

Southern Illinois Land Use

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This report examines the land use and changes in Southern Illinois. Land cover data provides general information on landscape and natural resources and can be used as an important indicator of local ecosystems. For purposes of this project, the Southern Illinois region includes the 20 southernmost counties in Illinois: Alexander, Franklin, Gallatin, Hamilton, Hardin, Jackson, Johnson, Massac, Perry, Pope, Pulaski, Randolph, Saline, Union, White and Williamson, and the 4 counties right to the north of them: Edwards, Jefferson, Wabash and Wayne.

Methodology

Seven major land cover categories are delineated in the 1996 Land Cover Atlas of the Illinois Department of Natural Resources: cropland, grassland, forested and wooded land, wetland, urban and built-up land, open water, and barren and exposed land. The Land Cover of Illinois 1999-2000 inventory reclassifies land use into five categories: agricultural land, forest, urban, wetland, and other (surface water, barren and exposed land, etc.). The 1996 data were reorganized for the purpose of comparison: “cropland” and “rural grass land” were combined into the “agricultural land” category; “urban grass land” was added to the “urban and built-up land” category; “open water” and “barren and exposed land” were summed into the “other” category.

Key Findings

In summary, the key findings of this report on land use in Southern Illinois are as follows:

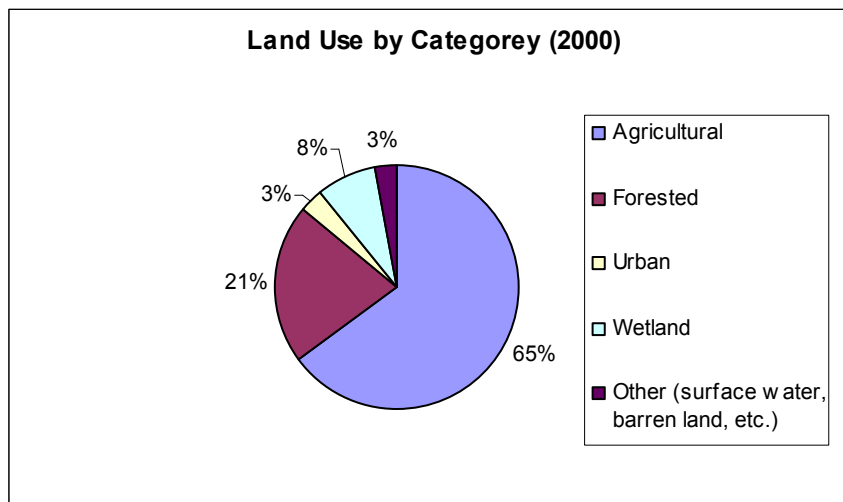
- A distinct spatial pattern of agricultural land cover exists in Southern Illinois. The northeastern counties (Wabash, Edwards, White, Wayne, and Hamilton) have the highest percentages of land devoted to agricultural use, while the two most forested counties (Hardin and Pope) have the lowest shares.
- The forest distribution in Southern Illinois is dominated by the range of the Shawnee National Forest. Counties with a large proportion of timberland in national forest (Pope, Hardin, Alexander, Jackson, Union, and Johnson) are also ranked high with respect to acreage share in forested land.
- In general the Southern Illinois region is very rural. Williamson is the most urbanized in Southern Illinois in terms of both urban land acreage and percentage of land cover in urban use.

- Obvious spatial patterns emerge in land use changes during the period of 1995 to 2000. Agricultural land acreage increased in the four far western counties along the Missouri River (Alexander, Union, Jackson, and Randolph). Both Hardin and Pope Counties lost more than 10% of acreage in agricultural land, and gained about 200% of urban land acreage. Forested land increased considerably in the northeast-region counties (Wayne, Edwards, Wayne, Jefferson, Hamilton, and White). Urban land acreage only declined in five counties (Wabash, Edwards, Wayne, Jefferson, and Franklin) along the mid-north region boundary.

Land Use Overview

As depicted in Figure 1, agricultural land covers approximately 65% of the Southern Illinois area, which is below the statewide figure of 76.3%. Forest accounts for 21% of the total surface area, nearly two times the statewide average of 11.5%. Compared with the whole state, this region is more rural and the proportion of land classified as urban is less than half of the statewide average of 6.4%.

