mainly by natural surfaces (54%), dominated by transitional woodland and shrubs, and agricultural areas (42%) formed by both non-irrigated and irrigated arable land, agriculture with natural vegetation and complex cultivation patterns.

The percentage of change area on total area of the country is relatively low (0.08% a year). However, total area of change is considerably large (70000 ha a year).

The most dynamic land cover type is forested land having the highest area turnover, followed by arable land and artificial areas. Concerning the net change, artificial areas are on the top, followed by arable/crop land and forested areas. In contrast, negative net change balance (total area decrease) is observed for semi-natural vegetation areas and pastures/mosaics. Besides the forest internal conversions (57%), agricultural conversions (with prevailing share of internal agriculture changes) are the main driver of land cover change in Turkey (20%). Artificial sprawl, represented mostly by sprawl of economic sites and infrastructures, is another significant driver of land cover change in Turkish landscape (15%). Concerning the spatial distribution, highest density of changes is concentrated into surroundings of the Bosphorus (especially artificial land take and changes of forested land) and into European part of Turkey. Izmir in western Turkey and Adana in southern part of the country are the other hotspots with high density of land cover changes. Finally, there is also significant concentration of artificial sprawl in proximity of the capital city Ankara.



Note: The results presented here are based on a change analysis of 44 land cover types mapped consistently on a 1:100,000 scale across Europe over almost two decades 1990-2006 - see Corine land cover (CLC) programme for details. Number of years between CLC2000-CLC2006 data for Turkey: 6



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

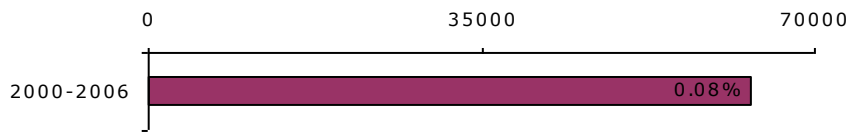
Summary balance table 2000-2006

	Artificial areas	Arable land & permanent crops	Pastures & mosaics	Forested land	Semi-natural vegetation	Open spaces/ bare soils	Wetlands	Water bodies	TOTAL [hundreds ha]
Land cover 2000	12121	191598	138683	196405	98986	125909	2818	12672	779193
Consumption of initial LC	162	507	392	2107	315	162	53	104	3801
Formation of new LC	572	630	108	2195	6	104	39	149	3801
Net Formation of LC	410	123	-283	87	-309	-58	-14	45	0
Net formation as % of initial year	3.4	0.1	-0.2	0.0	-0.3	0.0	-0.5	0.4	
Total turnover of LC	734	1136	500	4302	320	266	92	252	7603
Total turnover as % of initial year	6.1	0.6	0.4	2.2	0.3	0.2	3.3	2.0	1.0
Land cover 2006	12530	191721	138400	196492	98677	125851	2804	12717	779193

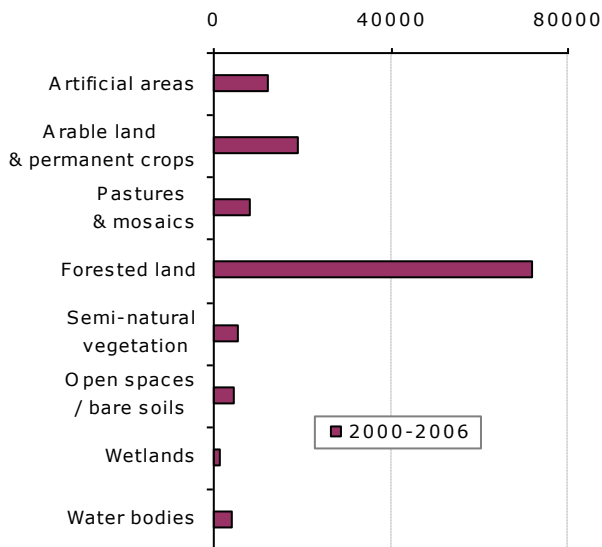
Turkey

Land cover trends 2000-2006

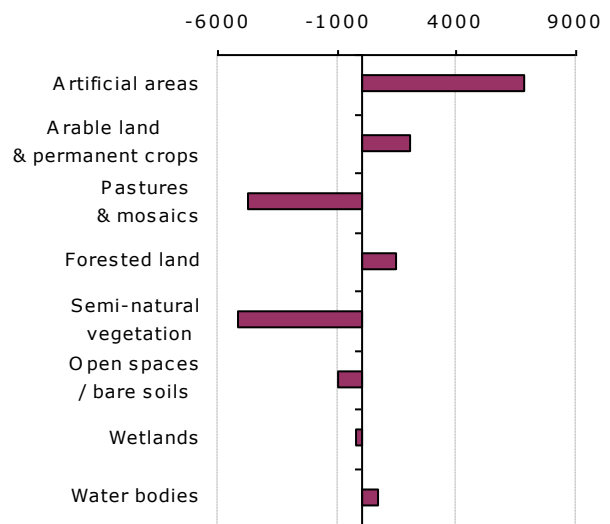
2.4. Annual land cover change
[ha/year, % of total area]



