

## OHIO FARMLAND IN CONTEXT:

### INSIGHTS FROM THE 1997 NATIONAL RESOURCES INVENTORY

By

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Land policy design and implementation require timely information on land use change within Ohio and comparisons of Ohio with other states in the region, and with US land use patterns. This paper dissects the most recent National Resources Inventory (NRI) in drawing inference about change in Ohio.

The NRI is a longitudinal panel survey of the Nation's soil, water, and related resources, scientifically designed to evaluate conditions and trends at least every five years. It is conducted and published by the Natural Resource Conservation Service of USDA. The 1997 NRI provides results that are nationally consistent for all nonfederal lands for four points in time, 1982, 1987, 1992, and 1997. Reliable and accurate temporal analysis is available from this data set.

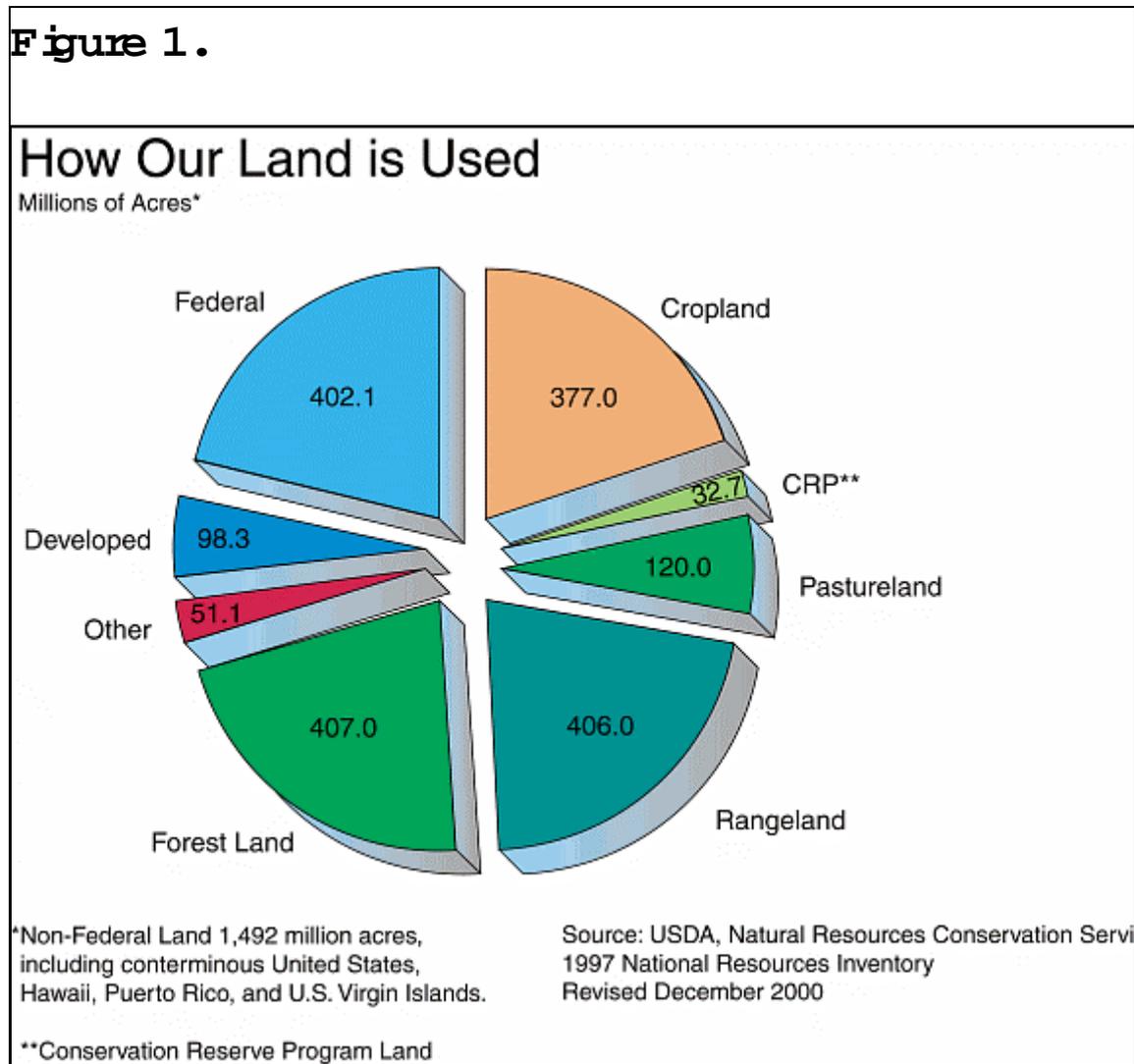
The NRI survey of land use and land cover is conducted on a nationwide sample of approximately 300,000 data points, called area segments. The segments vary in size, from 40 acres to 640 acres. Data are collected for the entire segment on items such as urban land and water area. Comprehensive data on soil properties and land use are collected at a random sample of points within the segment.

The NRI is conducted to obtain scientifically applicable, timely, and pertinent data on natural resources and environmental conditions, with the specific goal of supporting agricultural and environmental policy development and program implementation. Traditionally, these data have been used to devise effective public policies, to shape agricultural and natural resources legislation, to develop state and national conservation programs, to allocate USDA financial and technical assistance in addressing natural resource concerns, and to enhance the public's understanding of natural resources and environmental issues. Information derived from the NRI is used by natural resource managers, policy makers and analysts, consultants, the media, other federal agencies, state governments, universities, environmental and farm groups, and the general public. It can serve as the basis for assessment and analysis of the condition of our nation's natural resources. It indicates how the nonfederal lands are being used, the condition of our natural resources, and how land use patterns have emerged over time.

The NRI category of "developed land" varies from that used by some other data collection entities. For the NRI, the objective is to identify which lands have been permanently removed from the rural land base. Therefore, the developed land category includes: (a) large tracts of urban and built-up land; (b) small tracts of built-up land, less than 10 acres in size; and (c) land outside of these built-up areas that is in roads, railroads, and associated rights-of-way.

Federal land totaled about 402 million acres in 1997. Non-Federal land amounted to just under 1.5 billion acres, most of it rangeland (27 percent) and forest land (27 percent),

followed by cropland (25 percent), pastureland (8 percent), and developed land (6.6 percent) as shown in Figure 1.



Land use is very dynamic, with annual shifts in and out of various uses. In agriculture there are continuous shifts in the use of land among cropland, pasture, range, and forest land to meet production requirements, implement rotations of land in and out of cultivation, and conserve and sustain soil resources.