Figure 1: Land Use by Category in Southern Illinois (2000)



Source: USDA, IDA and IDNR, Illinois Interagency Landscape Classification Project, 2002

Agricultural Land Percentage and Acreage

As shown in Table 1, the northeastern counties (Wabash, Edwards, White, Wayne, and Hamilton) have the highest percentages of land devoted to agricultural use (more than 75%). In comparison, Hardin and Pope have the lowest shares of land cover in agriculture (less than 30%), which can be attributed to the dominating proportion of forested land in these two counties. The southwestern counties (Jackson, Williamson, Union, Johnson, and Alexander) have 55% of acreage in agricultural land. The remaining counties have higher agricultural land percentages ranging from 63% (Jefferson) to 75.2% (Randolph).

Mapping this data confirms a distinct spatial pattern among Southern Illinois counties in agricultural land use (Figure 3).

Table 1: Ranking of Counties by Agricultural Land Percentage and Acreage (2000)

<i>County</i>	<i>Acres</i>	<i>Percent of County</i>	<i>Rank by Percent</i>	<i>Rank by Acreage</i>
Wabash	118,015	81.1	1	13
Edwards	114,570	80.4	2	15
White	258,189	80.4	3	3
Wayne	360,999	78.9	4	1
Hamilton	217,928	78.1	5	6
Randolph	286,437	75.2	6	2
Perry	212,312	74.2	7	7
Gallatin	154,371	73.6	8	10
Pulaski	94,000	72.3	9	17
Franklin	188,715	68.3	10	8
Saline	168,245	68.0	11	9
Massac	104,585	67.6	12	16
Jefferson	235,293	63.0	13	4
Jackson	226,685	58.5	14	5
Union	147,325	54.5	15	12
Williamson	149,824	52.7	16	11
Alexander	85,132	52.5	17	18
Johnson	115,180	51.6	18	14
Hardin	35,986	31.0	19	20
Pope	73,014	30.5	20	19

Source: USDA, IDA and IDNR, Illinois Interagency Landscape Classification Project, 2002

Forested Land Percentage and Acreage (2000)

Pope County has both the largest forest acreage (140,229) and the highest percentage (58.6%) of land cover in forest (Table 2). Hardin County has a similar share (58%) of acreage in forested land as Pope County, but only ranks seventh by forest acreage due to its relatively small size.

The Shawnee National Forest accounts for most of the forest distribution in Southern Illinois. This is clearly shown by the mapping of national forest data (Figure 4). Counties with the highest percentages of timberland as national forest (Pope, Hardin, Alexander, Jackson, Union, and Johnson) are also ranked top in terms of acreage share in forested land.

Figure 3: Map of Percent of Land Cover in Agricultural Use (2000)