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

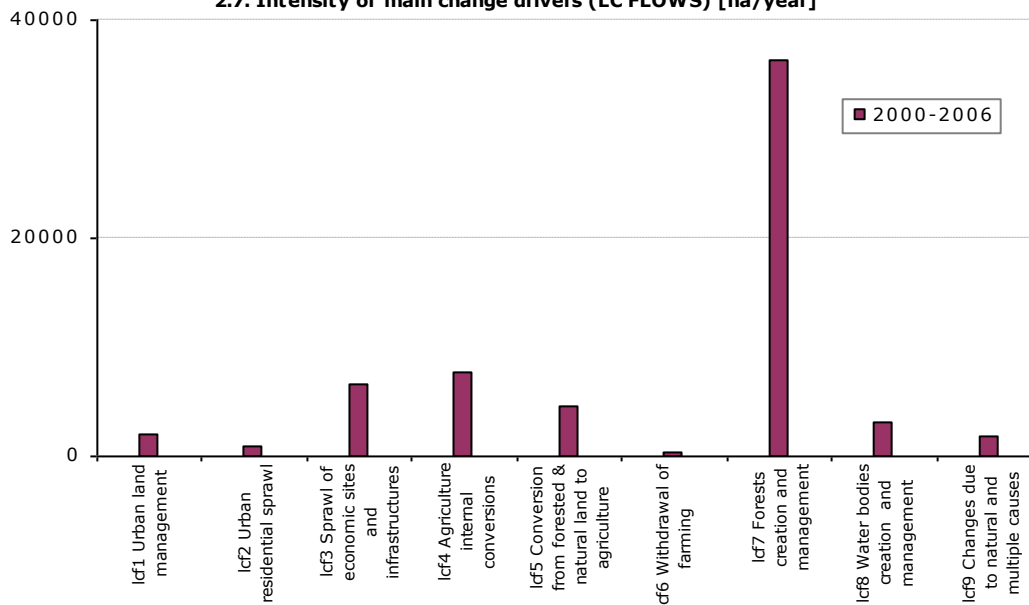


2.6. Net annual change of LC types [ha/year]



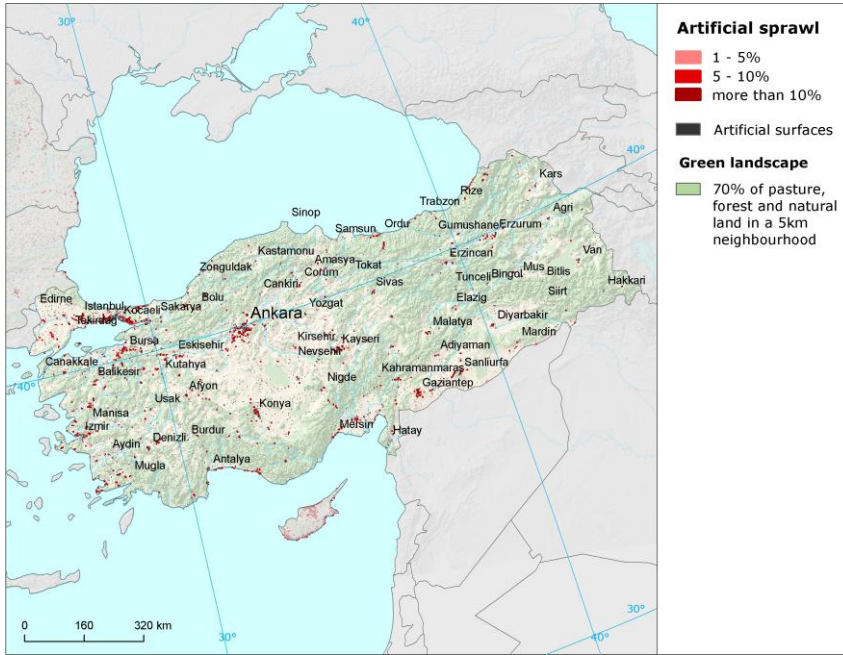
Summary trend figures		2000-2006
Annual land cover change [ha/year]		63356
Annual land cover change as % of initial year		0.08%
Land uptake by artificial development as mean annual change [ha/year]		7348
Agricultural land uptake by urban and infrastructures development as mean annual change [ha/year]		5887
Net uptake of forests and semi-natural land by agriculture as mean annual change [ha/year]		4136
Net conversion from pasture to arable land and permanent crops as mean annual change [ha/year]		1346
Forest & other woodland net formation as mean annual change [ha/year]		1453
Dry semi-natural land cover net formation as mean annual change [ha/year]		-5637
Wetlands & water bodies net formation as mean annual change [ha/year]		506

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

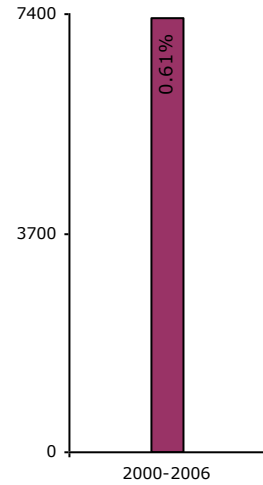


Turkey

Artificial areas



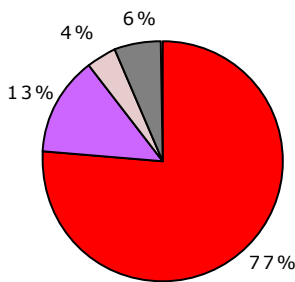
3.8. Artificial land take [ha/year, % of initial year]



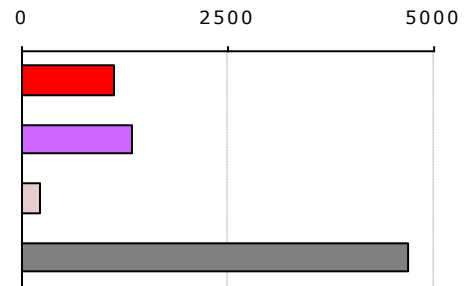
Artificial development driven by construction

Sprawl of artificial areas is moderate, driven mainly by construction (38%) and by extension of quarrying sites and mines (26%), together with industrial/commercial (18%) and residential sprawl (12%) to a lesser extent. Mainly agricultural areas, with almost equal percentage of pastures/mosaics and arable land have been taken by the artificial sprawl. Besides the land take, there are multiple areas where recycling of developed urban land take place was identified, represented by conversion of construction sites into residential, commercial/industrial and transport units. Spatially, artificial sprawl occurs close to the existing large cities. In particular, the highest density of changes is concentrated into surroundings of the Bosphorus, in the European part of Turkey, in Izmir and Adana and in proximity of the capital city Ankara.

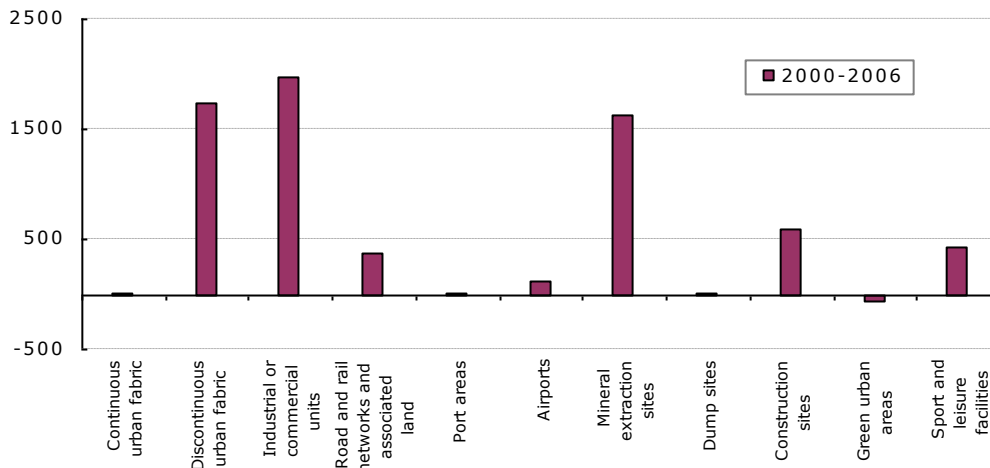
3.9. Artificial surfaces 2006 [% of total area]