Since 1982, cropland and land enrolled in the Conservation Reserve Program (CRP) declined 11 million acres, pastureland 12 million acres, and rangeland almost 11 million

acres. Forest land increased by 3.6 million acres. The largest increase in acreage by land use was for development, about 25 million acres, from 5 percent of the land area in 1982 to 6.6 percent in 1997 (Table 1).

Table 1: Changes in land cover/use between 1982 and 1997									
Land cover/use in 1982	Land cover/use in 1997								1982 total
	Cropland	CRP land	Pastureland	Rangeland	Forest land	Other rural land	Developed land	Water areas & federal land	
	1,000 acres								
Cropland	350,265.3	30,412.1	19,269.4	3,659.2	5,606.5	3,158.9	7,097.5	1,485.1	420,954.0
Pastureland	15,347.0	1,329.6	92,088.3	2,567.9	14,091.4	1,619.0	4,230.0	732.8	132,006.0
Rangeland	6,967.5	728.5	3,037.2	394,617.4	3,021.6	1,702.7	3,281.3	3,383.2	416,739.4
Forest land	2,037.1	128.8	4,168.2	2,098.8	380,343.3	1,754.8	10,279.2	2,528.0	403,338.2
Other rural land	1,386.8	93.1	1,013.6	719.1	2,767.7	42,713.3	726.9	227.8	49,648.3
Developed Land	196.7	1.2	78.6	110.8	227.0	12.0	72,618.7	0.8	73,245.8
Water areas & federal land	797.5	2.7	336.6	2,204.0	897.7	180.8	18.1	443,760.6	448,198.0
1997 total	376,997.9	32,696.0	119,991.9	405,977.2	406,955.2	51,141.5	98,251.7	452,118.3	1,944,129.7

1982 land cover/use totals are listed in the right hand vertical column, titled "1982 total". 1997 land cover/use totals are listed in the bottom horizontal row, titled "1997 total". The number at the intersection of rows and columns with the same land cover/use designation represents acres that did not change from 1982 to 1997. Reading to the right or left of this number are the acres that were lost to another cover/use by 1997. Reading up or down from this number are the acres that were gained from another cover/use by 1997.

Table 1 provides an overview of land use changes from 1982-97. A total of 70.7 million acres of 1982 cropland was converted to other uses by 1997, offset by 26.7 million acres converted to cropland from non cropland uses. The net change, therefore, was a reduction of 44.0 million acres of cropland. Further, of the 70.7 million acres of cropland converted to other uses, 30.4 were allotted to CRP, 19.3 million acres to pastureland, 3.7 million acres to rangeland, 5.6 million acres to forestland, 3.2 million acres other rural land, and 1.5 million acres to water areas and federal land.

## Ohio and Other Midwestern States

Land development and urbanization is a critical issue because it can lead to fragmentation of agricultural and forest land; loss of prime farmland, wildlife habitat, and other resources; additional infrastructure costs for communities and regional authorities; and competition for water. In this section, the changes in land use patterns in the mid western region, are discussed. Data from Illinois, Indiana, Michigan, Ohio and Wisconsin are presented. Table 2 shows the acres and percentage of non-federal developed land in the mid west region.

Table 2: Acreage and Percentage of Non-Federal Land Developed				
State	Year	Developed Area	Total Non-Federal Land	Percent Developed
		(1000 Acres)		
Illinois	1982	2688.6	34860.4	7.7
	1987	2831.7	34862.0	8.1
	1992	2934.4	34850.8	8.4
	1997	3180.9	34856.3	9.1
Indiana	1982	1834.8	22338.1	8.2
	1987	1956.5	22331.0	8.8
	1992	2065.1	22326.3	9.2
	1997	2260.4	22329.1	10.1
Michigan	1982	2725.3	33054.8	8.2
	1987	2925.9	33022.3	8.9
	1992	3181.4	32971.8	9.6
	1997	3545.5	32971.4	10.8
Ohio	1982	2782.8	25709.5	10.8
	1987	2984.0	25707.9	11.6
	1992	3246.5	25680.4	12.6
	1997	3611.3	25681.0	14.1
Wisconsin	1982	1989.2	32811.9	6.1

