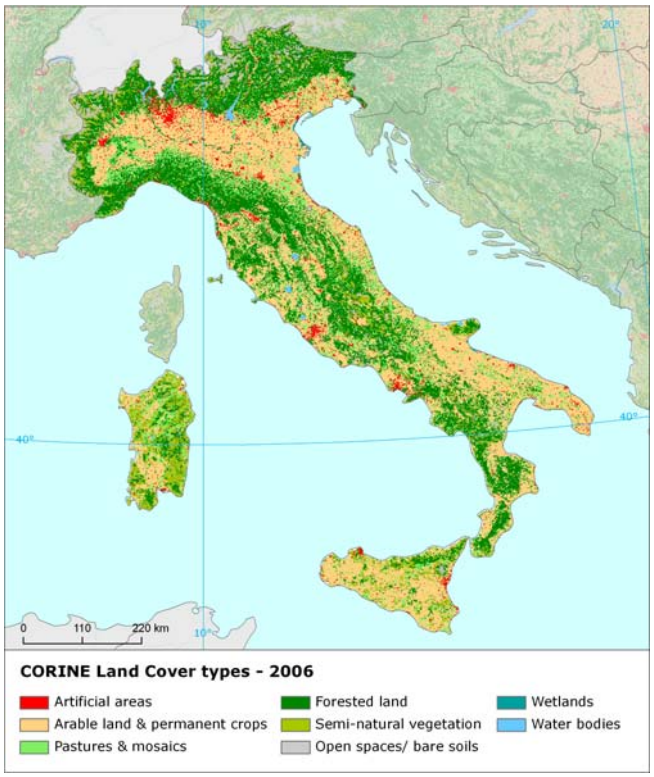
Italy

Land cover 2006

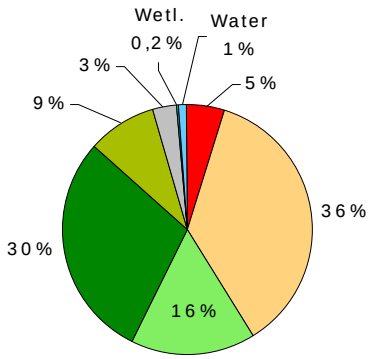
Overview of land cover & change 2000-2006

Italian landscape is dominated by agricultural land (52%) with significant share of forest (30%) and semi-natural areas (9%). During the period 2000-2006, the overall change dynamic, characterized by total change area, decreased almost twice compared to the previous period. This slow down is caused mainly by decrease of intensity of changes of agricultural and natural surfaces and also by slow down of residential sprawl.
In contrast, dynamic of changes within artificial surfaces, characterized by total turnover of artificial land, has increasing tendency. However, this is caused by increase of intensity of recycling of already developed areas, not by acceleration of artificial land take (accelerated sprawl of economic sites and infrastructures has been compensated through slow down of residential sprawl). Besides artificial areas, only forests and water bodies have also slightly positive net change balance. All other agricultural and natural land cover types have negative balance of net change with prevailing consumption of land cover.
Compared to the previous period, there is a significant difference in structure of land cover change. Intensities of all forest creation and management, withdrawal of farming and agriculture internal conversions, which were the three main change drivers in the previous period, slowed down rapidly. During 2000-2006 period, the most significant drivers of change became accelerated sprawl of economic sites and infrastructures, followed by forest creation and management and agriculture internal conversions.
Concerning the spatial distribution of changes, artificial sprawl is located mostly in the Po lowland in northern Italy, in surroundings of the capital city Rome and along the Adriatic coast. Changes in forested land occur mainly in Tuscany in the central Italy and also in the southern region of Calabria.

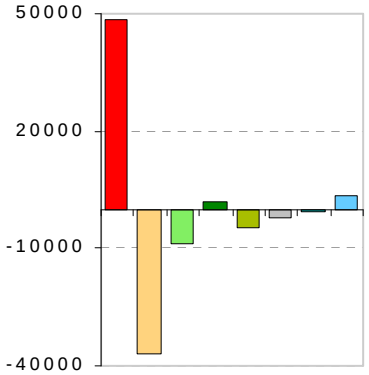


Note: The results presented here are based on a change analysis of 44 land cover types mapped consistently on a 1:100.000 scale across Europe over almost two decades 1990-2006 - see Corine land cover (CLC) programme for details.
Number of years between CLC2000-CLC2006 data for Italy: 6

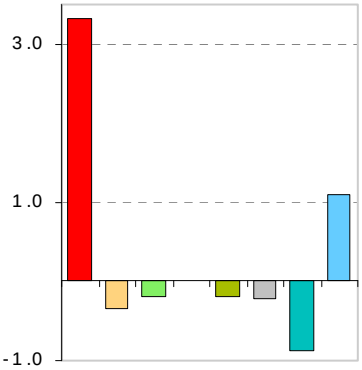
1.1. Land cover 2006 [% of total]



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



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



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

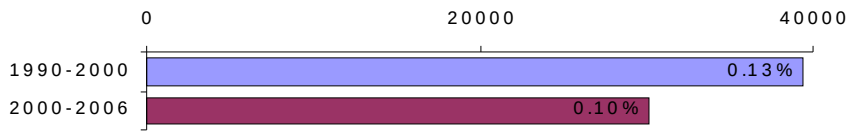
Summary balance table 2000-2006

	Artificial areas	Arable land & permanent crops	Pastures & mosaics	Forested land	Semi-natural vegetation	Open spaces / bare soils	Wetlands	Water bodies	TOTAL [hundreds ha]
Land cover 2000	**14500**	**109392**	**48143**	**89336**	**26169**	**9801**	**680**	**3145**	**301166**
Consumption of initial LC	85	530	129	820	139	91	7	11	1811
Formation of new LC	567	162	40	838	89	69	1	45	1811
Net Formation of LC	**483**	**-368**	**-90**	**17**	**-50**	**-21**	**-6**	**34**	**0**
Net formation as % of initial year	*3.3*	*-0.3*	*-0.2*	*0.0*	*-0.2*	*-0.2*	*-0.9*	*1.1*	
Total turnover of LC	**652**	**692**	**169**	**1658**	**228**	**160**	**8**	**56**	**3623**
Total turnover as % of initial year	*4.5*	*0.6*	*0.4*	*1.9*	*0.9*	*1.6*	*1.2*	*1.8*	*1.2*
Land cover 2006	**14983**	**109024**	**48053**	**89354**	**26120**	**9780**	**674**	**3179**	**301166**

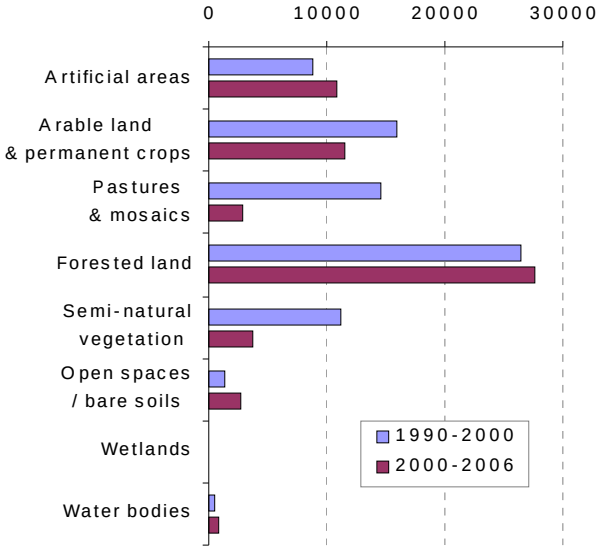
Italy

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

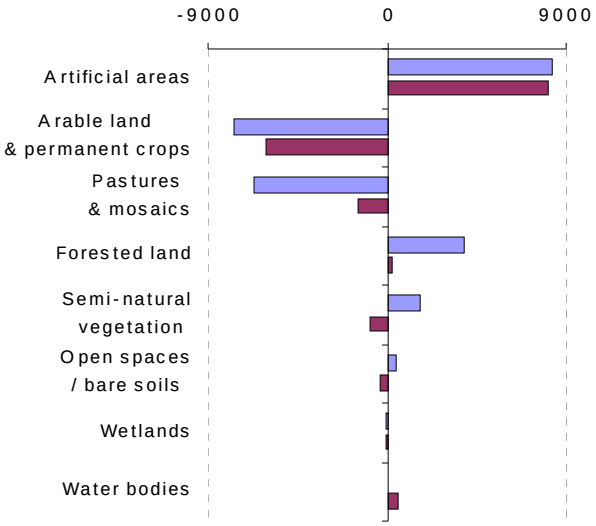
2.4. Annual land cover change [ha/year, % of total area]



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

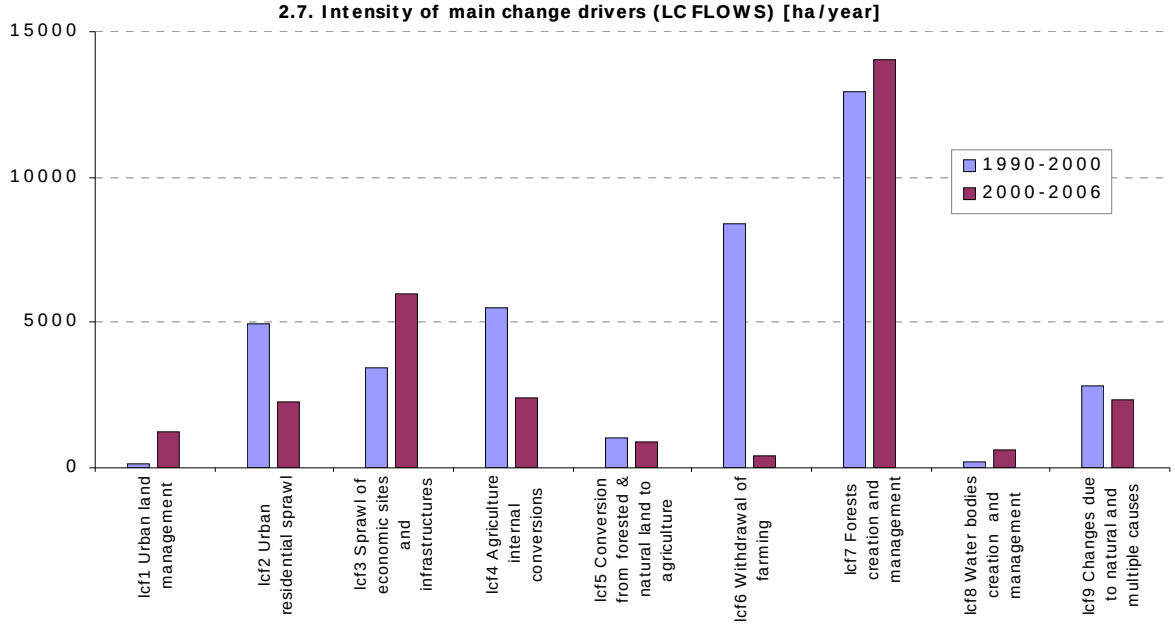


2.6. Net annual change of LC types [ha/year]



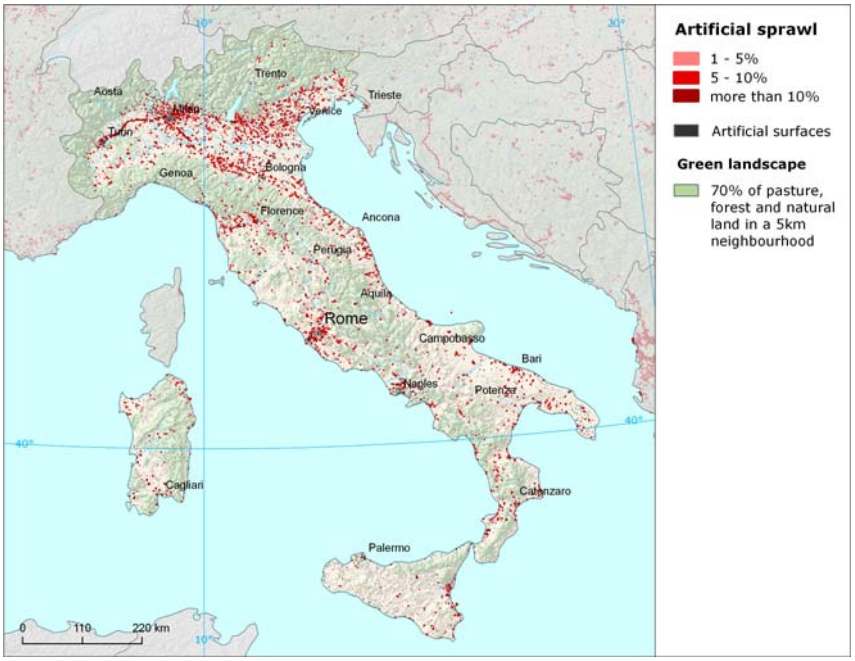
Summary trend figures	1990-2000	2000-2006
Annual land cover change [ha/year]	**39432**	**30188**
Annual land cover change as % of initial year	**0.13%**	**0.10%**
Land uptake by artificial development as mean annual change [ha/year]	8397	8242
Agricultural land uptake by urban and infrastructures development as mean annual change [ha/year]	8078	8049
Net uptake of forests and semi-natural land by agriculture as mean annual change [ha/year]	-7408	346
Net conversion from pasture to arable land and permanent crops as mean annual change [ha/year]	-439	-84
Forest & other woodland net formation as mean annual change [ha/year]	3826	289
Dry semi-natural land cover net formation as mean annual change [ha/year]	2226	-1058
Wetlands & water bodies net formation as mean annual change [ha/year]	74	474