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

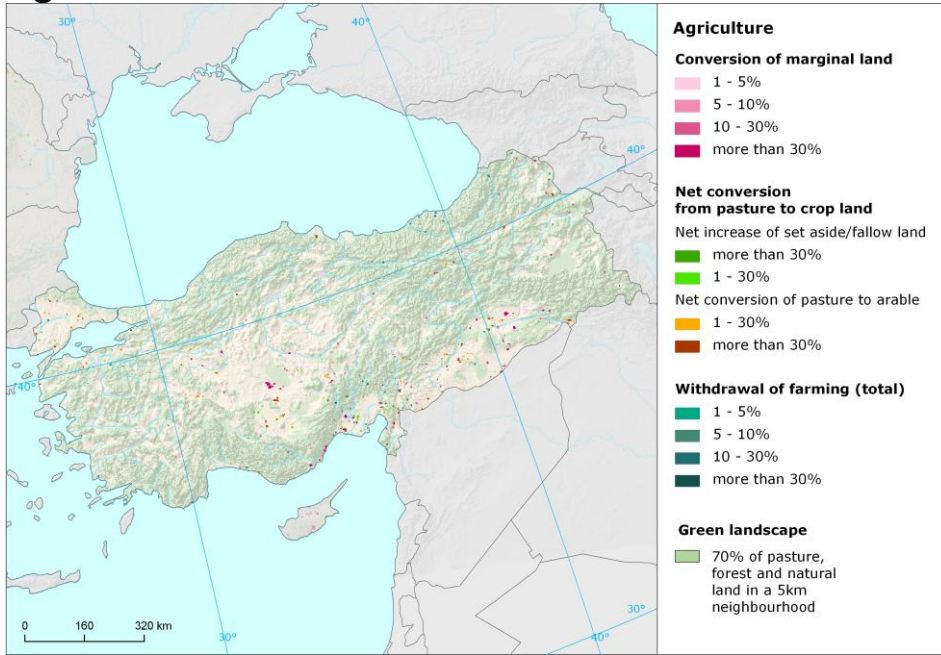


3.11. Mean annual artificial change by class [ha/year]



Turkey

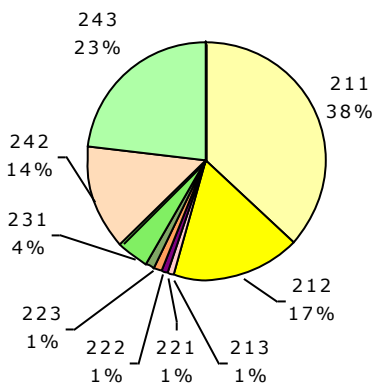
Agriculture



Intensification of agriculture, conversion to permanently irrigated land

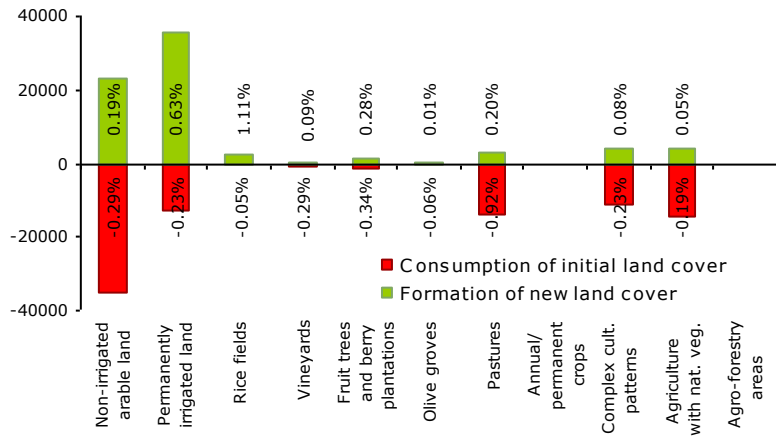
Agricultural land in Turkey is composed by arable land (both non-irrigated and irrigated), followed by agricultural areas with natural vegetation and complex cultivation patterns. Pastures and mosaics have negative balance of net change in 2000/2006. In contrast, net change balance of arable land is positive, which is caused by formation of permanently irrigated arable land (mostly through conversion from non-irrigated arable land) and rice fields. Internal development of agricultural surfaces in Turkey in this period is characterized by intensification of agricultural land use. The most significant internal flow is the conversion of non-irrigated arable areas to permanently irrigated land. The other major flows are conversions from pasture to both non-irrigated and irrigated arable and crop land and internal conversions of arable land. Moreover, there is also significant area of agro-natural mosaics, which have been converted into continuous agriculture. The interaction between agricultural land and other land cover types is represented mostly by consumption of agriculture by artificial sprawl, mainly by sprawl of economic sites and infrastructures. Besides, agricultural land has been also consumed by water bodies creation. Formation of agricultural land cover from natural surfaces has been driven mainly by intensive conversion from semi-natural land (with more than 1/2 share of natural grasslands) and wetlands to agriculture. Spatially changes are spread over agriculture intensive (lowland) regions.

4.12. Agricultural areas 2006 [% of total area]

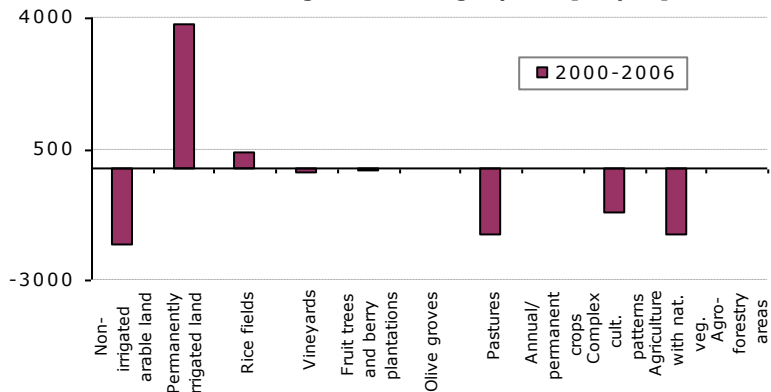


- 211 Non-irrigated arable land
- 212 Permanently irrigated land
- 213 Rice fields
- 221 Vineyards
- 222 Fruit trees and berry plantations
- 223 Olive groves
- 231 Pastures
- 241 Annual crops associated with permanent crops
- 242 Complex cultivation patterns
- 243 Agriculture land with significant areas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

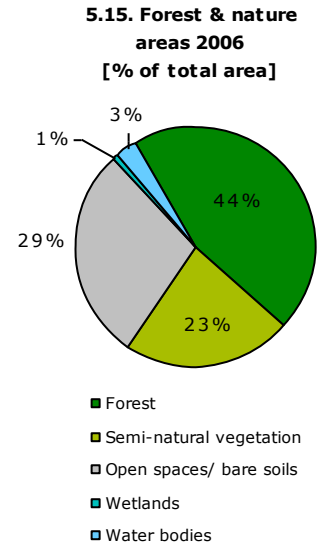
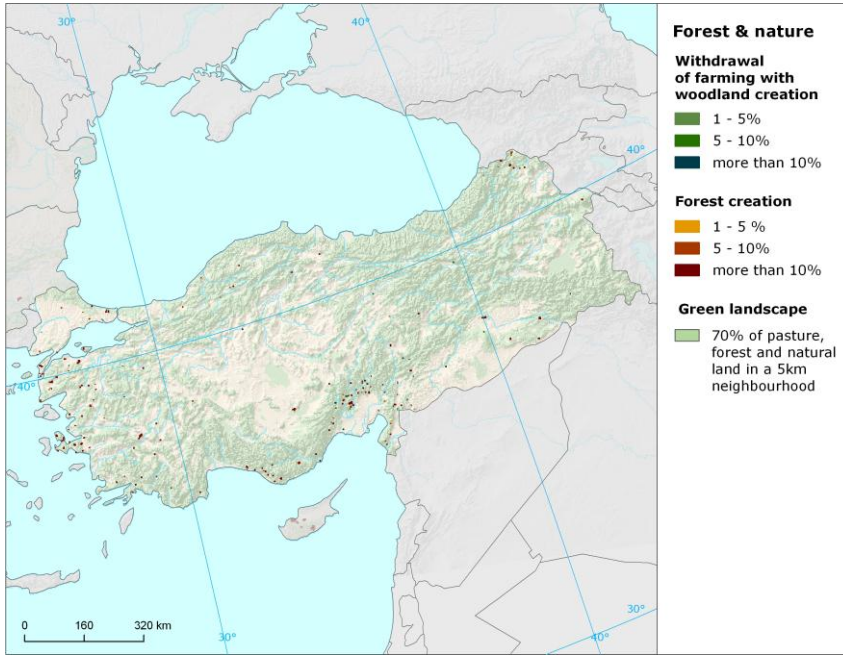
4.13. Development of agricultural areas 2000-2006 - detailed balance [ha]