	1987	2103.0	32802.8	6.4
	1992	2229.7	32785.6	6.8
	1997	2417.9	32792.1	7.4

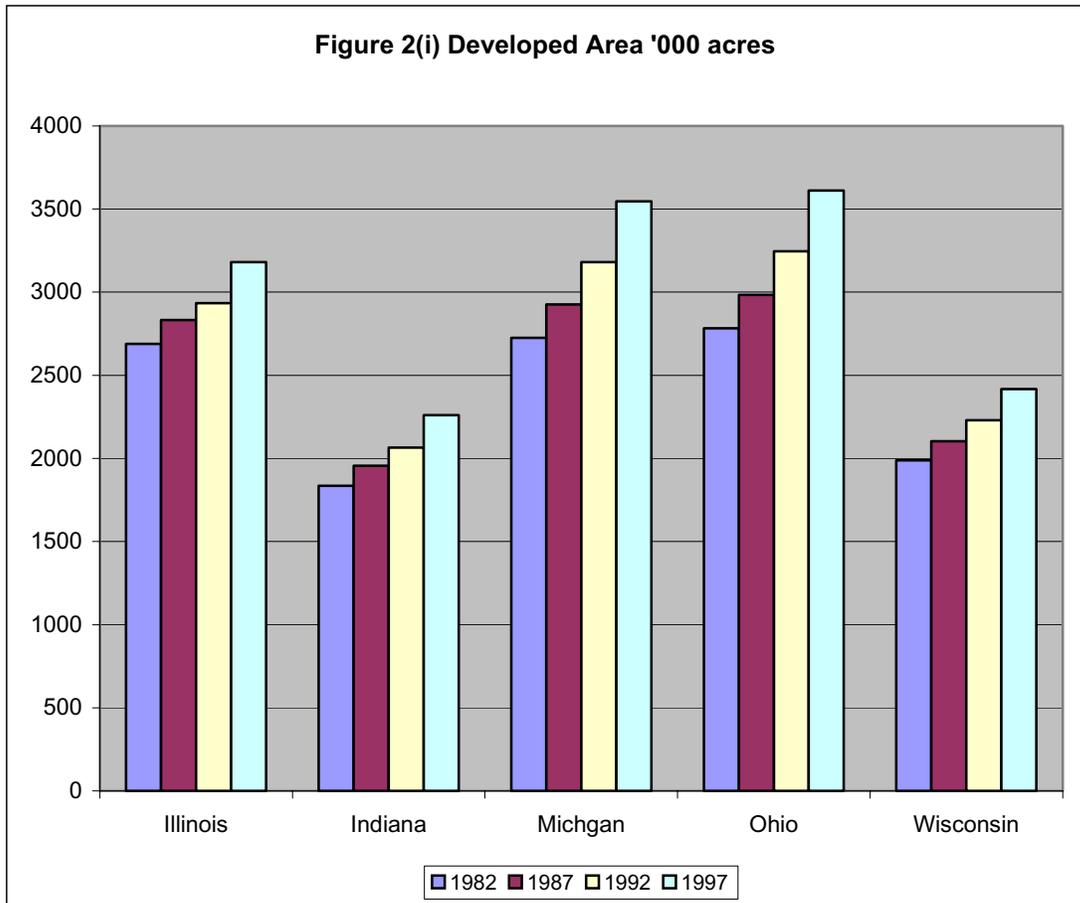


Figure 2(i) illustrates the total developed area in the mid western region for the study period. All the states show a steady increase in the non-federal developed area, and in the period 1992-97, this increase was much higher in magnitude. The increase in the last 5 year period was 250 thousand acres for Illinois, 200 thousand acres for Indiana, 400 thousand for Michigan, 400 thousand for Ohio, and 200 thousand for Wisconsin approximately.

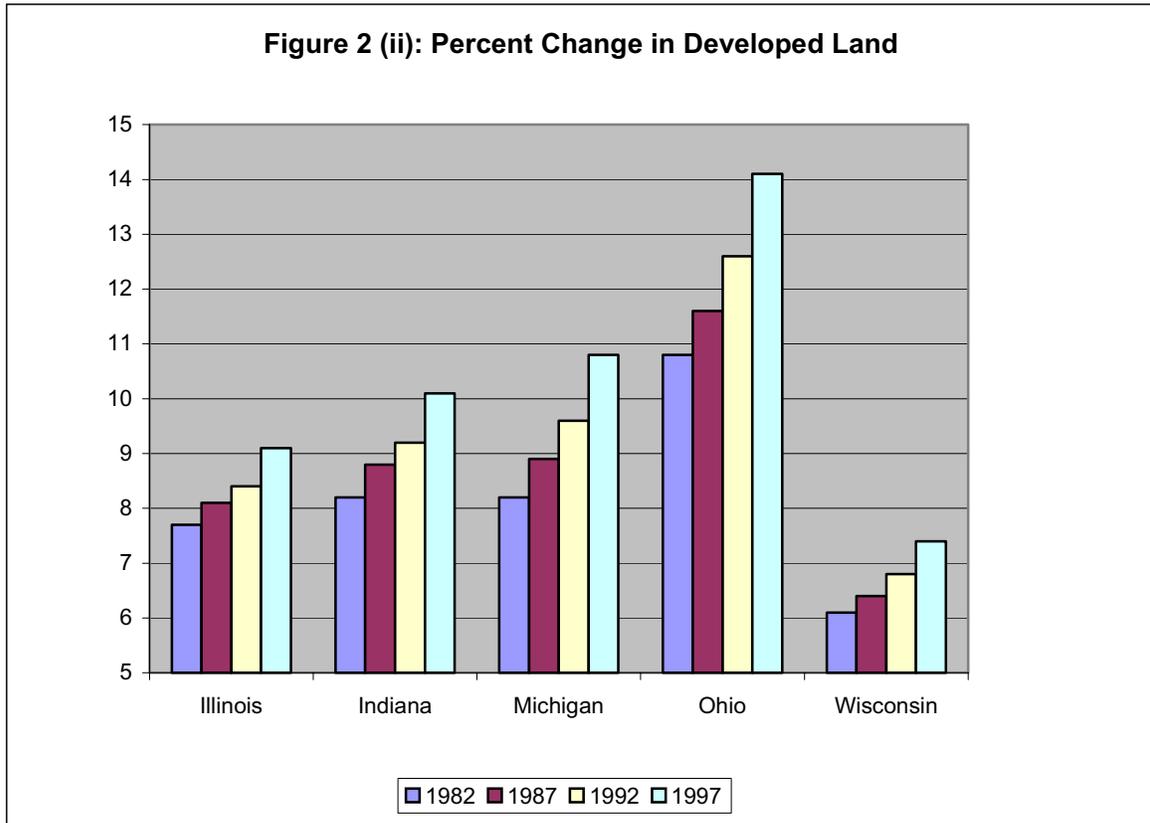


Figure 2(ii) depicts the percentage change in the non-federal land developed in the mid-western region. Of the compared states, Ohio had the largest component of urbanized land in 1982 and the largest increase to 1997. Wisconsin has been the most stable in this regard.

<b>Table 3: Land cover/use of nonfederal rural land, by state and year</b>							
State	Year	Cropland	CRP land	Pastureland	Forest land	Other rural land	Total rural land
<b>Illinois</b>	1982	24,725.80	0	3,203.90	3,585.00	657.1	32,171.80
	1987	24,690.80	119.9	2,957.40	3,603.50	658.7	32,030.30
	1992	24,100.40	710.6	2,785.30	3,654.20	665.9	31,916.40
	1997	24,011.10	726	2,502.00	3,783.90	652.4	31,675.40
<b>Indiana</b>	1982	13,780.20	0	2,199.90	3,779.30	743.9	20,503.30
	1987	13,839.90	143.2	1,914.50	3,793.80	683.1	20,374.50
	1992	13,511.70	413.7	1,837.40	3,802.50	695.9	20,261.20
	1997	13,407.10	377.6	1,830.00	3,780.50	673.5	20,068.70
<b>Michigan</b>	1982	9,443.30	0	2,902.30	15,816.30	2,167.60	30,329.50
	1987	9,305.70	54.9	2,578.30	16,025.90	2,131.60	30,096.40
	1992	8,985.40	254.5	2,378.20	16,053.20	2,119.10	29,790.40
	1997	8,539.70	321.4	2,032.30	16,354.20	2,178.30	29,425.90
<b>Ohio</b>	1982	12,447.30	0	2,786.40	6,658.00	1,035.00	22,926.70
	1987	12,342.10	57.7	2,462.20	6,891.40	970.5	22,723.90
	1992	11,929.30	315.7	2,325.10	6,921.00	942.8	22,433.90
	1997	11,627.00	323.7	2,006.30	7,080.80	1,031.90	22,069.70
<b>Wisconsin</b>	1982	11,457.20	0	3,514.20	14,215.10	1,636.20	30,822.70
	1987	11,317.40	217.6	3,213.30	14,300.00	1,651.50	30,699.80
	1992	10,812.60	664.6	3,084.50	14,334.60	1,659.60	30,555.90
	1997	10,613.10	660.9	2,994.20	14,448.30	1,657.70	30,374.20