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

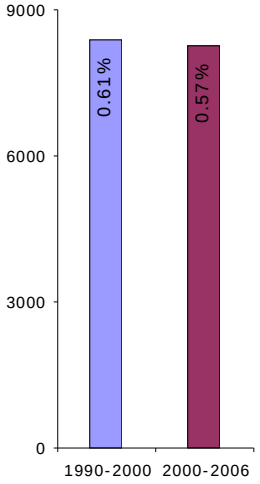


Italy

Artificial areas



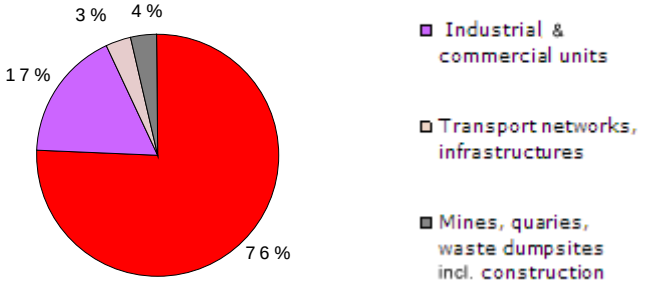
3.8. Artificial land take [ha/year, % of initial year]



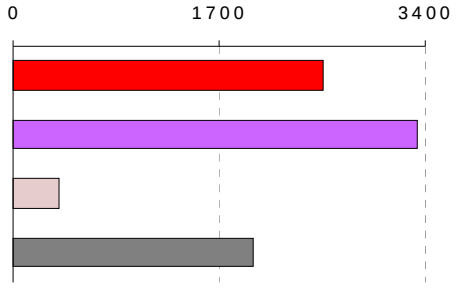
Accelerated commercial/industrial sprawl accompanied by recycling of developed urban land

During 2000-2006, artificial sprawl became the main driver of change over Italian landscape. The intensity of land take decreased only slightly compared to previous period. The most intensive land uptake occurs in the Po lowland, especially in surroundings of Milan and also around the capital city Rome. In contrast to the previous period, when sprawl of discontinuous urban fabric was the main driver of land take, land take during 2000-2006 is driven mainly by accelerated extension of industrial and commercial units (41%). Nevertheless, diffuse residential sprawl (27%) remains the second main driver of land take in Italy; however the intensity of this conversion decreased the half. The other contributors to artificial sprawl are developments of construction sites (14%) together with sprawl of mineral extraction sites (10%), transport networks (4%) and sport and leisure facilities (3%). Mostly agricultural areas have been taken (94%), with predominant share of arable/crop land (74%).
Beside the sprawl of artificial areas, recycling of developed urban land (represented by conversion of construction sites into industrial or commercial units and discontinuous urban fabric), has significant share on all artificial changes with increased intensity compared to the previous period.

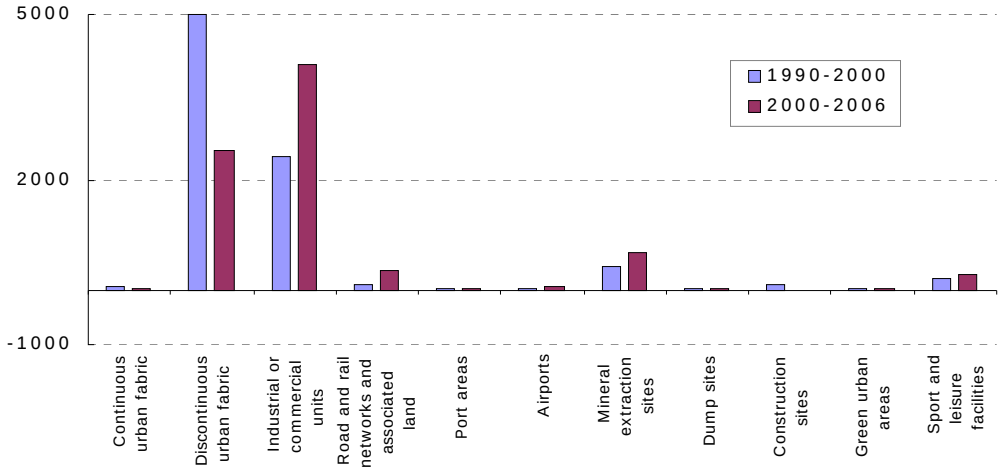
3.9. Artificial surfaces 2006 [% of total area]



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

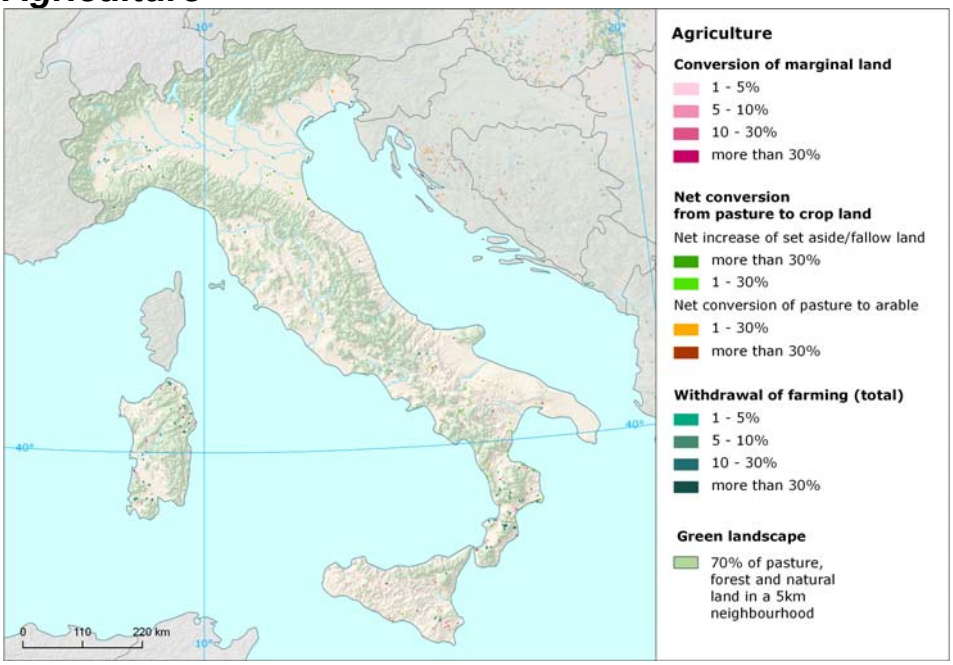


3.11. Mean annual artificial change by class [ha/year]



Italy

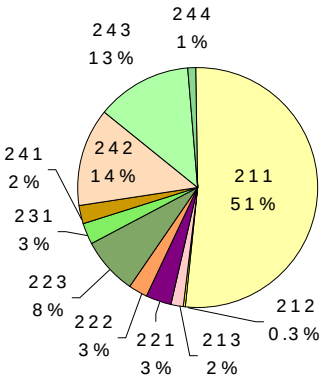
Agriculture

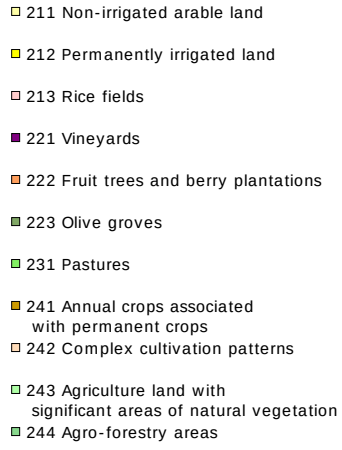


Land take by artificial sprawl; slowdown of conversions between arable and pasture land

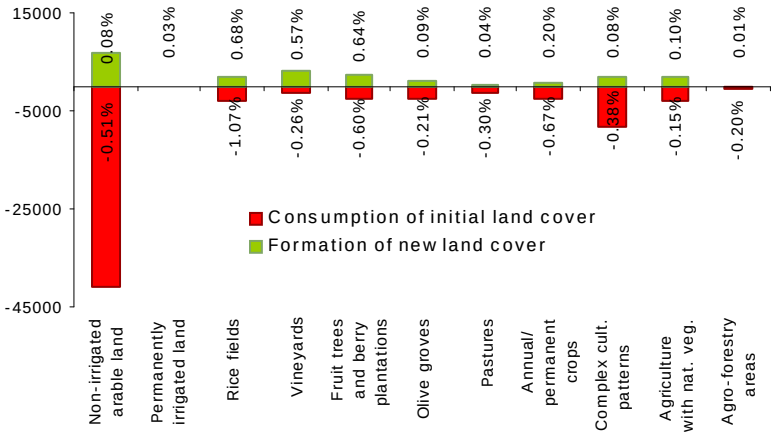
Italian agriculture is characterized by prevailing share of arable land (more than 50% of all agricultural surfaces). The rest of agricultural land is covered mainly by agricultural areas with natural vegetation, complex cultivation patterns and olive groves. Both arable land/permanent crops and pastures/mosaics has negative balance of net change during the period, however the consumption of agricultural land (especially of mosaics and pastures) has been slowed down. The most significant change of agricultural landscape in Italy is the consumption of agricultural areas, (with prevailing share of non-irrigated arable land and complex cultivation patterns) by artificial land take, driven mainly by accelerated sprawl of commercial/industrial sites and discontinuous urban fabric, followed by construction and extension of mineral extraction sites. Intensity of withdrawal of farming with or without woodland creation slowed down. On the other hand, there also occurs certain formation of agricultural surfaces (mainly arable land and agriculture areas with natural vegetation) from natural land cover or former developed areas (mineral extraction and construction sites). The overall intensity of internal agriculture changes decreased to the half, compared to previous period. After slowdown of intensity of exchange between mosaics/pastures and arable/crop land, which was the main driver of internal agricultural during 1990/2000, conversions between non-irrigated arable land and vineyards/orchards (with prevailing share of arable land consumption) became the most powerful drivers of internal agricultural change in Italy. The other significant internal agriculture changes are internal conversions of arable land and also conversion from non-irrigated arable land to permanently irrigated land.