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

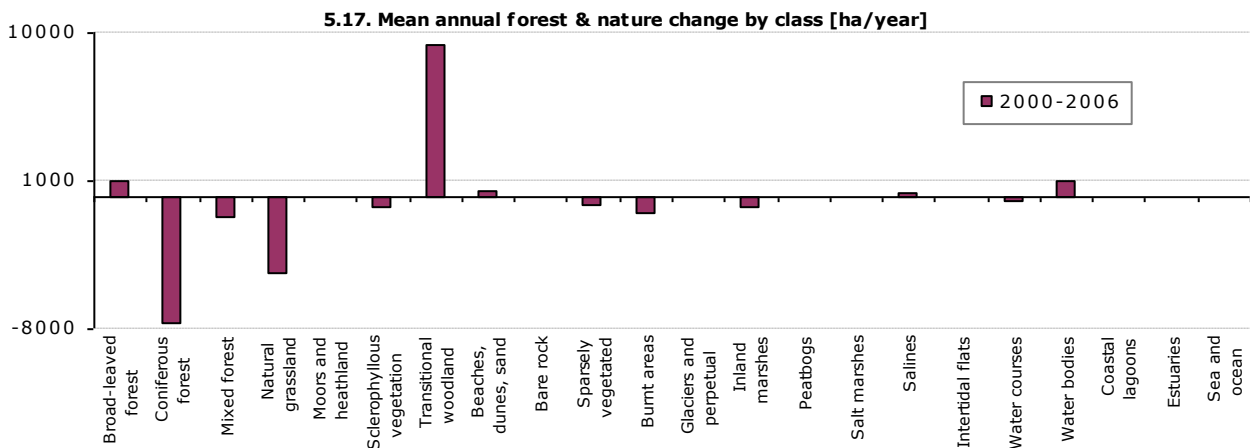
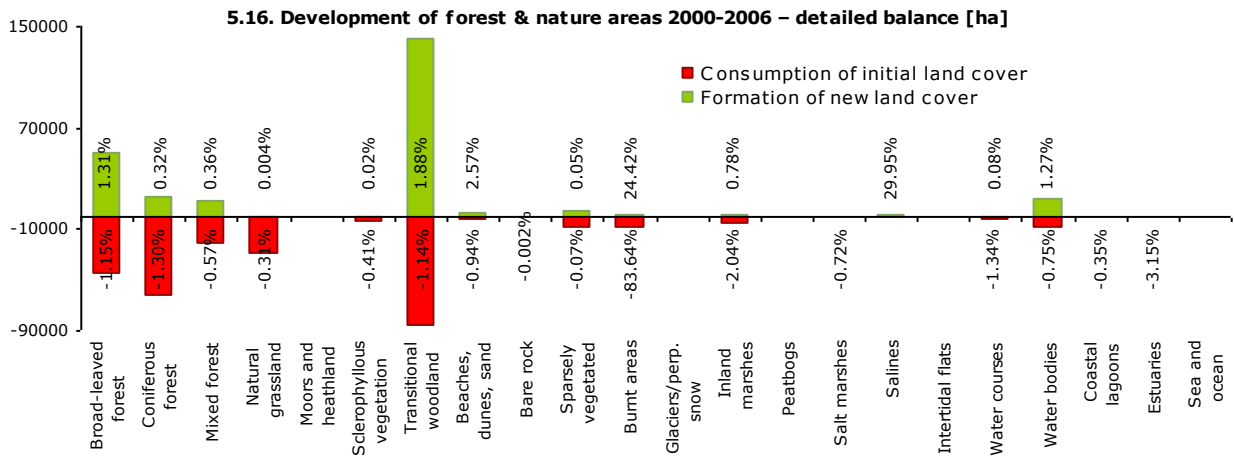


Forest & nature



Transitional woodland/shrub creation over natural land

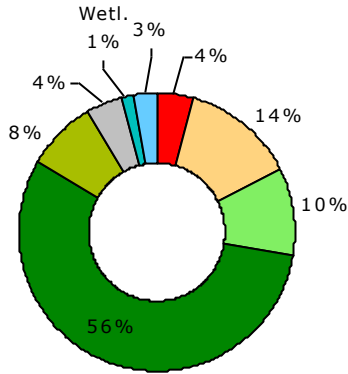
More than half of natural surfaces in Turkey consists of open space/bare soils and semi-natural vegetation areas. These land cover types are represented mostly by sparsely vegetated areas and natural grasslands. The rest of natural land is composed of forested areas, with prevailing share of transitional woodland. Beside forest internal conversions, the main flow in natural land exchange is forest (mainly transitional woodland/shrub) creation over natural grasslands, restoration of burnt areas and to a lesser extent forest creation over sclerophyllous vegetation and sparsely vegetated areas. The other significant drivers of natural change are intensive consumption of natural grasslands by arable land (conversion of marginal land) and, in contrary, water bodies creation over agricultural land.



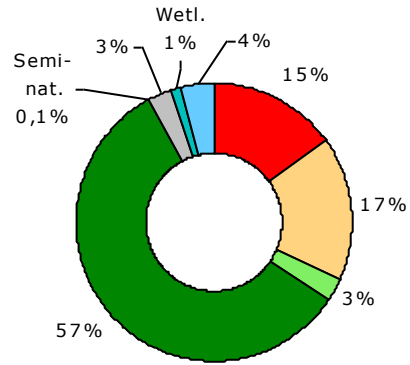
Annex: Land cover flows and trends

Land cover flows 2000-2006

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

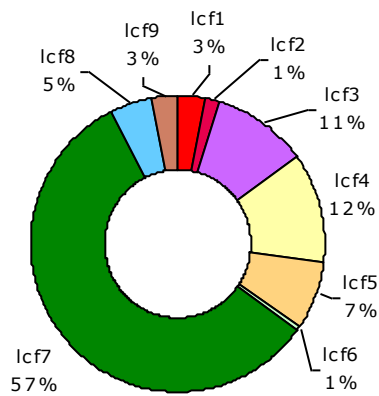


6.19. Formation of land cover 2000-2006 [% of total change area]



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

6.20. Drivers of change (LC FLOWS) 2000-2006 [% of total change area]

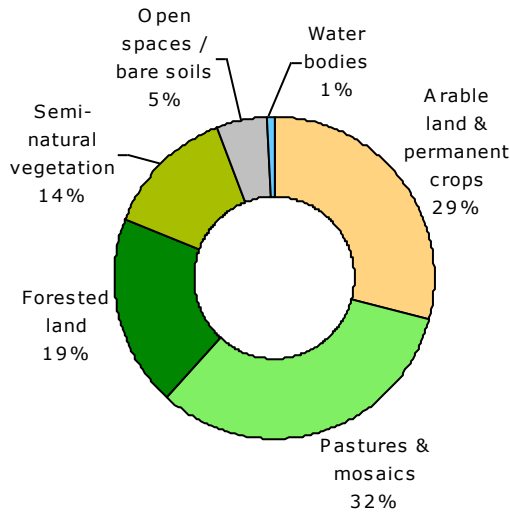


- lcf1 Urban land management
- lcf2 Urban residential sprawl
- lcf3 Sprawl of economic sites and infrastructures
- lcf4 Agriculture internal conversions
- lcf5 Conversion from forested & natural land to agriculture
- lcf6 Withdrawal of farming
- lcf7 Forests creation and management
- lcf8 Water bodies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

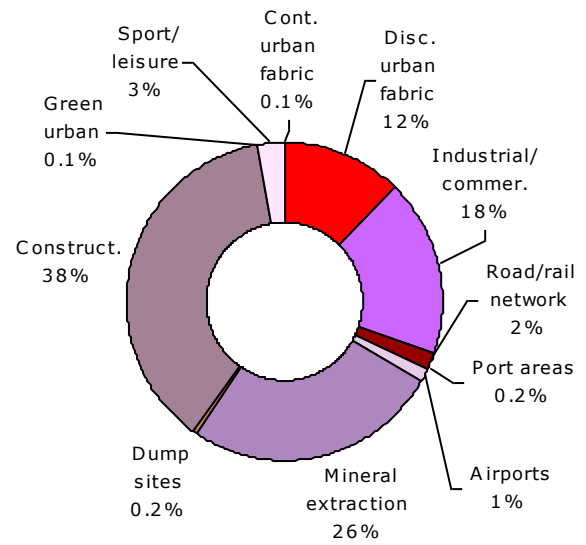
Turkey

Artificial areas

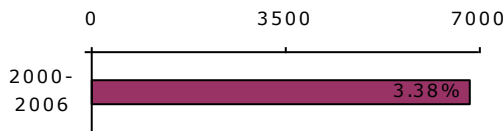
7.21. Consumption by artificial land take 2000-2006 [% of total]