Figure 3 (i) Non Federal Cropland ' 000 acres

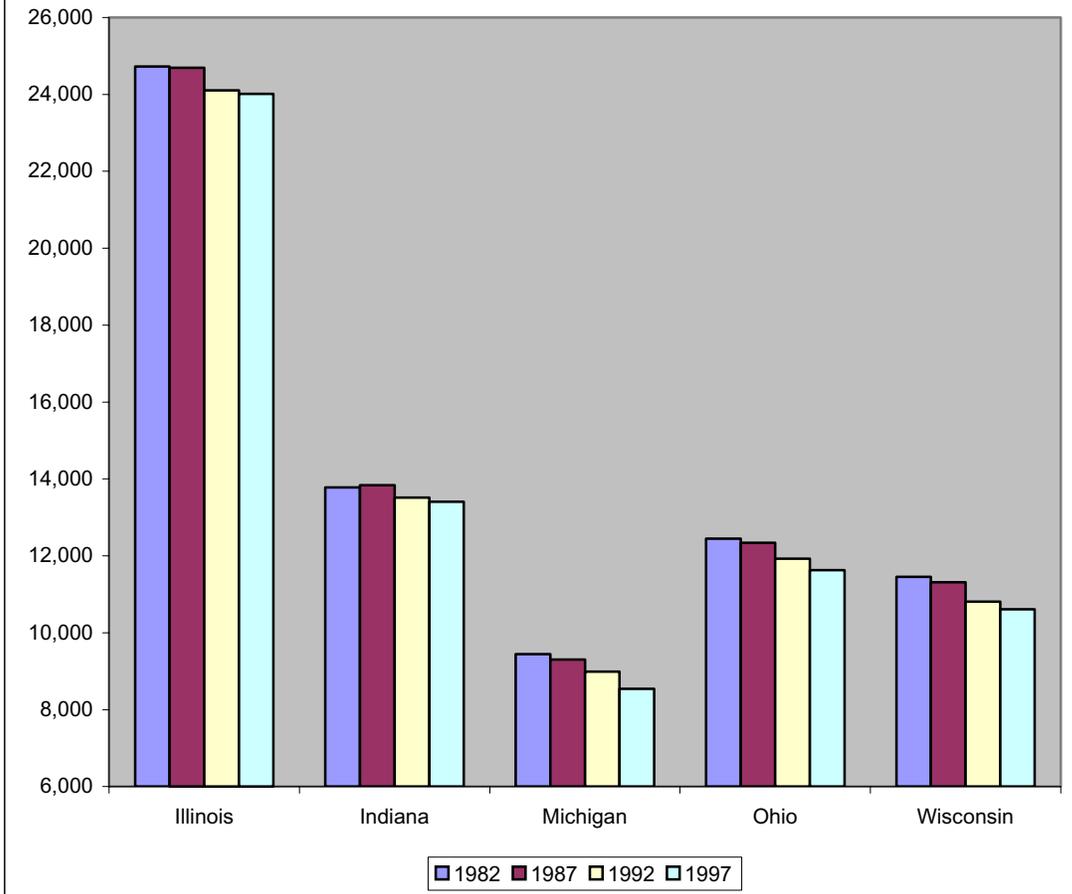
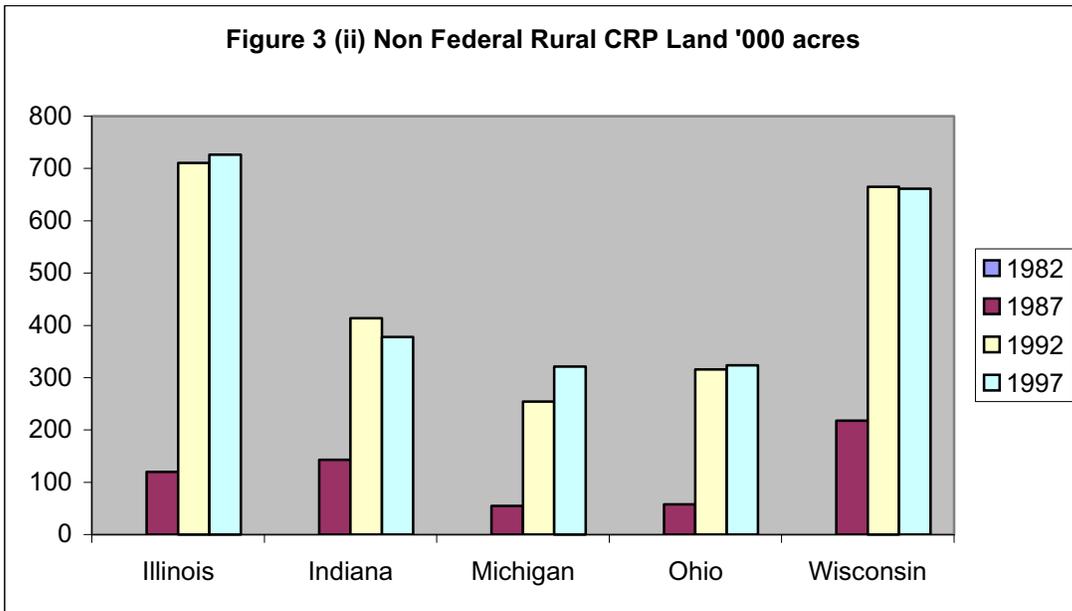


Figure 3(i) depicts the change in non-federal cropland for the period 1982-1997. All the mid-western states show a decline in cropland in absolute terms. Figure 3(ii) shows the change in CRP land from the year 1987. Although in the first period it increased dramatically, in the period from 1992-97, the states experienced either a decline or a marginal increase in CRP land.