Percent of Land Cover in Agricultural Use Southern Illinois Counties, 2000

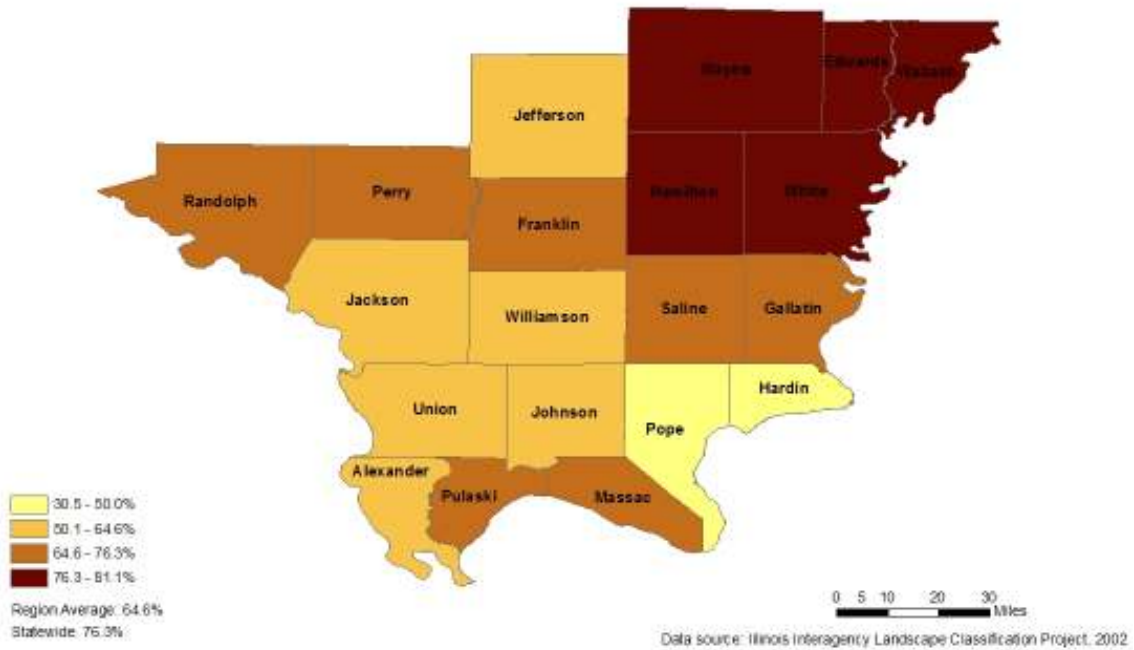


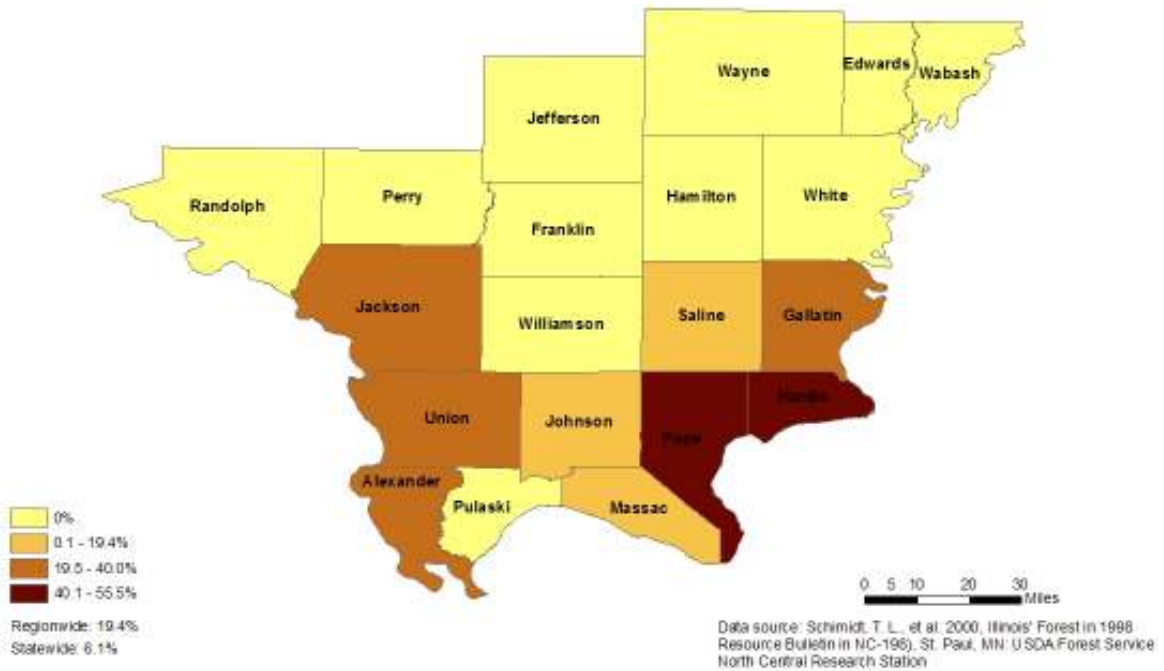
Table 2: Ranking of Counties by Forest Land Percentage and Acreage (2000)