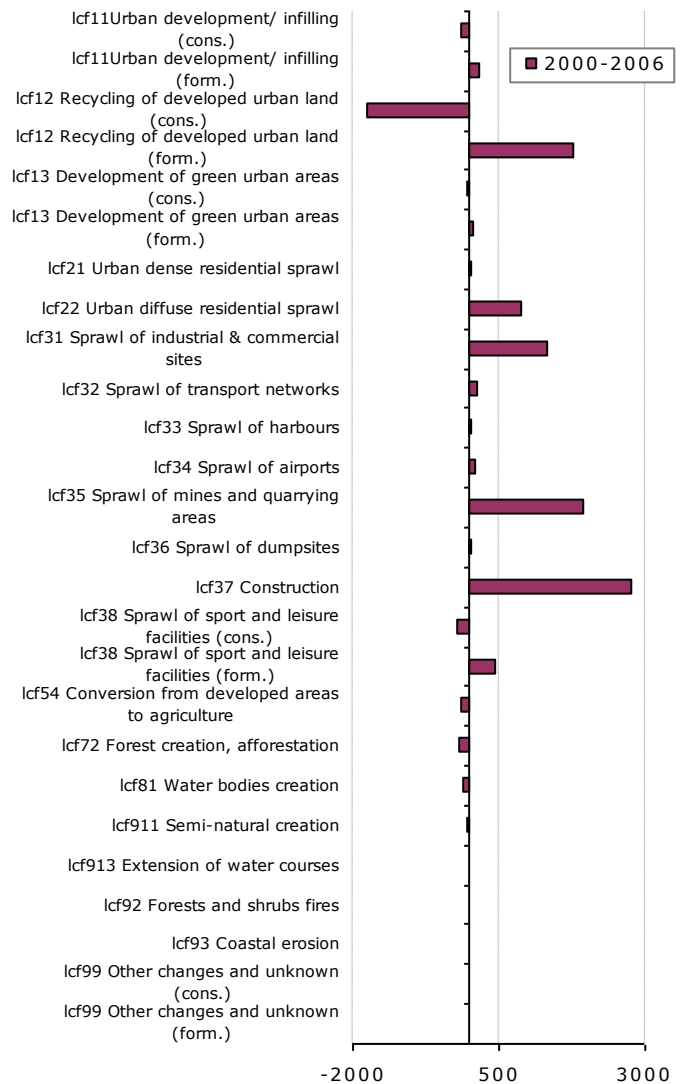
7.22. Formation by artificial land take 2000-2006 [% of total]



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



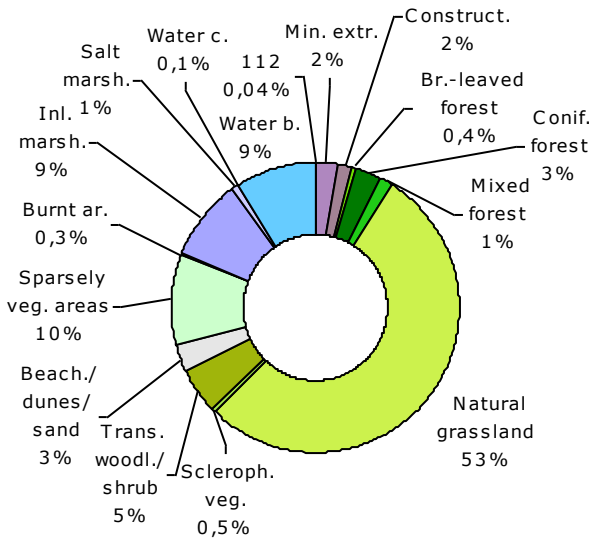
7.24. Artificial development by change drivers (LC FLOWS) [ha/year]



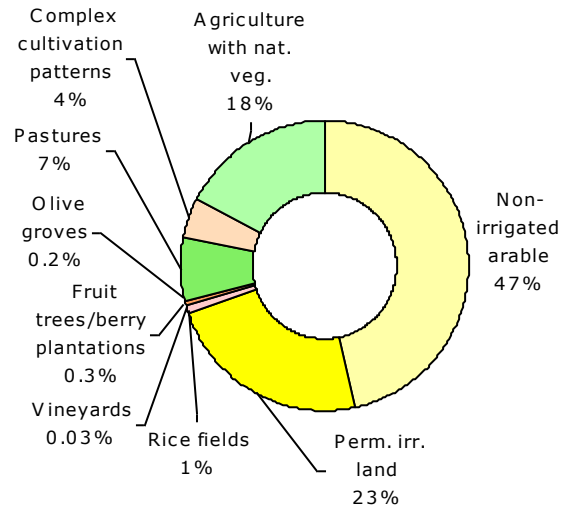
Turkey

Agriculture

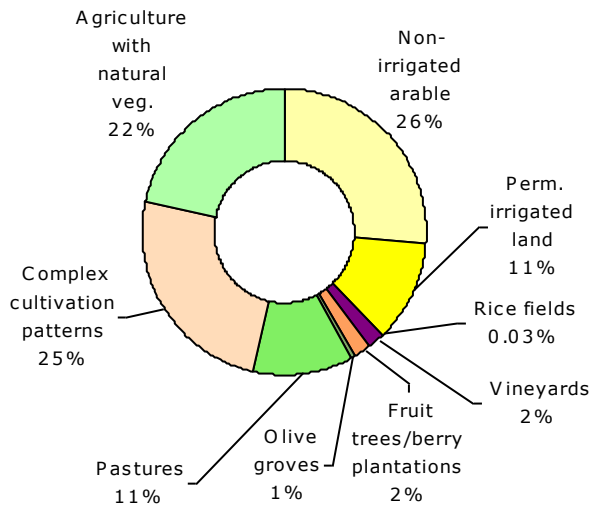
8.25. LC consumed by agriculture 2000-2006 [% of total]



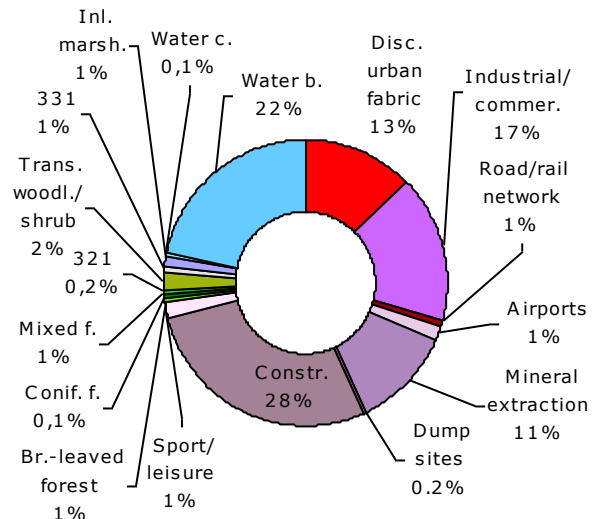
8.26. Formation of agricultural land from non-agriculture 2000-2006 [% of total]