**Figure 3 (ii) Non Federal Rural CRP Land '000 acres**



**Figure 3 (iv) Non Federal Rural Pastureland '000 acres**

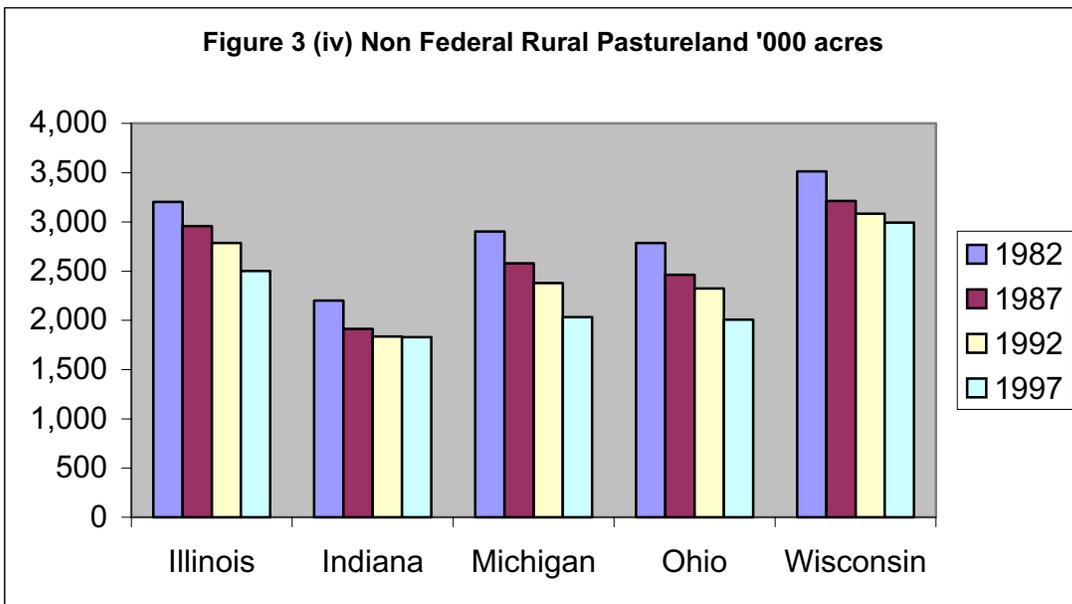


Figure 3 (iv) shows non federal rural pastureland. Rural pastureland has been continuously declining in all the five Midwestern states, the change is more significant in the states of Illinois, Michigan and Ohio. Table 4 shows land conversions, whereas previous tables presented net land use change.

State	Total Land Developed 1992-1997 (1000 Acres)	Prime Farmland Converted to Developed Land 1992-1997 (1000 acres)	Percent of Total Land Developed 1992-1997 that was Prime Farmland	Average Annual Rate of Conversion of Prime Farmland to Developed Land 1992-1997 (1000 Acres/Year)
IL	246.5	160.9	65.3	32.2
IN	195.3	124.2	63.6	24.8
MI	364.1	121.4	33.3	24.3
OH	364.8	212.2	58.2	42.4
WI	188.2	91.9	48.8	18.4

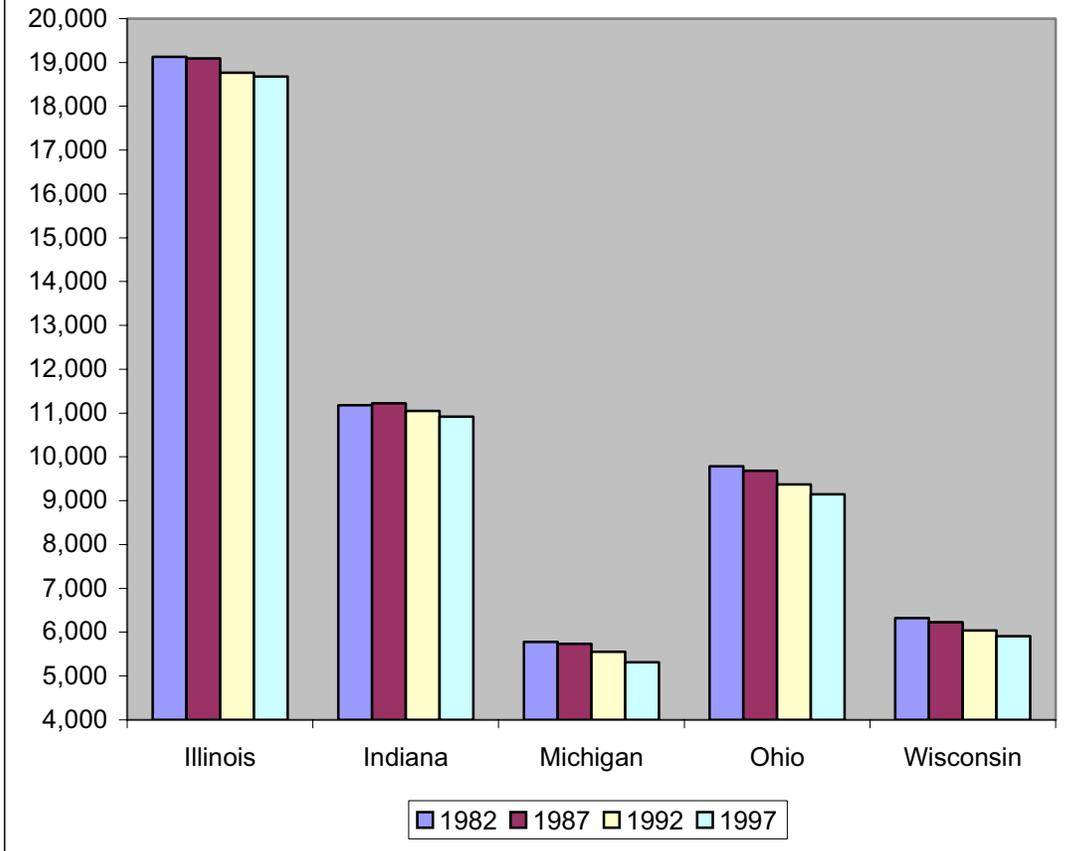
Table 4 shows the acres and percentage of developed land in the period 1992-97 that was prime farmland in 1992. “Prime farmland” is that land most capable of food and fiber production because of soil quality and related factors. Illinois had the highest rate of conversion of prime farmland to development. Of the total developed land, 65 percent was prime farmland in Illinois, followed by Indiana 63 percent, Ohio at 58 percent Wisconsin at 48 percent, and Michigan at 33 percent, while the national average was approximately 29 percent.