4.12. Agricultural areas 2006 [% of total area]

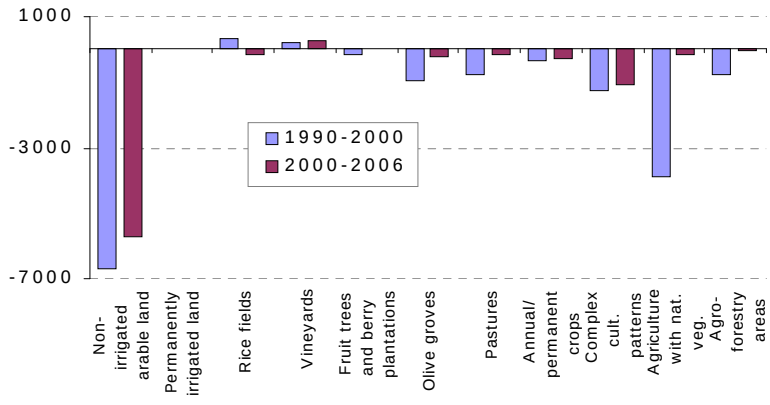




4.13. Development of agricultural areas 2000-2006 – detailed balance [ha]

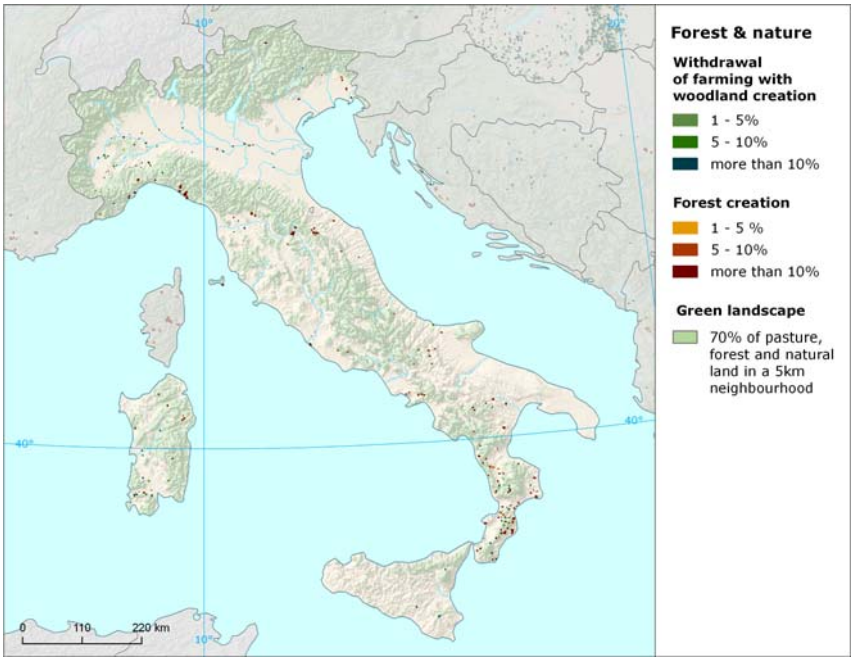


4.14. Mean annual agricultural change by class [ha/year]

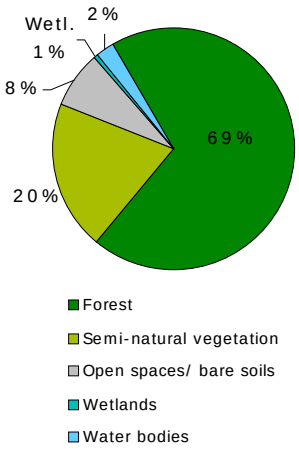


Italy

Forest & nature



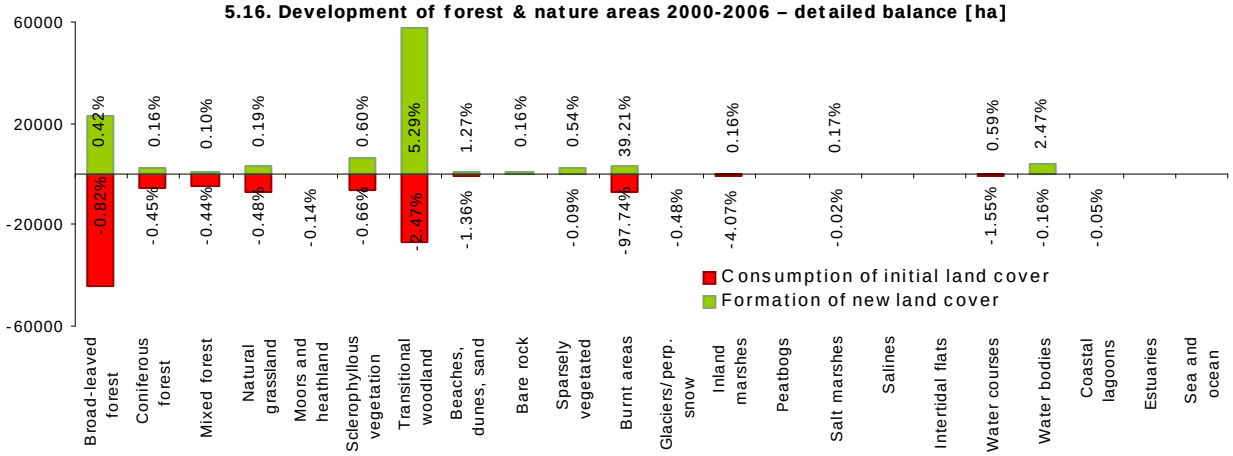
5.15. Forest & nature areas 2006 [% of total area]



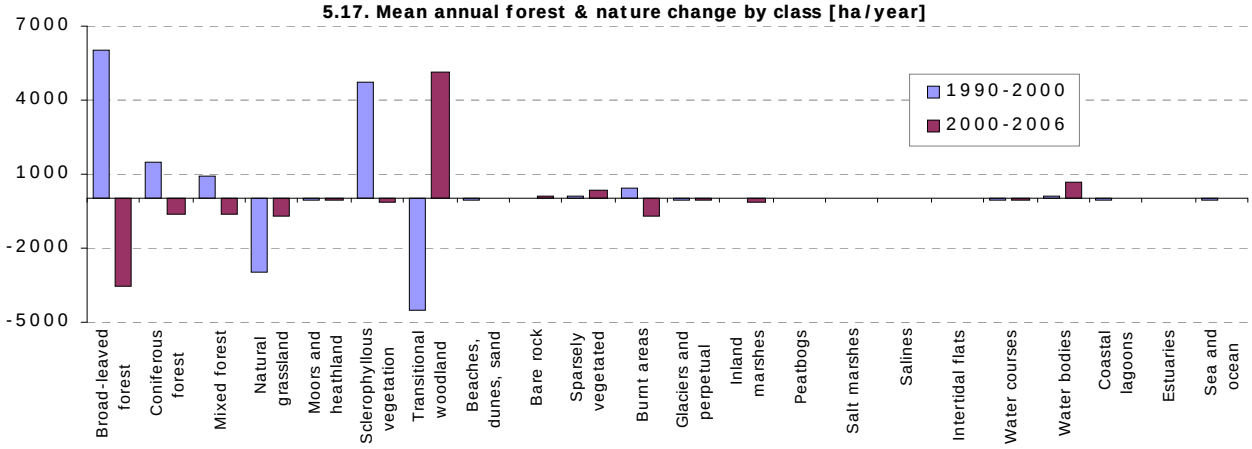
Slow down of withdrawal of farming; internal exchange of natural land cover

Natural land in Italy is composed mainly of forested areas with prevailing share of broad-leaved forest. The rest of natural landscape consists of natural grasslands, sclerophyllous vegetation areas, bare rocks and sparsely vegetated land.
The intensity of changes of natural surfaces decreased significantly, compared to the period 1990/2000. It is caused mostly by slowdown of natural land formation through withdrawal of farming and by slowdown of conversion from transitional woodland to forest.
During the 2000-2006 period, the exchange of natural surfaces has been driven mainly by internal changes as recent conversions between standing forests and transitional woodland, rotation of semi-natural land cover and conversions from semi-natural vegetation to forested land. Besides, water bodies creation on expense of agricultural land or inland marches and beaches and also forests / shrubs fires are the other most significant flows in development of natural surfaces.
Compared with extent of internal changes between natural surfaces, area of natural land take by other land cover types is significantly lower. Arable land, agriculture with natural vegetation and artificial sprawl with prevailing share of mineral extraction and construction sites extension are the biggest consumers of natural land cover in Italy.

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



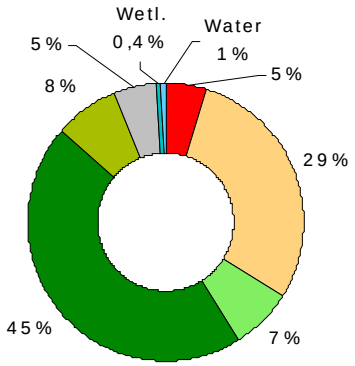
5.17. Mean annual forest & nature change by class [ha/year]



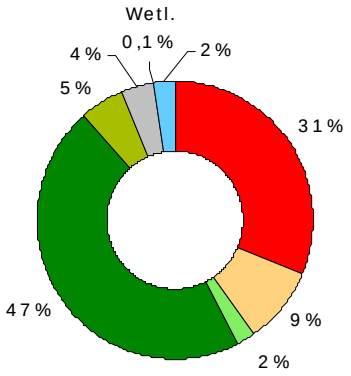
Annex: Land cover flows and trends

Land cover flows 2000-2006

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

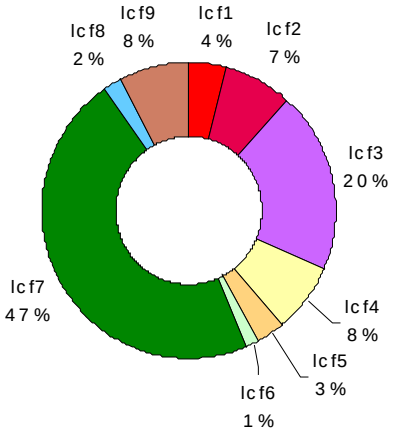


6.19. Formation of land cover 2000-2006 [% of total change area]



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

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

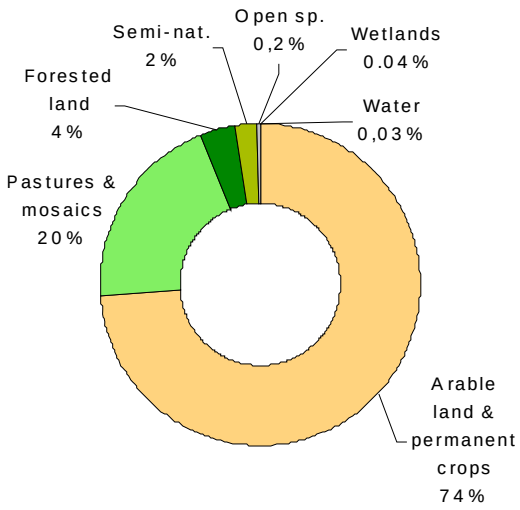


- lcf1 Urban land management
- lcf2 Urban residential sprawl
- lcf3 Sprawl of economic sites and infrastructures
- lcf4 Agriculture internal conversions
- lcf5 Conversion from forested & natural land to agriculture
- lcf6 Withdrawal of farming
- lcf7 Forests creation and management
- lcf8 Water bodies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

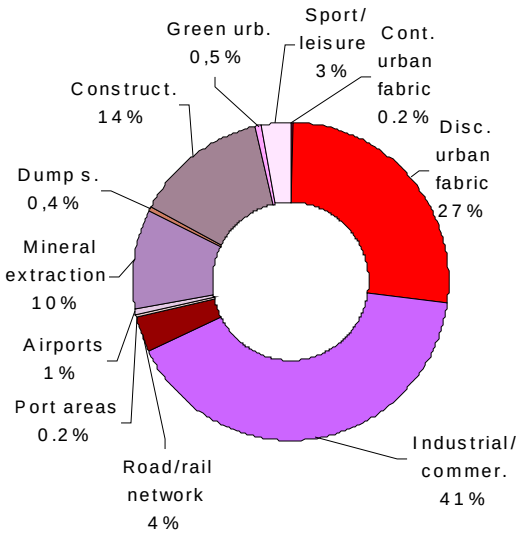
Italy

Artificial areas

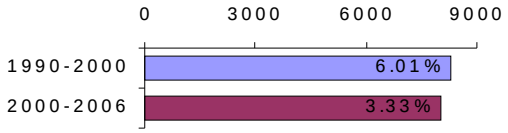
7.21. Consumption by artificial land take 2000-2006 [% of total]



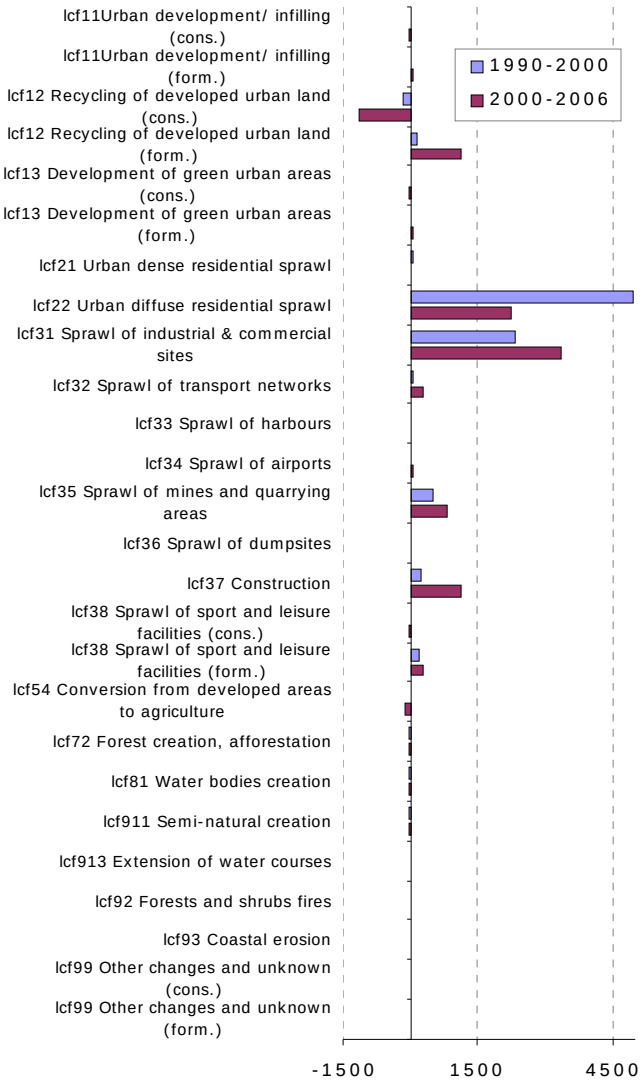
7.22. Formation by artificial land take 2000-2006 [% of total]



