Country fact sheet

Land cover 2012







European Environment Agency

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Land cover 2012

Overview of land cover & change 2006-2012

The comparison of annual change rates for the last three observing periods shows significant acceleration of the land cover development in Poland in the period 2006-2012. However, in comparison with other European countries, the overall land cover change rate of 0.17% is still relatively low, safely below the European average.

The overall acceleration of the land cover development intensity is caused by the acceleration of forest creation and management as well as by withdrawal of farming and artificial development. All these flows show considerably higher intensity than in both previous periods. The only flows which continuously looses its intensity are internal agricultural conversions and also the conversion from forested or natural land to agriculture, which indicates an overall slowdown of the agricultural development dynamics.

The artificial development in Poland is driven mostly by extensive highway construction, which seems to be spread all over the country. But there can be also be observed dense concentrations of artificial development around all major cities in Poland. The annual land take rate rapidly increased, compared to the previous period 2000-2006 and also to the period 1990-2000 and all major compounds of the artificial development occur with higher intensity in the latest period. Compared to the European average, with the annual land take rate of 0.49% of initial artificial area, the land take in Poland is significantly faster.

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 Poland: 6



CORINE Land Cover types - 2012







1.2. Net change in land





Artificial areas

Semi-natural vegetation

Arable land & permanent crops Pastures & mosaics □ Open spaces/ bare soils Wetlands





Water bodies

Summary balance table 20	006-2012	2							
	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	17341	138166	48904	101578	387	154	1119	5402	313051
Consumption of initial LC	85.5	565.6	385.0	1997.5	29.6	2.7	0.5	1.4	3068
Formation of new LC	570.9	97.1	62.9	2306.5	1.7	0.2	1.2	27.2	3068
Net Formation of LC	485.4	-468.5	-322.1	309.0	-27.8	-2.5	0.7	25.8	0
Net formation as % of initial year	2.8	-0.3	-0.7	0.3	- 7.2	-1.6	0.1	0.5	
Total turnover of LC	656.4	662.6	447.9	4304.0	31.3	2.9	1.8	28.6	6135
Total turnover as % of initial year	3.8	0.5	0.9	4.2	8.1	1.9	0.2	0.5	2.0
Land cover 2012	17826	137698	48581	101887	359	151	1119	5428	313051



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

Summary trend figures	2000-2006	2006-2012
Annual land cover change [ha/year]		51129
Annual land cover change as % of initial year	0.10%	0.16%
Land uptake by artificial development as mean annual change [ha/year]	3338	8420
Agricultural land uptake by urban and infrastructures development as mean annual change [ha/year]	3211	7575
Net uptake of forests and semi-natural land by agriculture as mean annual change [ha/year]	- 3337	-6190
Net conversion from pasture to arable land and permanent crops as mean annual change [ha/year]	-18	168
Forest & other woodland net formation as mean annual change [ha/year]	3220	5151
Dry semi-natural land cover net formation as mean annual change [ha/year]	-157	-506
Wetlands & water bodies net formation as mean annual change [ha/year]	709	442







Artificial surfaces sprawl (2006-2012)

Accelerated sprawl, driven by highway construction

In comparison with both previous periods, artificial development in Poland accelerated rapidly. This acceleration is driven mostly by the extensive highway construction, but also by the acceleration of all other important compounds of artificial development. The sprawl of mines and quarrying sites is the second major driver of land take, followed by the sprawl of industrial or commercial sites and residential areas. There also occurs significant amount of urban land recycling in the period 2006-2012, which incorporates conversion from construction sites into transportation network and residential, commercial or industrial areas. There are a lot of highway segments under construction, distributed all over the country (e.g. between the capital city Warsaw and Lodz, the one connecting the northern coast with the central part of the country, or segments in the western Poland, between Szczecin and Zielona Gora and in the south-eastern Poland connecting Krakow and Przemysl). Otherwise, the artificial development is concentrated around most of the major cities in Poland, including capital city Warsaw, Gdansk, Poznan, Wroclaw, Szczecin or Katowice.





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Agriculture (2006-2012)



Agricultural land consumption, internal intensification

In contrast to other land cover flows in Poland, the development of agricultural land is in major decline, with significantly decreasing intensity of the change dynamics and increasing consumption of agricultural land by the artificial sprawl and withdrawal of farming. Geographically, there are two major concentrations of withdrawal of farming, in north-western Poland and north-eastern from the Krakow city, but there are also other patches with this conversion scattered over the country. Compared with these consumption flows, the intensity of internal agriculture development is rather low showing a continuously decreasing tendency. There can be observed a significant trend of agricultural land use intensification, with prevailing conversions from arable land to vineyards and orchards and intensive conversion from pasture to arable or crop land. On the other hand, the intensity of opposite extension of pasture significantly decreased, compared to the previous period. As a result pastures show negative net change balance, with almost 1% consumption of their initial area.





Accelerated forest development

There are two major drivers of natural land development in Poland – internal forest conversions and withdrawal of farming – and both of them show significantly higher intensity recently, compared to both previous periods 1990-2000 and 2000-2006. The intensity of both directions of internal forest conversions – recent felling and forest creation, are comparable. The major source for the new woodland creation is the withdrawal of farming, mainly of pastures and agricultural areas with natural vegetation, with transitional woodland creation. This flow occurs with circa doubled intensity, compared to the period 2000-2006. Not only agricultural, but also natural grasslands are a frequent source of forest creation in the country. Concerning the other exchange of the natural land cover, there were observed several cases of the water bodies creation over former arable land areas or mineral extraction sites in Poland.



Annex: Land cover flows and trends

Land cover flows 2006-2012



Semi-natural vegetation

□ Open spaces/bare soils Wetlands

Water bodies





- Icf1 Urban land management
- Icf2 Urban residential sprawl
- Icf3 Sprawl of economic sites and infrastructures
- Icf4 Agriculture internal conversions
- Icf5 Conversion from forested & natural land to agriculture
- □ lcf6 Withdrawal of farming
- Icf7 Forests creation and management
- Icf8 Water bodies creation and management
- Icf9 Changes due to natural and multiple causes

Artificial areas



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



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



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]



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



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



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



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

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















55%



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







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