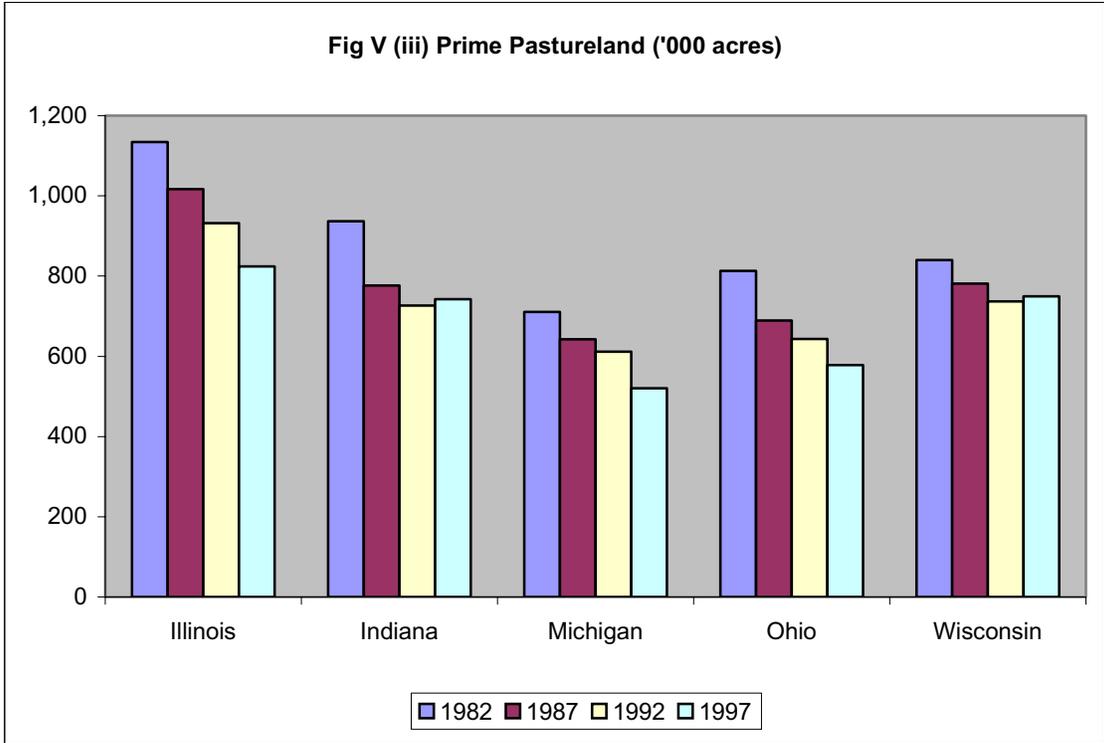
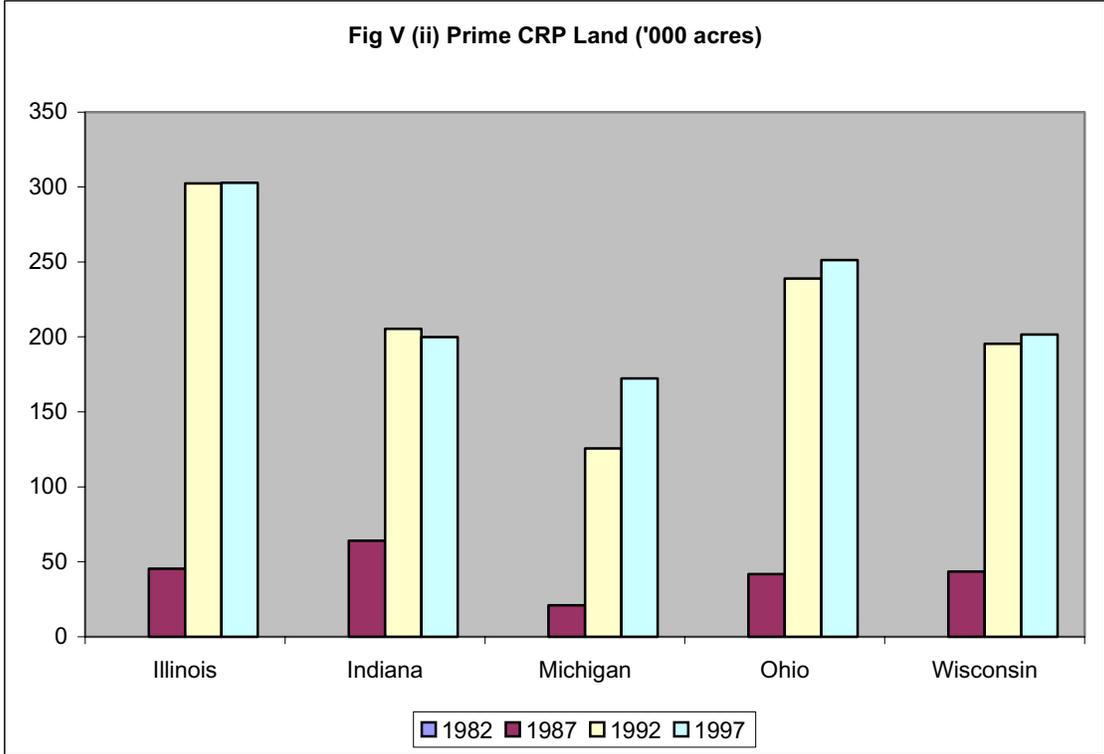
Table 5 presents the distribution of prime farmland by land cover/use in the selected states. There were 331.9 million acres of prime farmland in these states in 1997, which

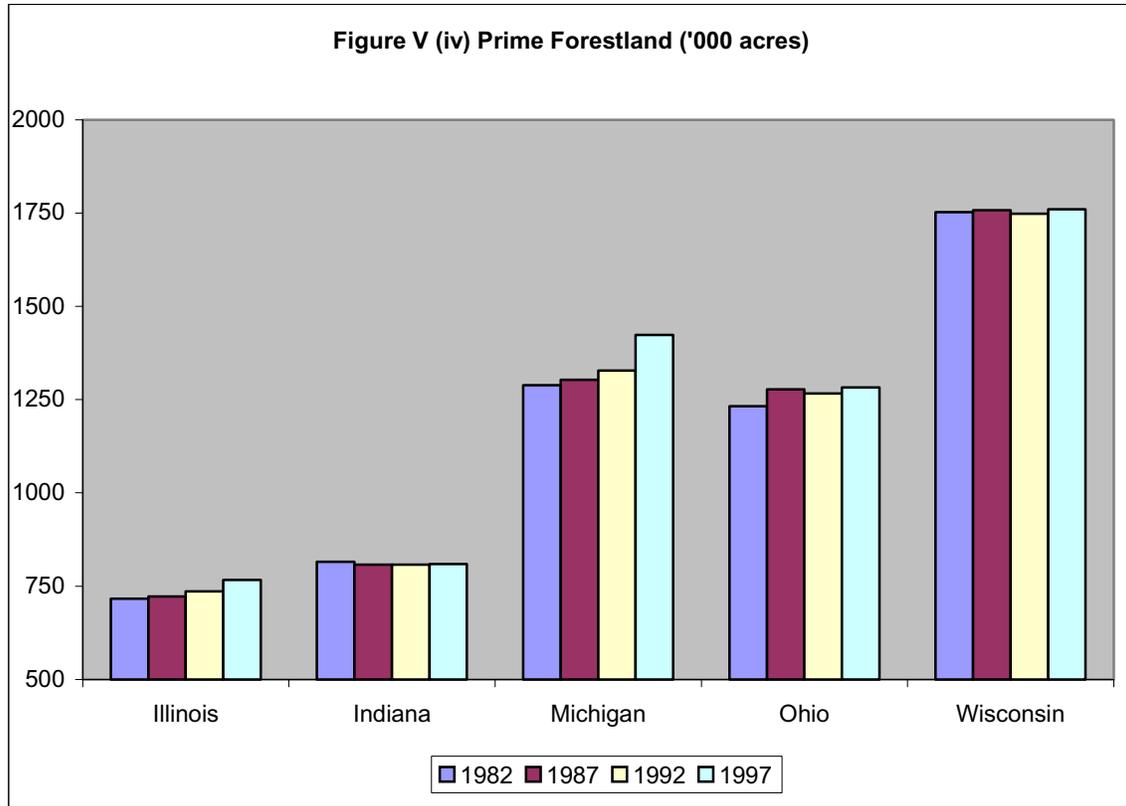
was down 10.0 million acres from 1982. Most (64%) of the prime farmland is in cropland, but there are large amounts are in pasture and forest land as well.