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

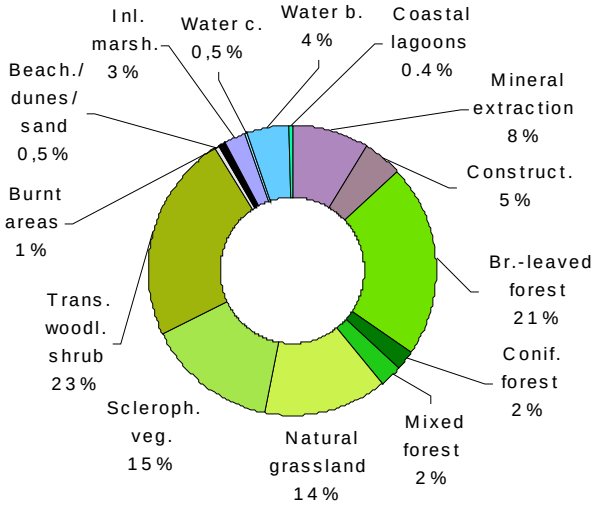


7.24. Artificial development by change drivers (LC FLOWS) [ha/year]

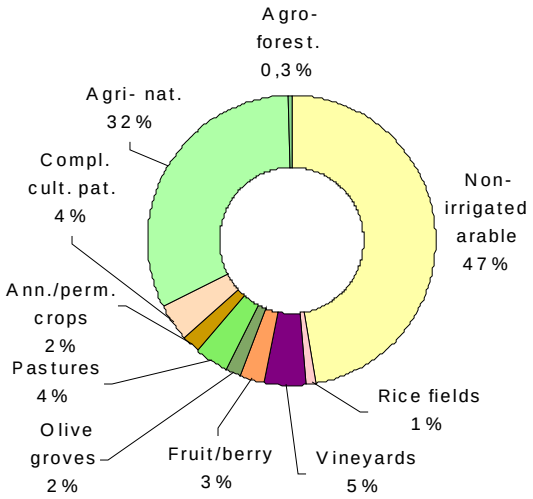


Agriculture

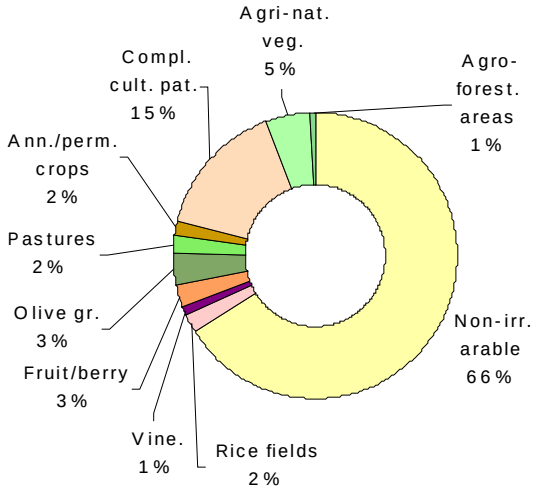
8.25. LC consumed by agriculture 2000-2006 [% of total]



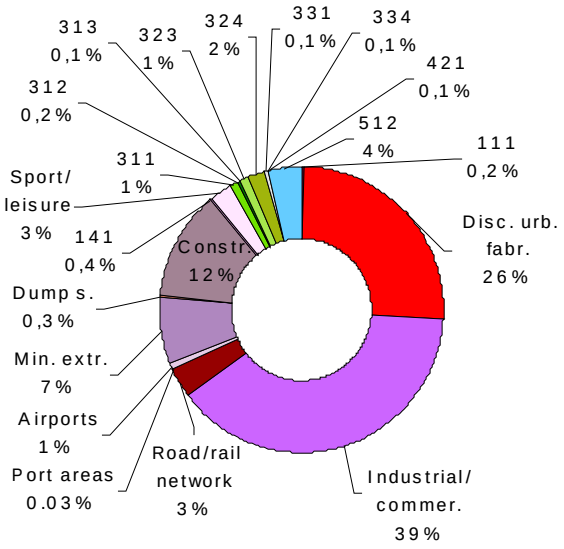
8.26. Formation of agricultural land from non-agriculture 2000-2006 [% of total]



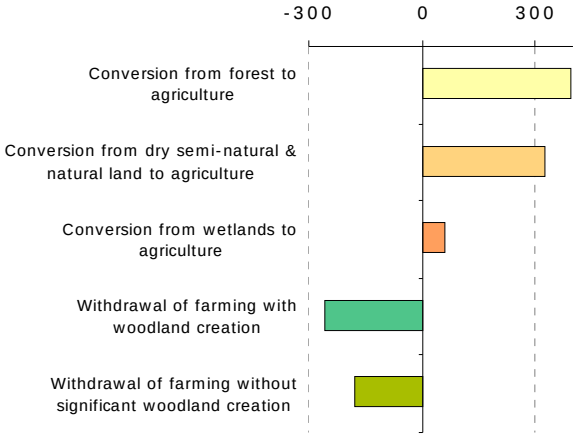
8.27. Consumption of agricultural land by non-agriculture 2000-2006 [% of total]



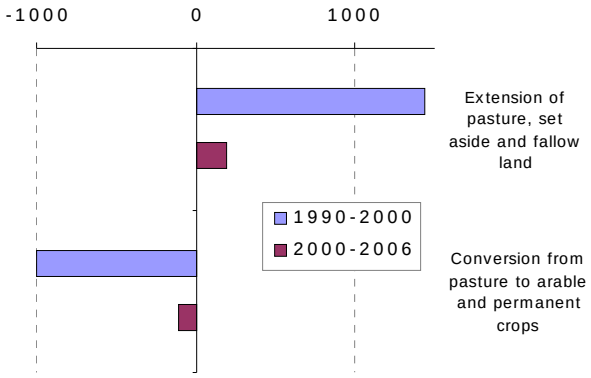
8.28. Formation of non-agricultural land from agriculture 2000-2006 [% of total]



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

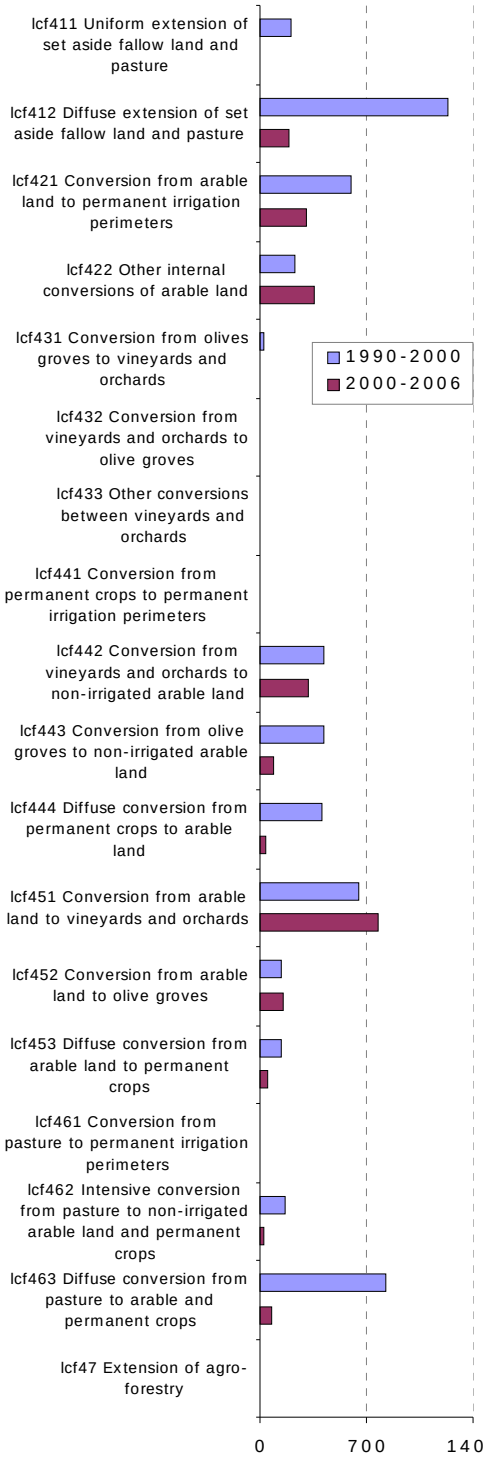


8.30. Mean annual conversion between arable land and pasture [ha/year]

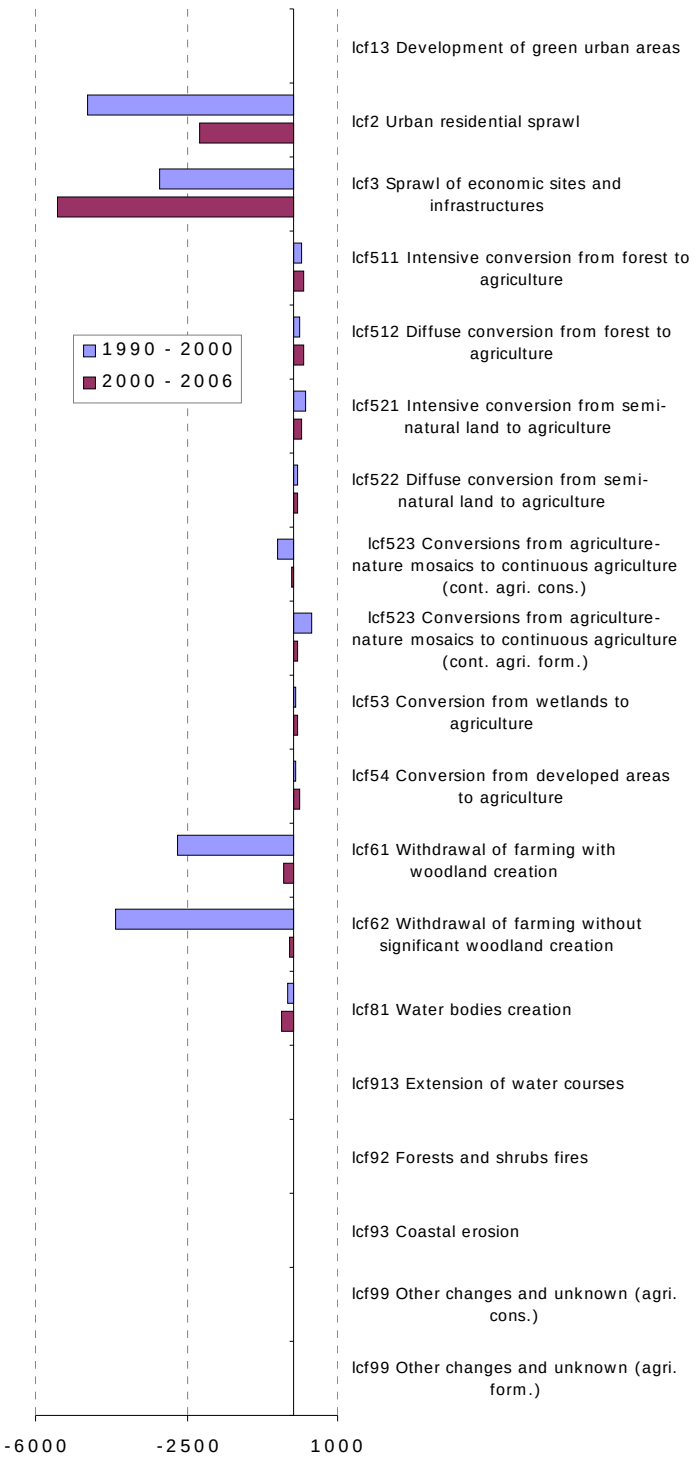


Italy

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



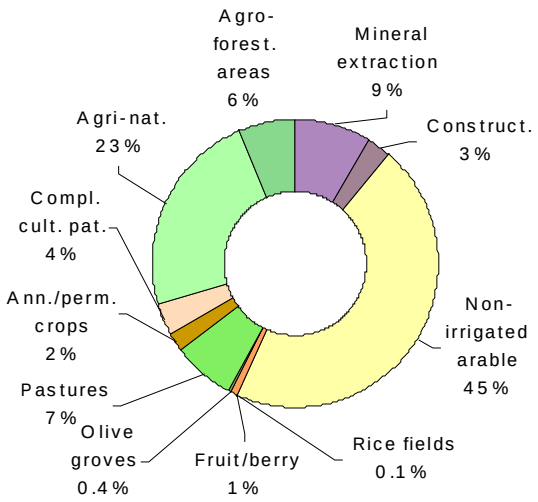
9.32. Mean annual conversions between agriculture and other LC types [ha/year]