<i>County</i>	<i>Acres</i>	<i>Percent of County</i>	<i>Rank by Percent</i>	<i>Rank by Acreage</i>
Pope	140,229	58.6	1	1
Hardin	67,226	58.0	2	7
Johnson	74,585	33.4	3	4
Union	88,199	32.6	4	3
Alexander	42,364	26.1	5	10
Jackson	91,684	23.7	6	2
Jefferson	74,081	19.8	7	5
Williamson	53,681	18.9	8	8
Wayne	71,888	15.7	9	6
Massac	24,320	15.7	10	16
Saline	37,702	15.2	11	12
Edwards	20,265	14.2	12	18
Hamilton	39,217	14.1	13	11
Gallatin	25,745	12.3	14	15
Randolph	46,295	12.1	15	9
Pulaski	14,127	10.9	16	20
Wabash	15,834	10.9	17	19
Perry	29,222	10.2	18	14
White	31,022	9.7	19	13
Franklin	24,279	8.8	20	17

Source: USDA, IDA and IDNR, Illinois Interagency Landscape Classification Project, 2002

Figure 4: Percent of Timberland as National Forest (1998)

Percent of Timberland as National Forest Southern Illinois Counties, 1998



Urban Land Percentage and Acreage

In general, the Southern Illinois region is very rural. Only Williamson County has a higher percentage of acreage in urban land than the statewide average of 6.4%. It has both the largest urban acreage (20,560) and the highest percentage (7.2%) of land cover in urban area in the Southern Illinois region. Williamson County is part of the Metro Lakeland area of Jackson-Williamson Counties where 120,000 people live. The county seats, Marion and Carbondale in Jackson County, are the two largest urban population centers in Southern Illinois.

Table 3: Ranking of Counties by Urban Land Percentage and Acreage (2000)

<i>County</i>	<i>Acres</i>	<i>Percent of County</i>	<i>Rank by Percent</i>	<i>Rank by Acreage</i>
Williamson	20,560	7.2	1	1
Saline	11,543	4.7	2	6
Massac	7,159	4.6	3	9
Franklin	12,702	4.6	4	4
Jackson	13,450	3.5	5	2
Hardin	3,990	3.4	6	17
Randolph	12,877	3.4	7	3
Jefferson	11,685	3.1	8	5
Perry	8,424	2.9	9	7
Alexander	4,571	2.8	10	14
Pulaski	3,612	2.8	11	18
White	8,301	2.6	12	8
Gallatin	4,904	2.3	13	12
Wabash	3,023	2.1	14	19
Union	5,361	2.0	15	10
Johnson	4,557	2.0	16	15
Pope	4,643	1.9	17	13
Hamilton	4,942	1.8	18	11
Edwards	2,269	1.6	19	20
Wayne	4,546	1.0	20	16

Source: USDA, IDA and IDNR, Illinois Interagency Landscape Classification Project, 2002

Land Use Changes

Agricultural Land Use Change (1996-2000)

Agricultural land acreage increased in the four westernmost counties along the Missouri River (Alexander, Union, Jackson, and Randolph) from 1996 to 2000 (Table 4). Half of the twenty counties lost acreage in agricultural land, where the greatest declines were in Hardin, Jefferson, and Pope. Despite the increase of agricultural land in the other counties, the number of farms in them declined sharply in the late 1990s.¹

Table 4: Agricultural Land Use Change (1996-2000)

<i>County</i>	<i>1996</i>	<i>2000</i>	<i>1996-2000 Acreage Change</i>	<i>1996-2000 Change Percent</i>
Alexander	71,117	85,132	14,015	19.7
Edwards	117,722	114,570	-3,152	-2.7
Franklin	184,817	188,715	3,898	2.1
Gallatin	156,272	154,371	-1,901	-1.2
Hamilton	231,110	217,928	-13,182	-5.7
Hardin	44,948	35,986	-8,962	-19.9
Jackson	191,149	226,685	35,536	18.6
Jefferson	272,629	235,293	-37,336	-13.7
Johnson	*	115,180	*	*
Massac	107,352	104,585	-2,767	-2.6
Perry	205,964	212,312	6,348	3.1
Pope	82,856	73,014	-9,842	-11.9
Pulaski	92,410	94,000	1,590	1.7
Randolph	262,281	286,437	24,156	9.2
Saline	170,167	168,245	-1,922	-1.1
Union	129,858	147,325	17,467	13.5
Wabash	116,635	118,015	1,380	1.2
Wayne	387,041	360,999	-26,042	-6.7
White	264,952	258,189	-6,763	-2.6
Williamson	148,002	149,824	1,822	1.2

Source: Illinois Department of Natural Resources (IDNR), Illinois Land Cover: An Atlas, 1996; USDA, IDA and IDNR, Illinois Interagency Landscape Classification Project, 2002

¹ See the Southern Illinois Agriculture Report.