<b>Table 5: Prime farmland, by land cover/use, by state and year</b>								
State	Year	Cropland	CRP land	Pastureland	Rangeland	Forest land	Other rural land	Total rural land
		1,000 acres						
Illinois	1982	19,127.30	0	1,134.00	0	716.2	322.4	21,299.90
	1987	19,087.90	45.4	1,016.80	0	722.5	319.6	21,192.20
	1992	18,763.60	302.5	932.1	0	736.2	322.9	21,057.30
	1997	18,679.80	302.9	824	0	766.7	320.6	20,894.00
Indiana	1982	11,176.00	0	936.6	0	815.7	314.4	13,242.70
	1987	11,223.60	64.1	776.4	0	807.5	289.3	13,160.90
	1992	11,046.40	205.4	726.2	0	807.9	290.1	13,076.00
	1997	10,915.70	199.9	742.3	0	809.2	273.2	12,940.30
Michigan	1982	5,775.20	0	710.4	0	1,288.80	222	7,996.40
	1987	5,735.10	20.9	642.8	0	1,303.50	231.6	7,933.90
	1992	5,548.70	125.7	611.7	0	1,327.90	238.1	7,852.10
	1997	5,310.90	172.2	520.6	0	1,422.90	298.7	7,725.30
Ohio	1982	9,784.60	0	812.7	0	1,231.90	343.1	12,172.30
	1987	9,683.70	41.8	689.2	0	1,277.30	311.6	12,003.60
	1992	9,368.80	239	643.4	0	1,266.70	304.4	11,822.30
	1997	9,144.50	251.2	577.8	0	1,282.50	341.6	11,597.60
Wisconsin	1982	6,318.30	0	839.9	0	1,752.60	195.5	9,106.30
	1987	6,229.60	43.4	781.5	0	1,757.40	204.7	9,016.60
	1992	6,039.80	195.5	736.7	0	1,748.10	208.7	8,928.80
	1997	5,909.20	201.6	749.3	0	1,760.40	210.3	8,830.80
Total	1982	230,861.50	0	37,687.70	20,233.10	46,795.40	6,276.20	341,853.90
	1987	225,642.80	3,317.10	37,008.50	19,441.30	47,215.00	6,335.10	338,959.80
	1992	215,999.70	9,694.40	36,759.90	18,925.70	47,585.30	6,517.20	335,482.20
	1997	212,281.00	9,277.30	35,502.00	19,277.70	48,693.70	6,829.00	331,860.70

**Fig V (i) Prime Cropland ('000 acres)**







**Table 6: State Rankings By Acreage and Rate of Non Federal Land Developed**

1992-1997		1992-1997	1992-1997	1982-1992	1982-1992	1982-1992
Rank	State	Change in Total Land Developed (1000 Acres)	Average Annual Conversion Rate (1000 Acres/Year)	Rank	Change in Total Land Developed (1000 Acres)	Average Annual Conversion Rate (1000 Acres/Year)
1	Texas	893.5	178.7	1	1387.0	138.7
2	Georgia	851.9	170.4	5	738.4	73.8
3	Florida	825.2	165.0	2	1088.2	108.8
4	California	553.4	110.7	4	764.7	76.5
5	Pennsylvania	545.1	109.0	6	619.3	61.9
8	Ohio	364.8	73.0	8	463.7	46.4
9	Michigan	364.1	72.8	9	456.1	45.6
14	Illinois	246.5	49.3	19	245.8	24.6
23	Indiana	195.3	39.1	23	230.3	23.0
24	Wisconsin	188.2	37.6	20	240.5	24.1

Table 6 indicates where the selected Midwestern states rank nationally in development during the fifteen year NRI data period. Ohio consistently ranks eighth, highest in the region

## **County Changes Within Ohio**

The figures below indicate the patterns of land use conversion from various agricultural categories to urban use throughout Ohio since 1982. The consistent trend is for largest acreage conversion in counties surrounding the counties with major cities. Most of the land in the city counties is already urban, with relatively little additional conversion possible.