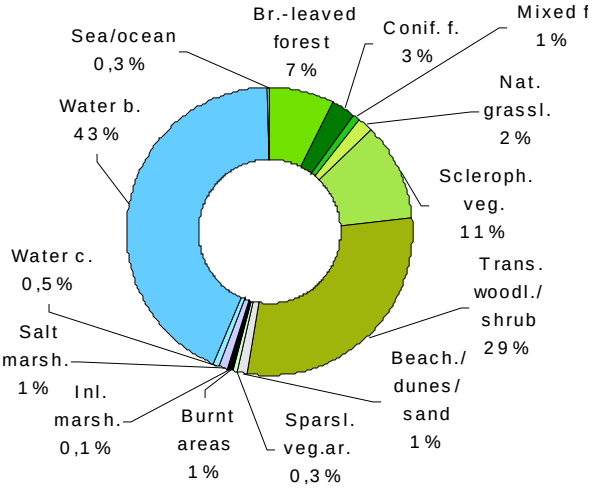
Italy

Forest & nature

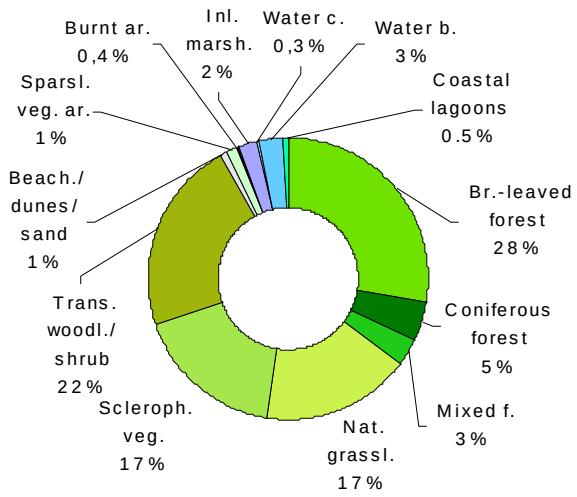
10.33. LC consumed by forest & nature 2000-2006 [% of total]



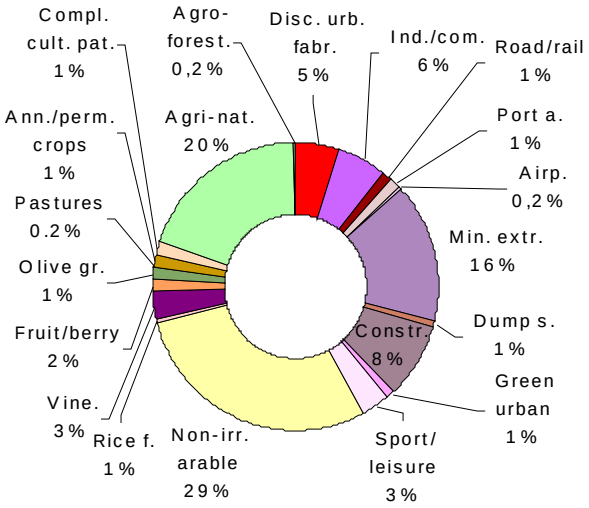
10.34. Formation of forest & nature land from non-forest /nature 2000-2006 [% of total]



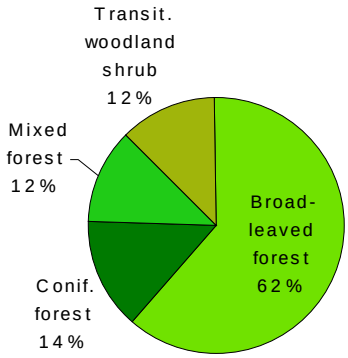
10.35. Consumption of forest & nature land by non-forest /nature 2000-2006 [% of total]



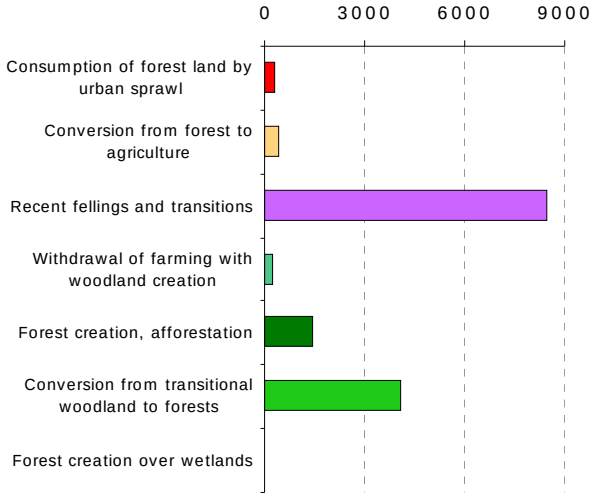
10.36. Formation of non-forest /nature land from forest & nature 2000-2006 [% of total]



10.37. Forested land 2006 [% of total area]

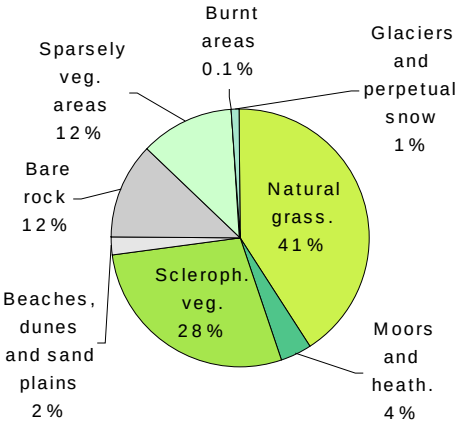


10.38. Main trends in woodland & forests consumption/formation 2000-2006 [ha/year]

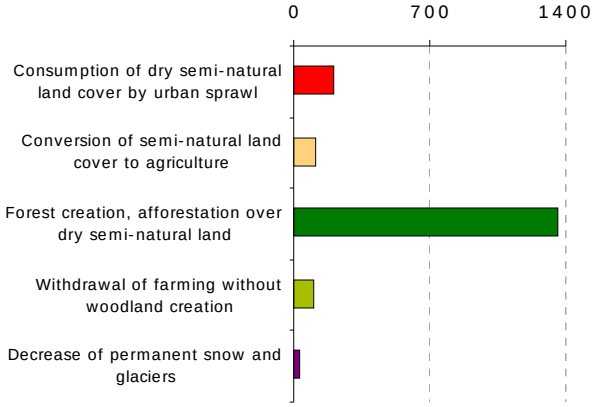


Italy

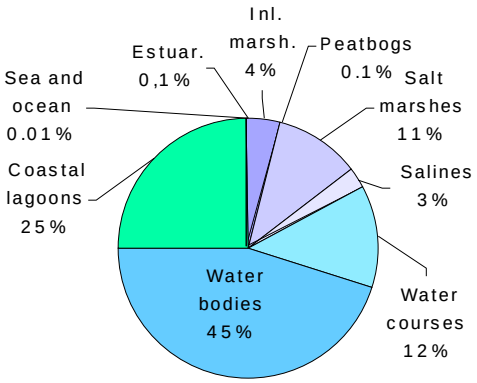
11.39. Dry semi-natural areas 2006 [% of total area]



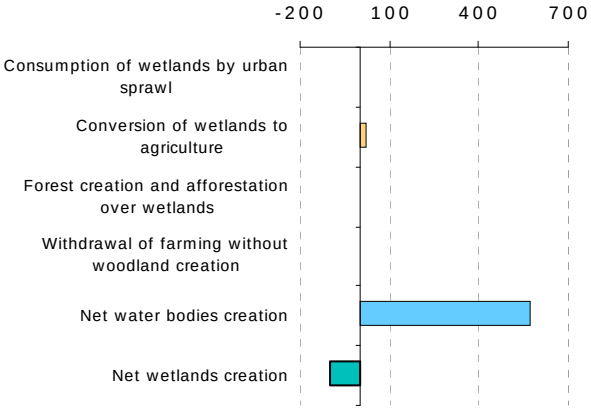
11.40. Main trends in dry semi-natural land consumption/formation 2000-2006 [ha/year]



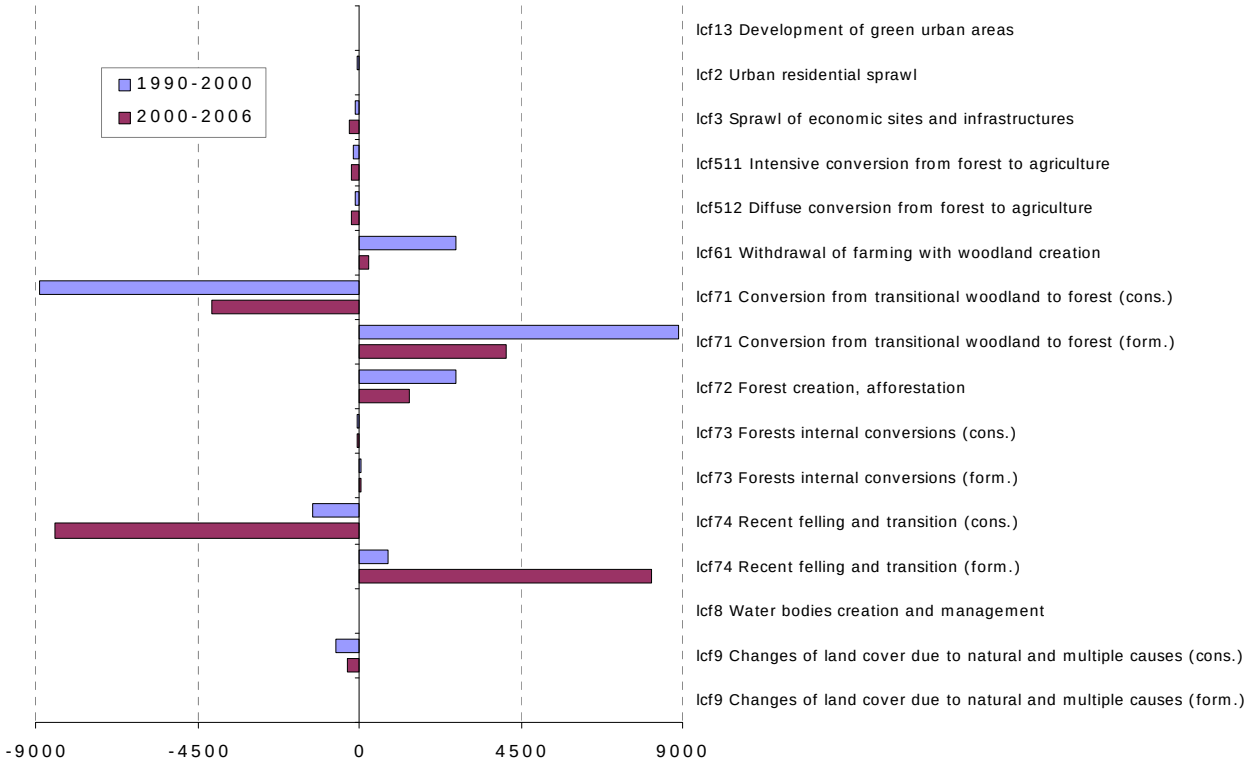
11.41. Wetlands & water 2006 [% of total area]