Forested Land Use Change (1996-2000)

Forested land acreage increased considerably in the northeastern counties (Wayne, Edwards, Jefferson, Hamilton, and White) from 1996 to 2000. Wayne had the largest increase while gaining more than 100% of its forest acreage in 1996. Relatively small changes in forest cover were found in the two forest-dominated counties, Pope and Hardin. In the remaining counties, forested land acreage declined by 10.3% to 33.4% during this period.

Table 5: Forested Land Use Change (1996-2000)

<i>County</i>	<i>1996</i>	<i>2000</i>	<i>1996-2000 Acreage Change</i>	<i>1996-2000 Change Percent</i>
Alexander	51,128	42,364	-8,764	-17.1
Edwards	15,494	20,265	4,771	30.8
Franklin	35,529	24,279	-11,250	-31.7
Gallatin	28,702	25,745	-2,957	-10.3
Hamilton	36,009	39,217	3,208	8.9
Hardin	62,966	67,226	4,260	6.8
Jackson	134,541	91,684	-42,857	-31.9
Jefferson	56,323	74,081	17,758	31.5
Johnson	*	74,585	*	*
Massac	29,359	24,320	-5,039	-17.2
Perry	45,242	29,222	-16,020	-35.4
Pope	139,907	140,229	322	0.2
Pulaski	18,725	14,127	-4,598	-24.6
Randolph	67,505	46,295	-21,210	-31.4
Saline	43,386	37,702	-5,684	-13.1
Union	110,002	88,199	-21,803	-19.8
Wabash	13,089	15,834	2,745	21.0
Wayne	35,646	71,888	36,242	101.7
White	28,011	31,022	3,011	10.7
Williamson	80,554	53,681	-26,873	-33.4

Source: Illinois Department of Natural Resources (IDNR), Illinois Land Cover: An Atlas, 1996; USDA, IDA and IDNR, Illinois Interagency Landscape Classification Project, 2002

Urban Land Use Change (1996-2000)

Urban land acreage increased in all but five counties (Wabash, Edwards, Wayne, Jefferson, and Franklin), which are located along the mid-north boundary of the Southern Illinois area. The greatest percentage increases were in Hardin and Pope, where the urban area developed by 232.2% and 199.7% respectively. Very small change was found in the county with the largest acreage and the highest percentage of land in urban use in Southern Illinois: Williamson County.

Table 6: Urban Land Use Change (1996-2000)

<i>County</i>	<i>1996</i>	<i>2000</i>	<i>1996-2000 Acreage Change</i>	<i>1996-2000 Change Percent</i>
Alexander	4,133	4,571	438	10.6
Edwards	2,845	2,269	-576	-20.2
Franklin	15,067	12,702	-2,365	-15.7
Gallatin	2,636	4,904	2,268	86.0
Hamilton	3,112	4,942	1,830	58.8
Hardin	1,201	3,990	2,789	232.2
Jackson	12,817	13,450	633	4.9
Jefferson	12,130	11,685	-445	-3.7
Johnson	*	4,557	*	*
Massac	3,809	7,159	3,350	87.9
Perry	6,974	8,424	1,450	20.8
Pope	1,549	4,643	3,094	199.7
Pulaski	3,334	3,612	278	8.3
Randolph	11,279	12,877	1,598	14.2
Saline	9,317	11,543	2,226	23.9
Union	4,859	5,361	502	10.3
Wabash	3,686	3,023	-663	-18.0
Wayne	5,472	4,546	-926	-16.9
White	5,858	8,301	2,443	41.7
Williamson	20,328	20,560	232	1.1

Source: Illinois Department of Natural Resources (IDNR), Illinois Land Cover: An Atlas, 1996; USDA, IDA and IDNR, Illinois Interagency Landscape Classification Project, 2002