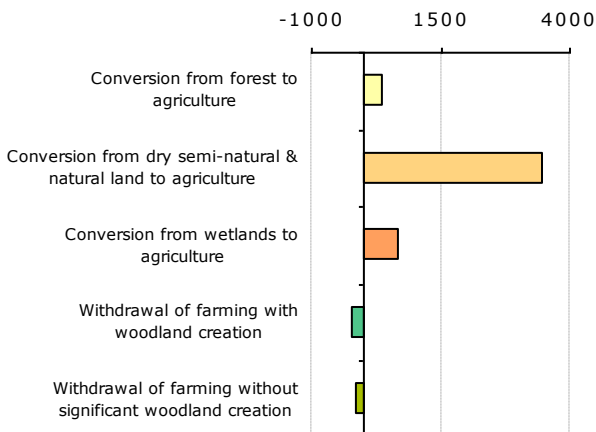
8.27. Consumption of agricultural land by non-agriculture 2000-2006 [% of total]



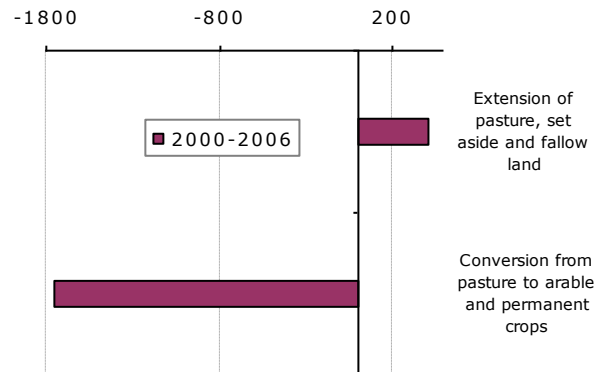
8.28. Formation of non-agricultural land from agriculture 2000-2006 [% of total]



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

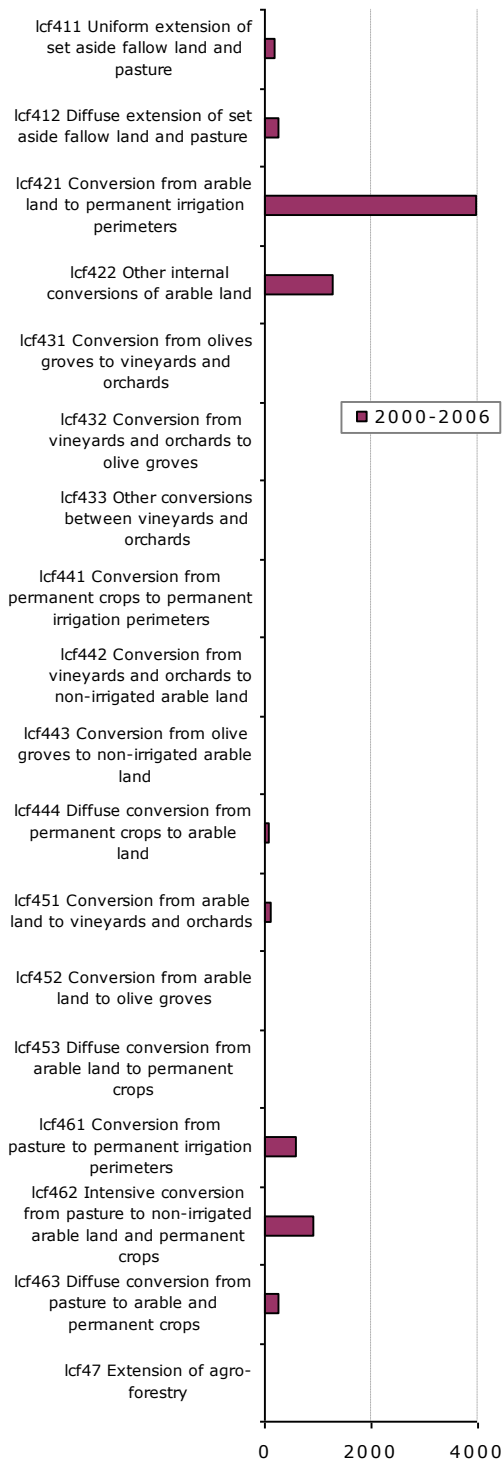


8.30. Mean annual conversion between arable land and pasture [ha/year]

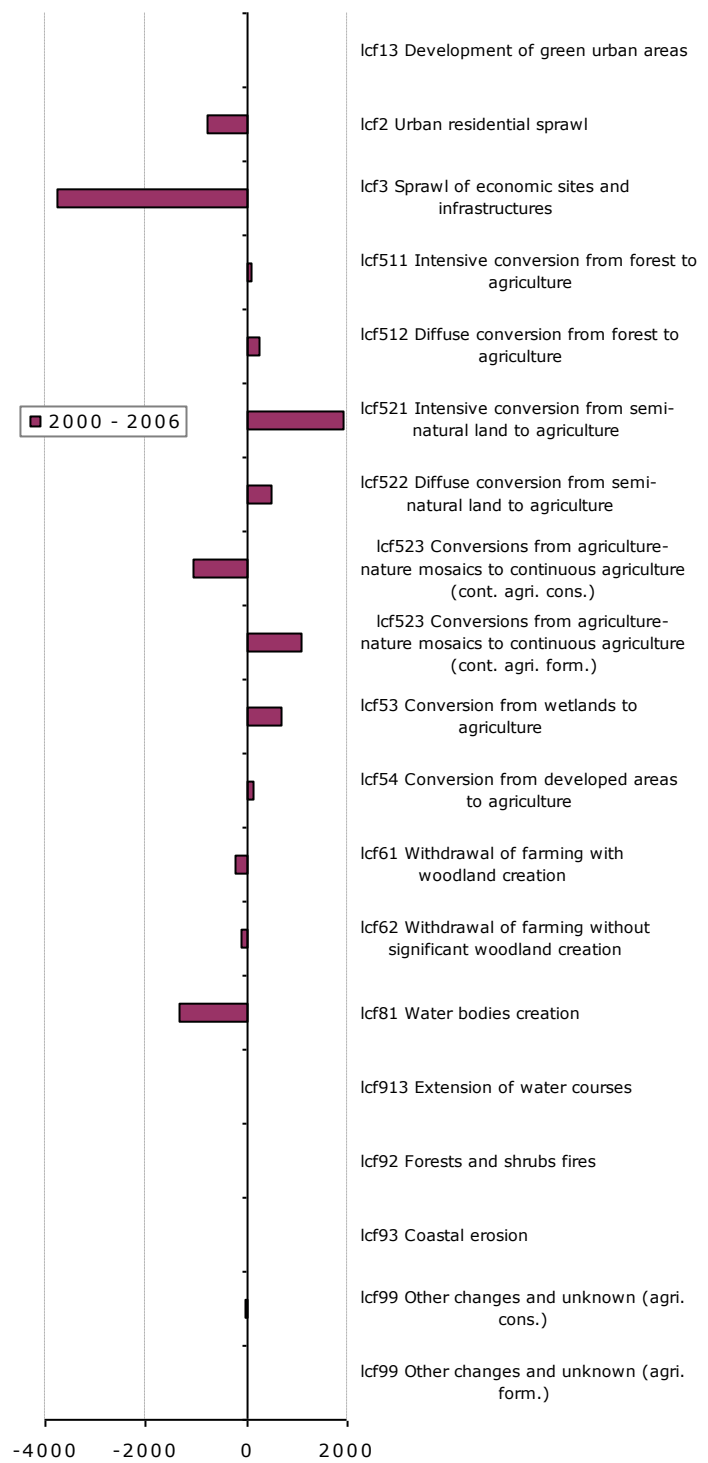


Turkey

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



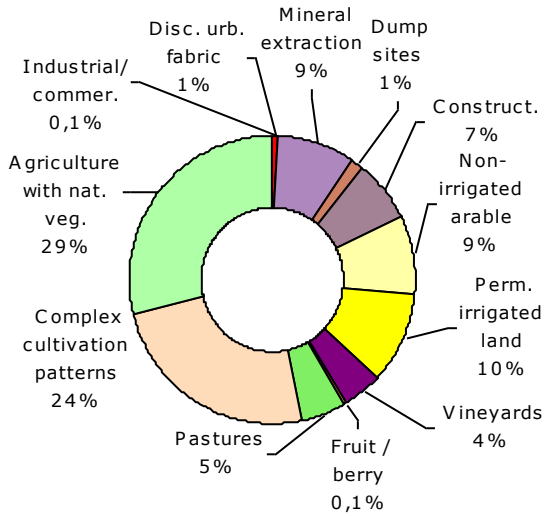
9.32. Mean annual conversions between agriculture and other LC types [ha/year]