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

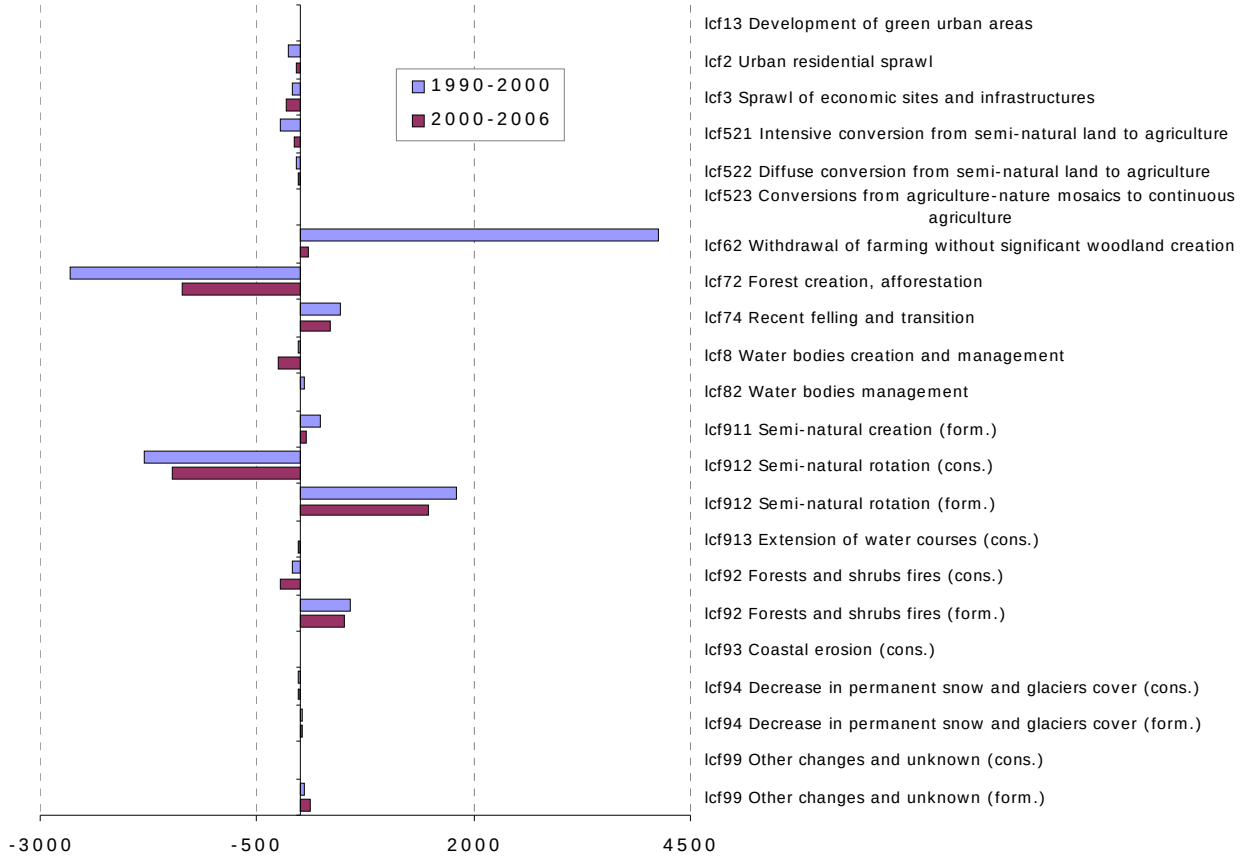


11.43. Mean annual conversions of forest & other woodland [ha/year]

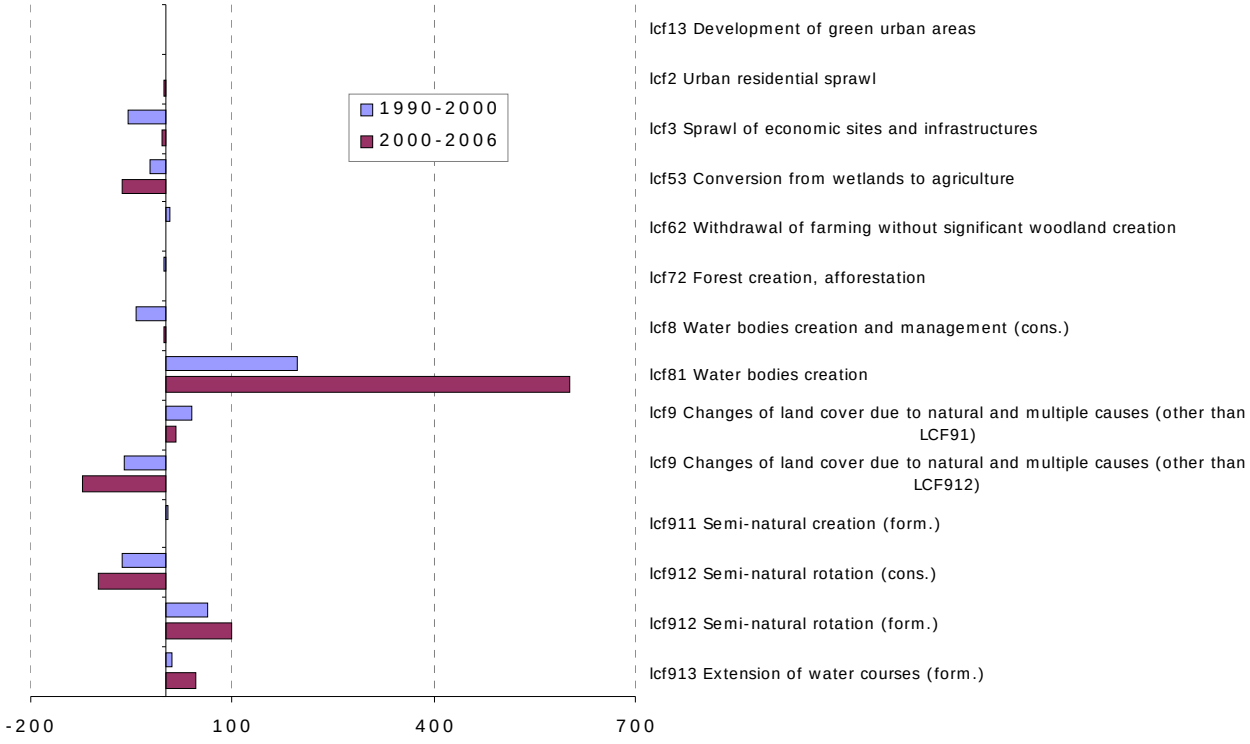


Italy

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

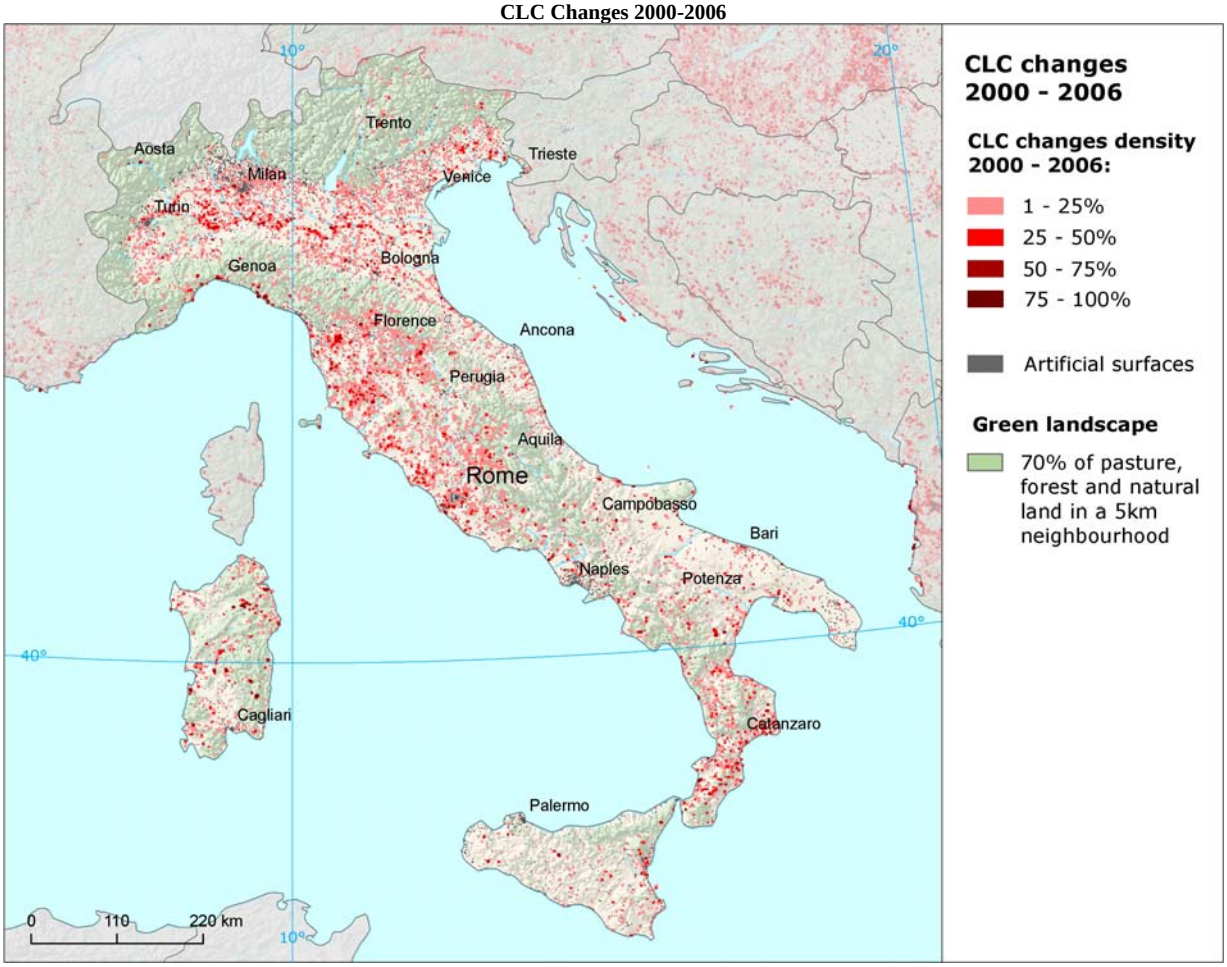


12.45. Mean annual conversions of wetlands and water LC [ha/year]

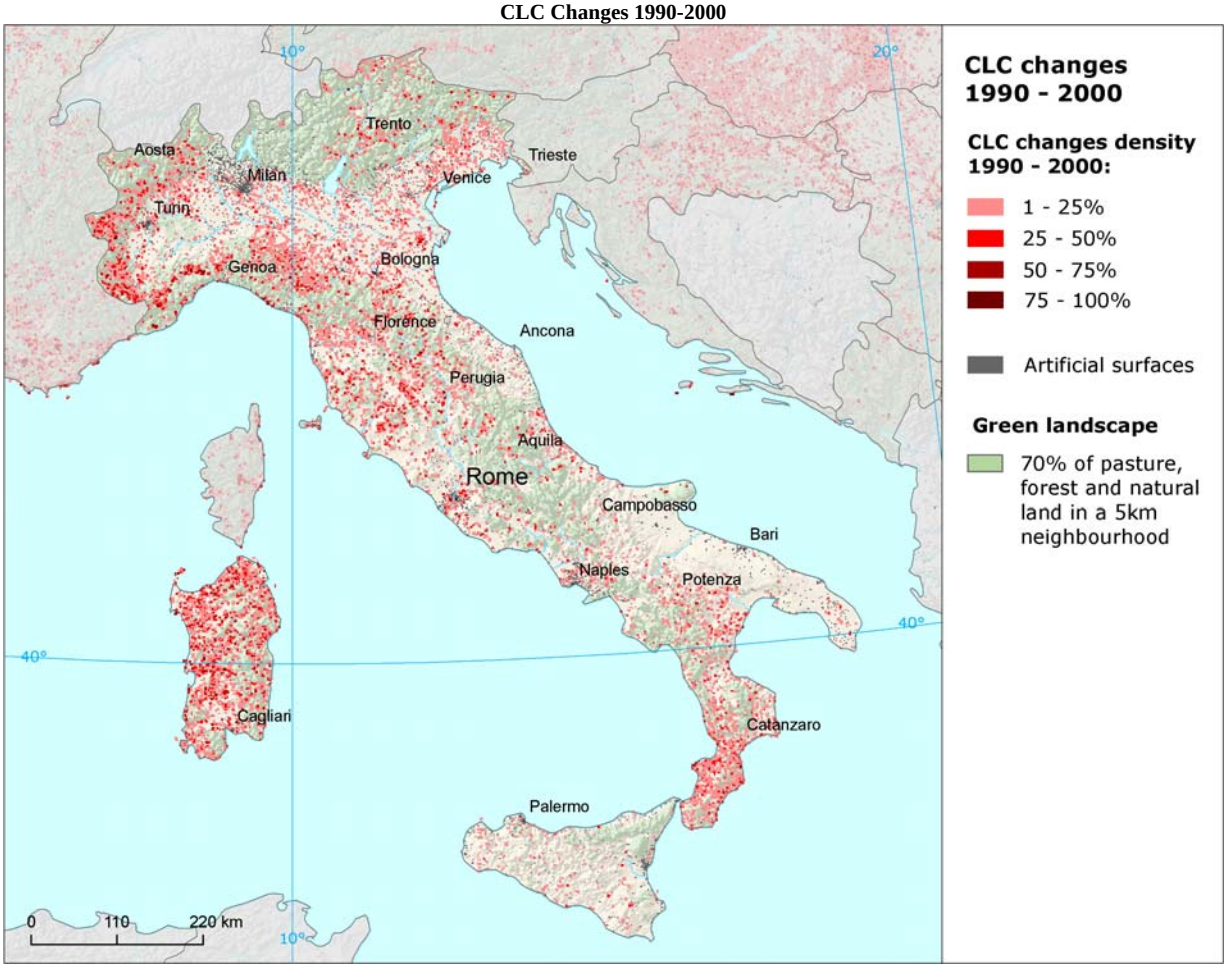


Italy

CLC Changes 2000-2006

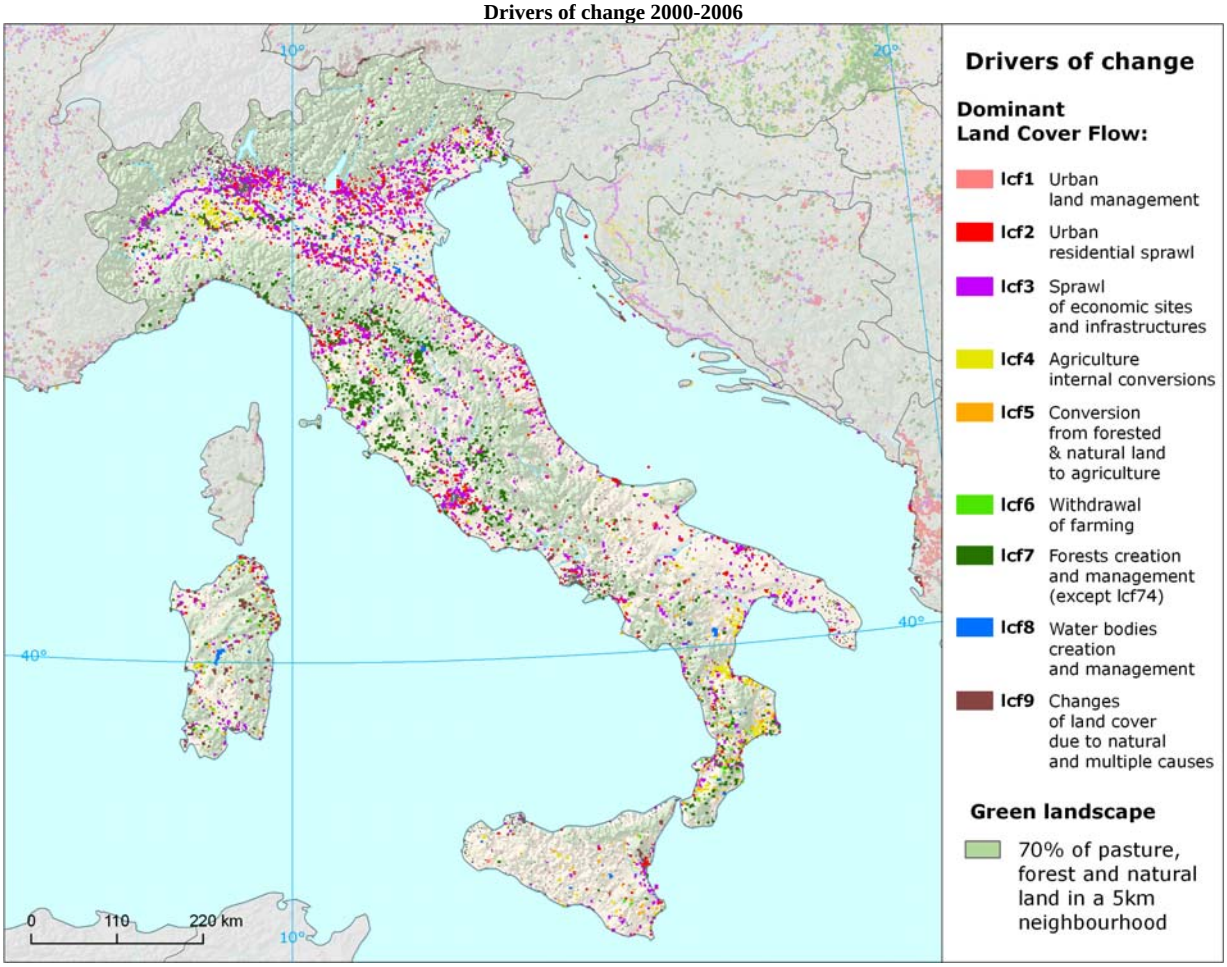


CLC Changes 1990-2000

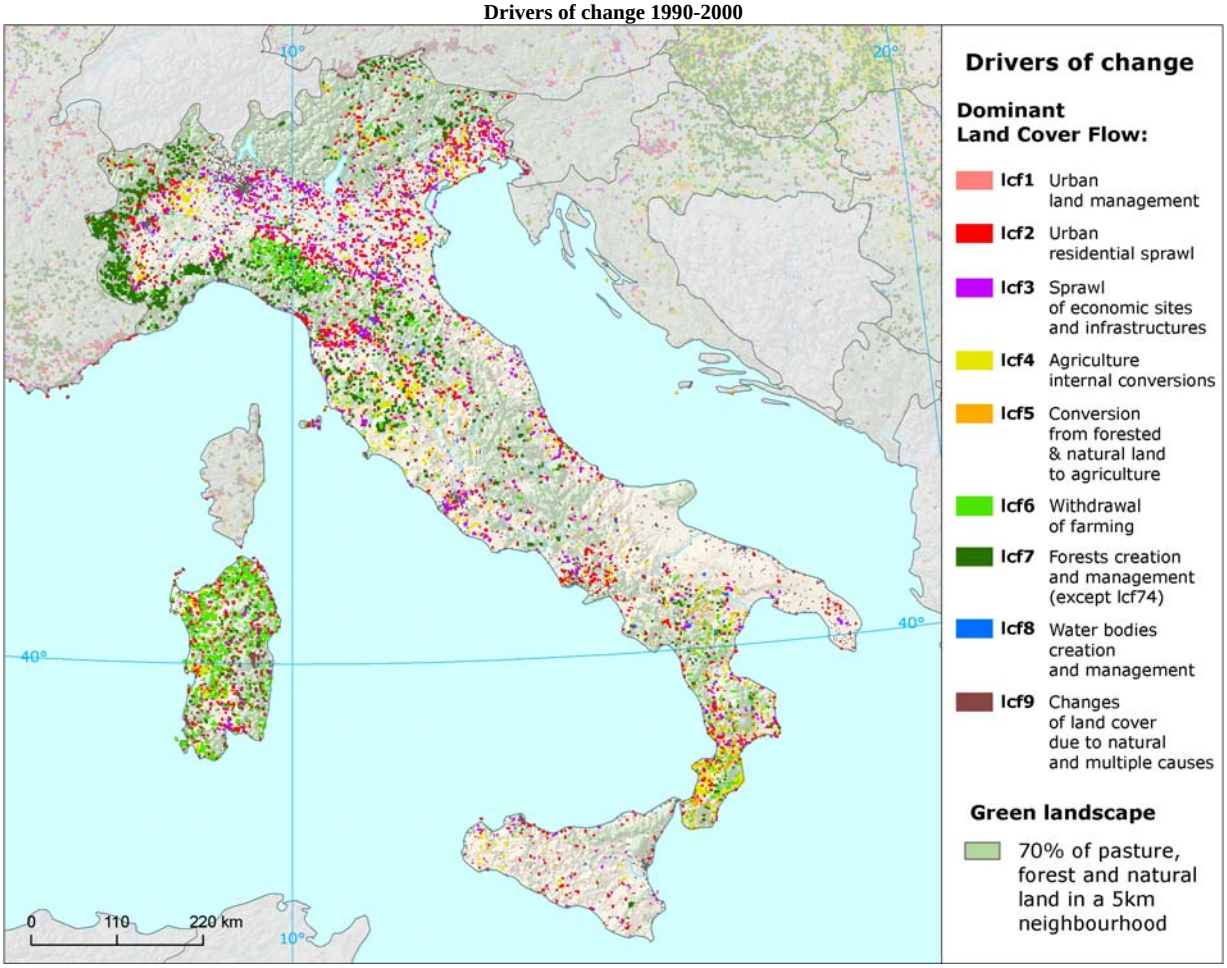


Italy

Drivers of change 2000-2006

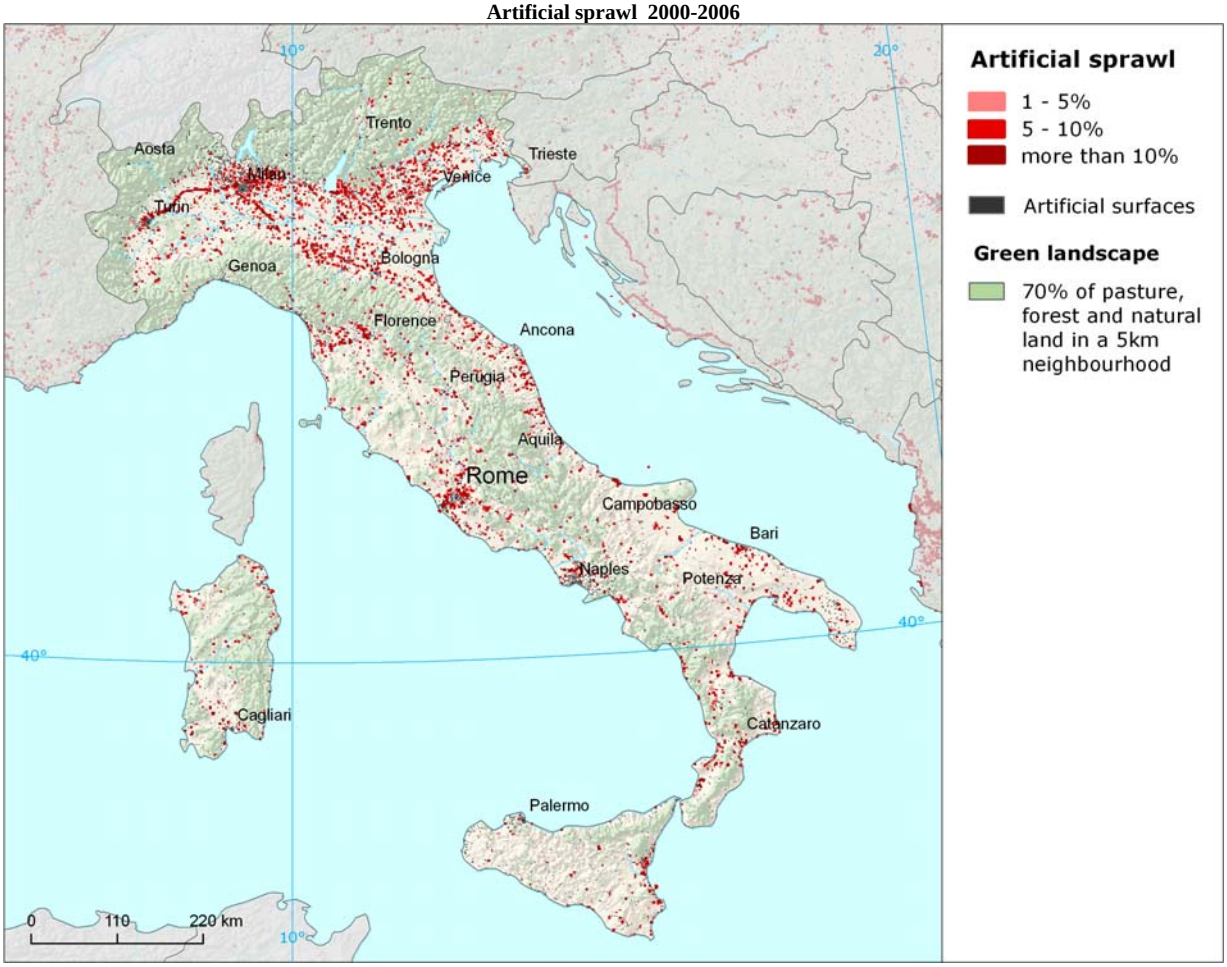


Drivers of change 1990-2000