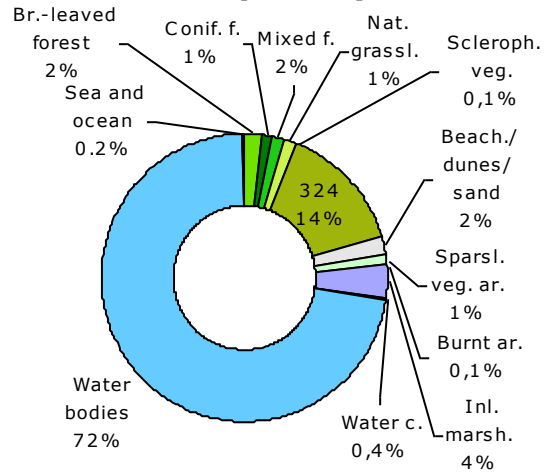
Turkey

Forest & nature

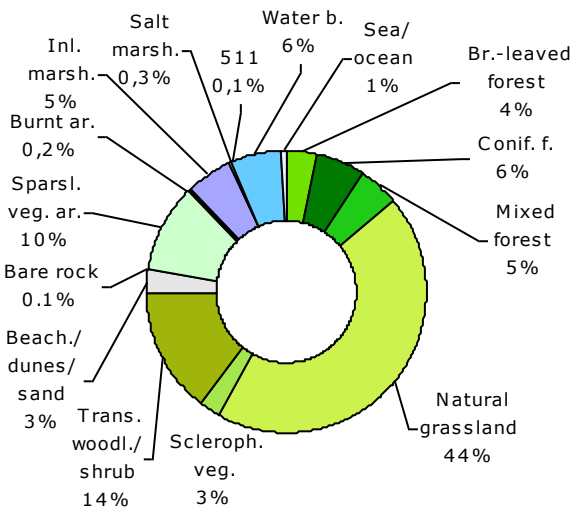
10.33. LC consumed by forest & nature 2000-2006 [% of total]



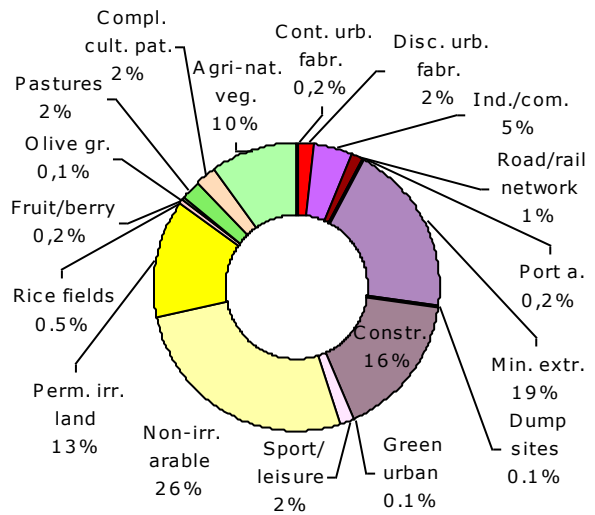
10.34. Formation of forest & nature land from non-forest / nature 2000-2006 [% of total]



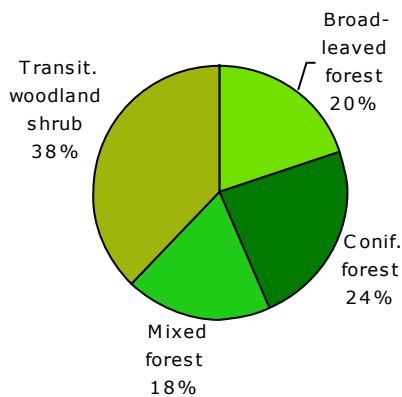
10.35. Consumption of forest & nature land by non-forest/nature 2000-2006 [% of total]



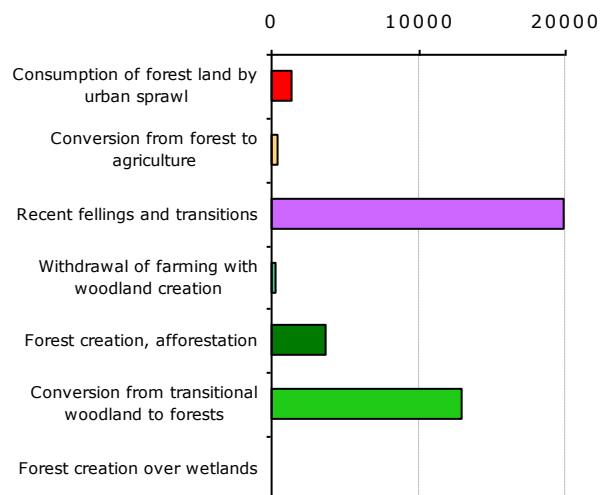
10.36. Formation of non-forest/nature land from forest & nature 2000-2006 [% of total]



10.37. Forested land 2006 [% of total area]

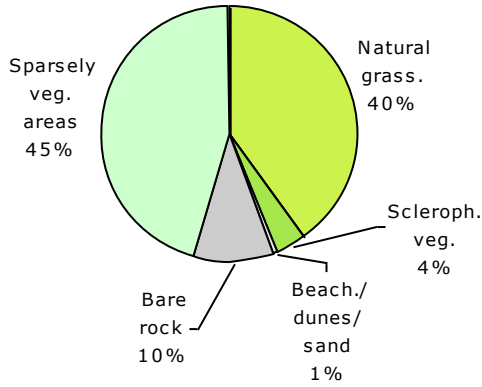


10.38. Main trends in woodland & forests consumption/formation 2000-2006 [ha/year]

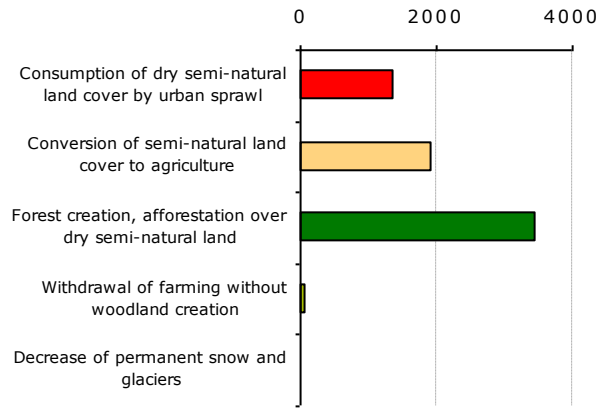


Turkey

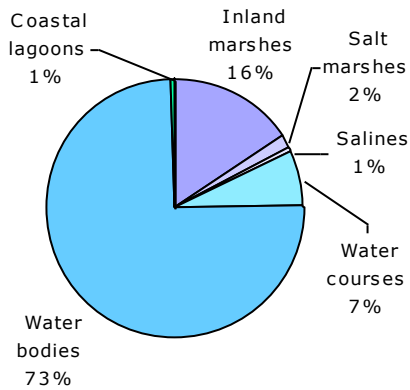
11.39. Dry semi-natural areas 2006
[% of total area]