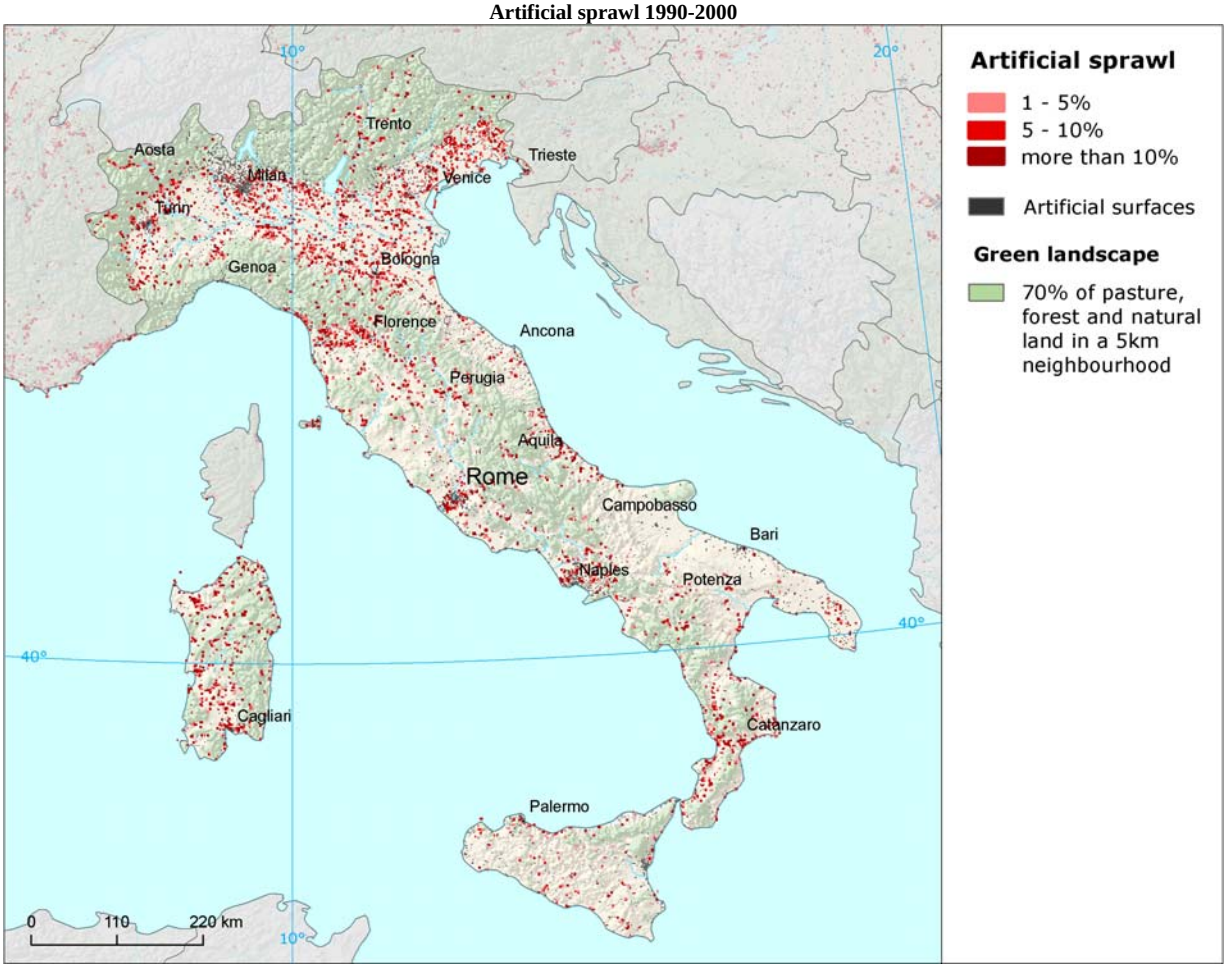


Italy

Artificial sprawl 2000-2006

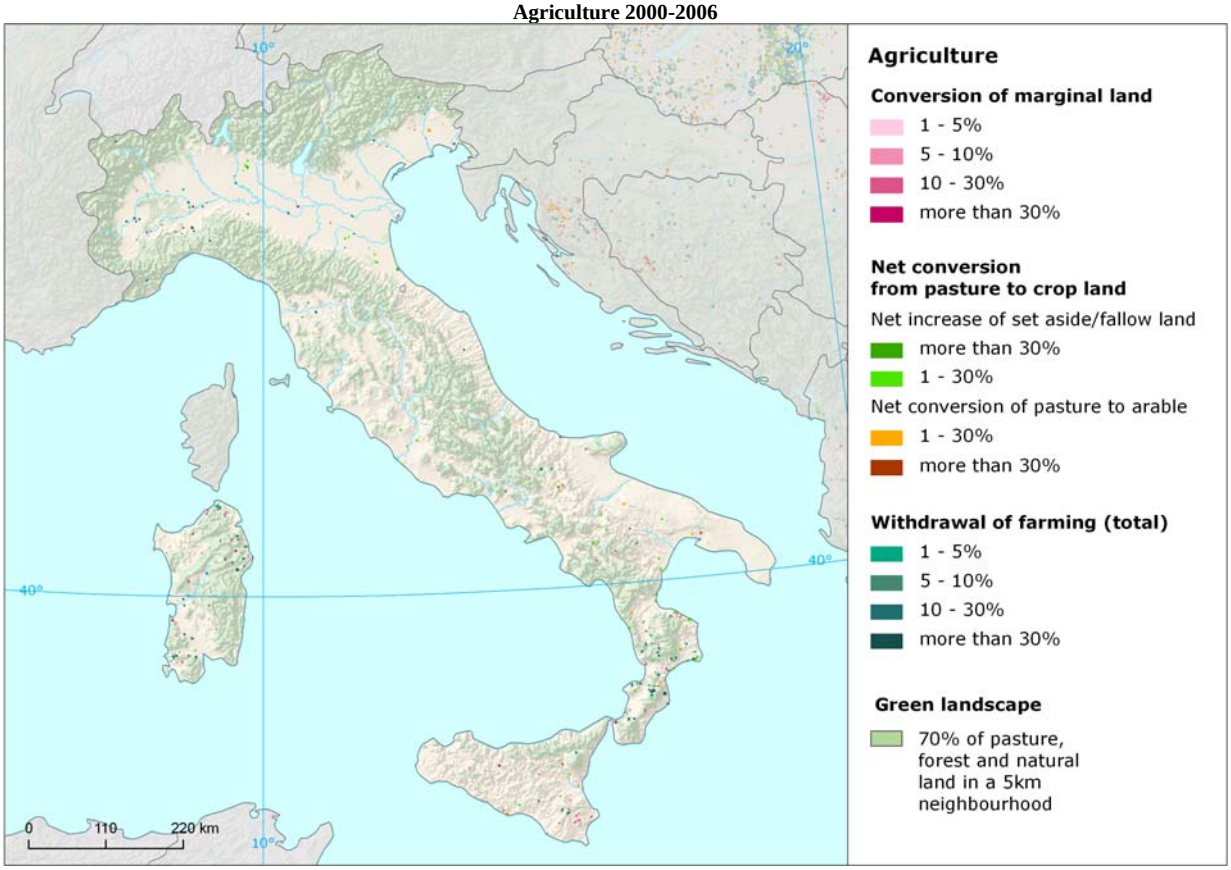


Artificial sprawl 1990-2000

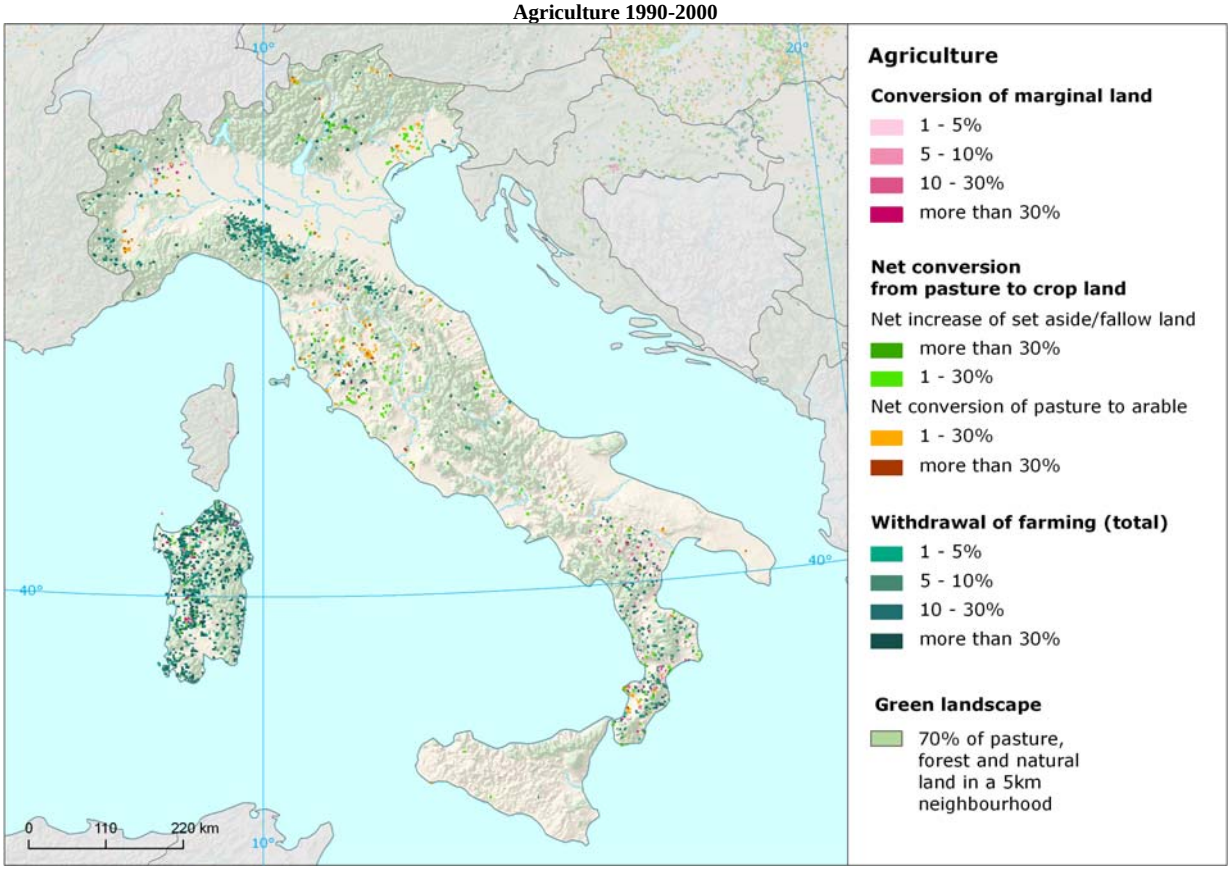


Italy

Agriculture 2000-2006

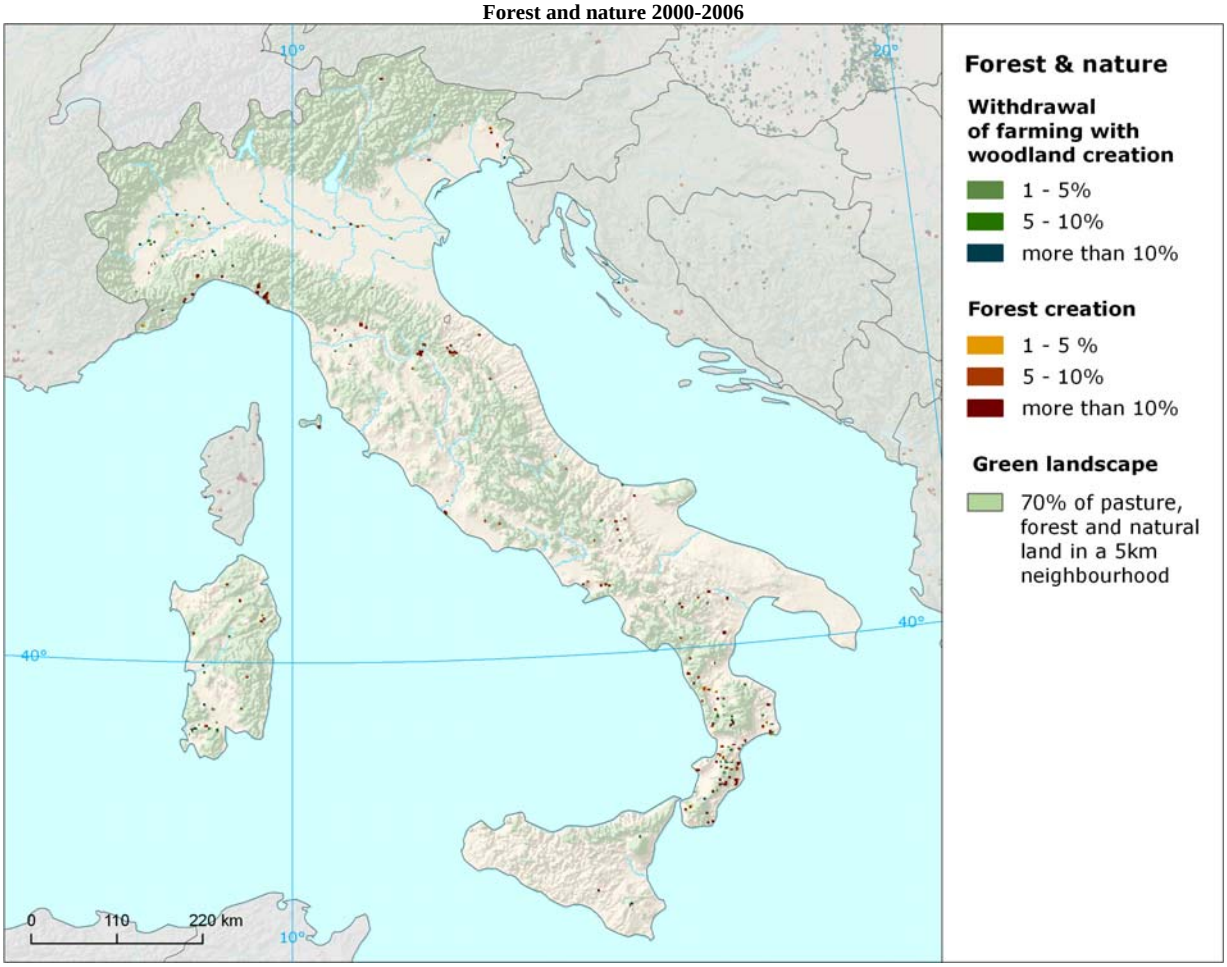


Agriculture 1990-2000



Italy

Forest and nature 2000-2006



Forest and nature 1990-2000