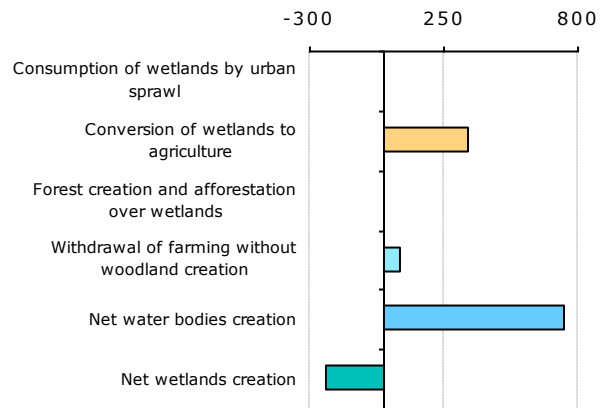
11.40. Main trends in dry semi-natural land consumption/formation 2000-2006 [ha/year]



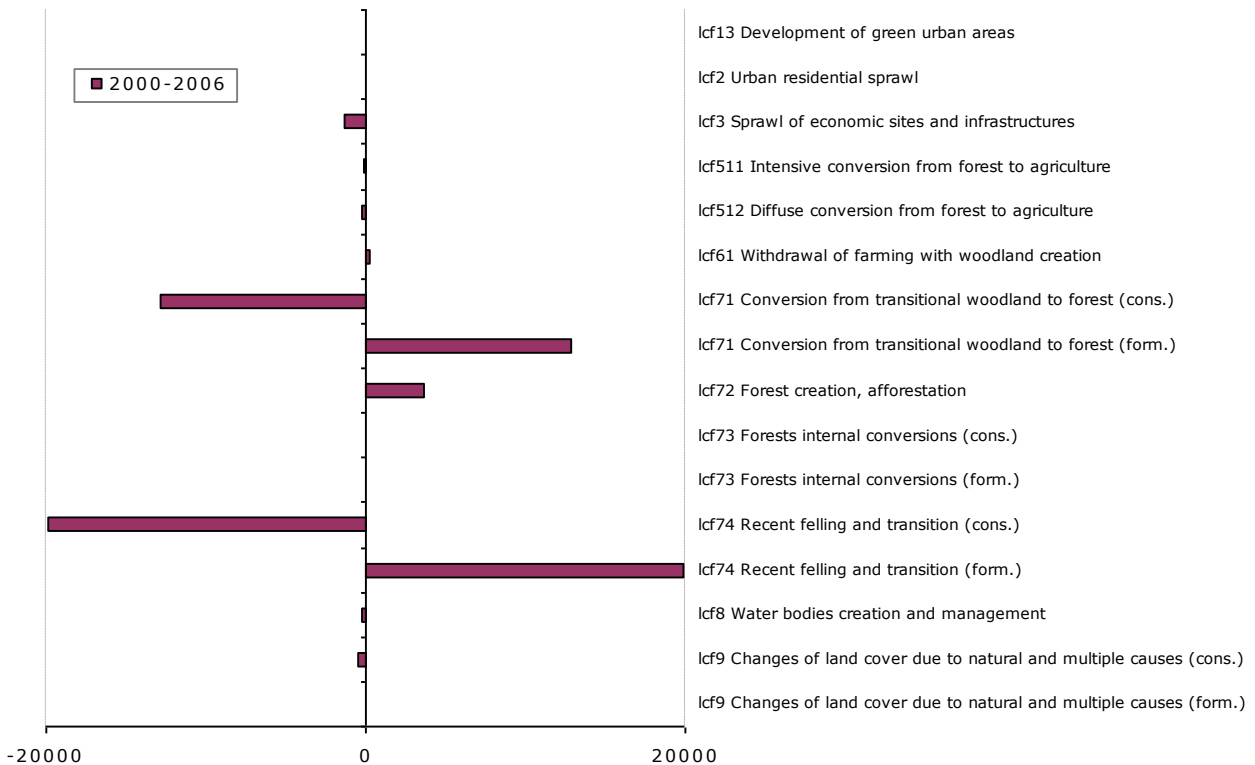
11.41. Wetlands & water 2006
[% of total area]



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



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

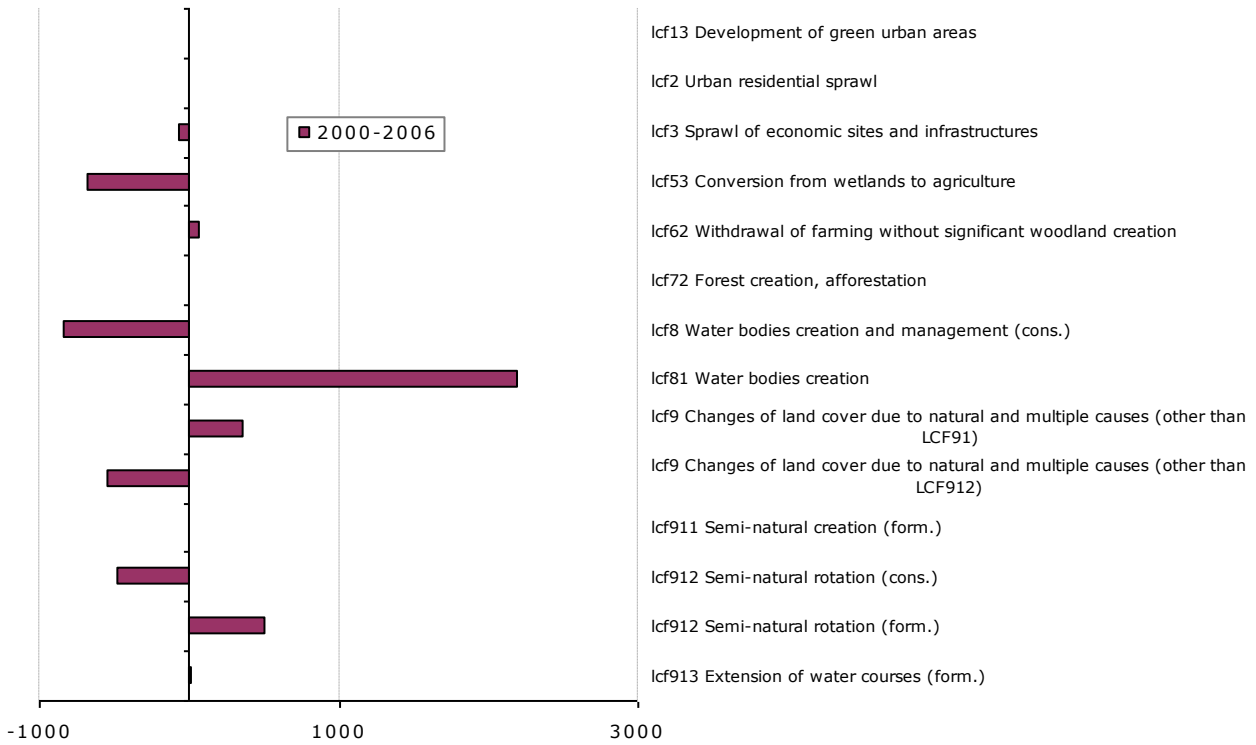


Turkey

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



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



Turkey