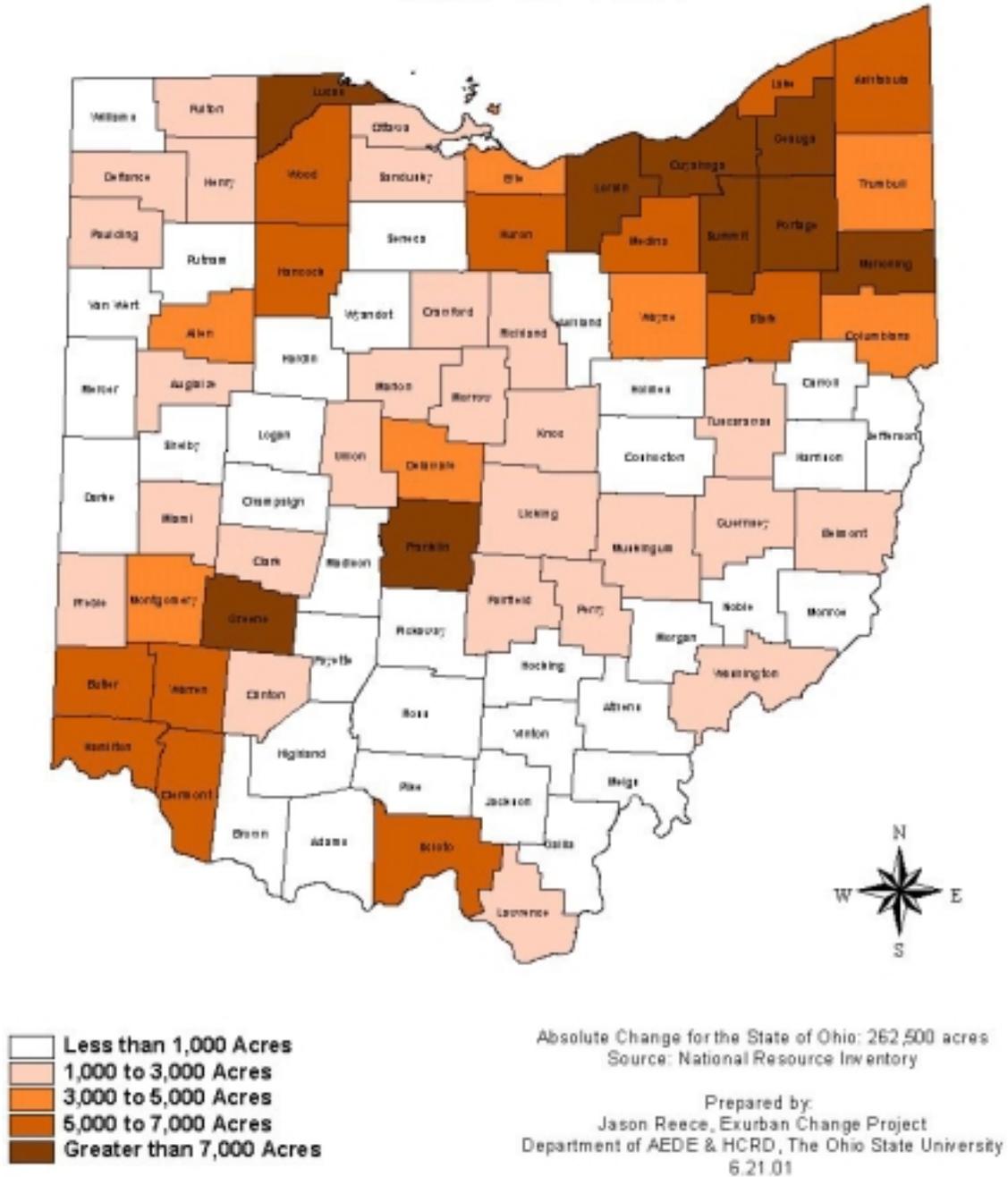
In the 1992-97 period, fourteen counties saw more than 7000 acres converted to urban use, another seven experienced between 5000 and 7000 acres of new urbanization, and nearly half of the 88 counties were in the 1000-3000 acre range. The number of very rural counties, including those in the “pre-Appalachian” southeastern counties, seeing at least 1000 acres converted is a surprising change in the mid 90’s. Only eight counties had fewer than 1000 acres converted.



By contrast, thirty-four counties had fewer than 1000 acres of new urban land between 1987 and 1992. The most notable conversions during that five year period were several counties around Cleveland's Cuyahoga County, Lucas County that includes Toledo and Franklin where Columbus is located, all of which experienced greater than 7000 acres of urbanization. The economy of the late 80's and early 90's was less vibrant than later in the 90's, with less new construction and outward expansion. Cleveland was experiencing major out-migration from central city to suburbs during that period, though Medina County had a decrease in conversions when compared to the previous five years and a rate that picked up again later. Delaware County north of Columbus had yet to experience

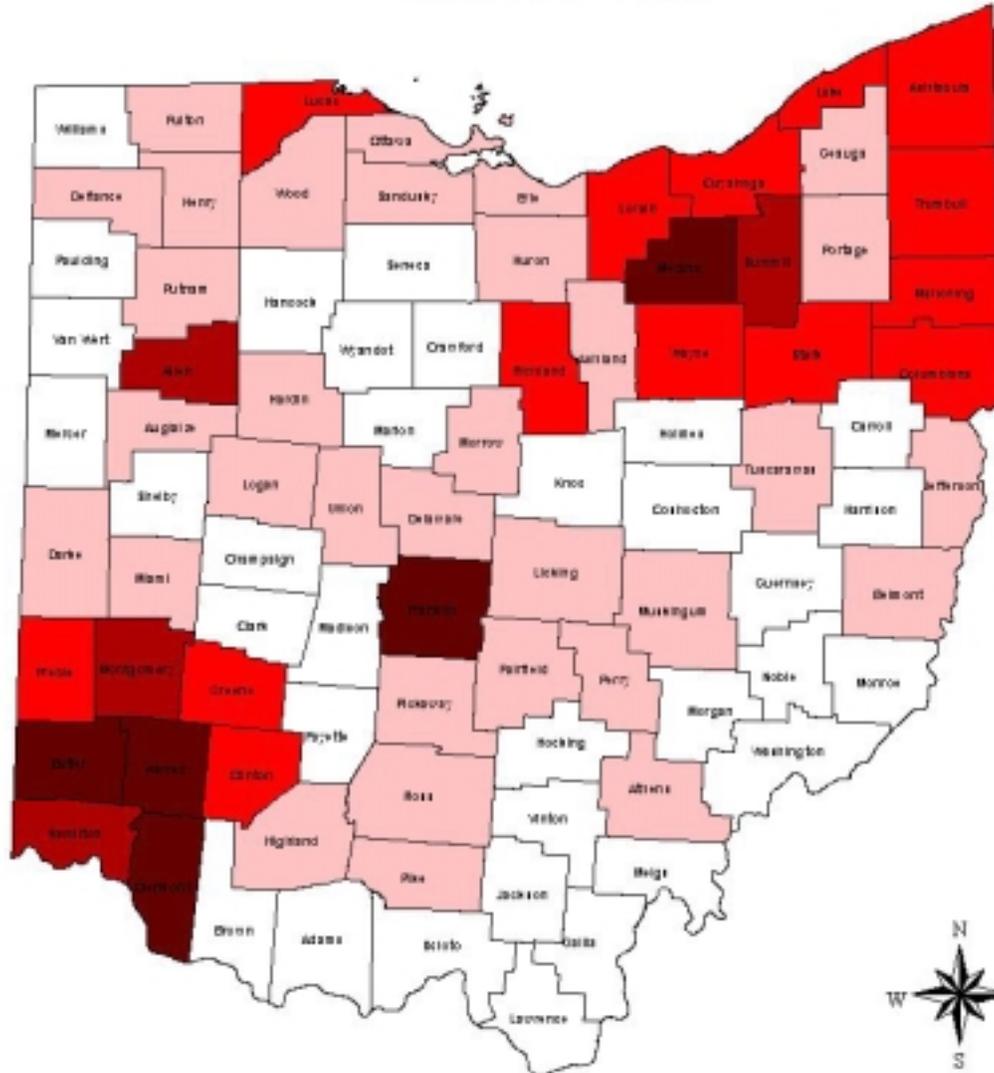
the boom that has made it one of the most rapidly growing counties in the nation later in

## Absolute Change in Urban Land 1987 to 1992



Between 1982 and 1987, counties around Cincinnati were showing the effects of out-migration, Franklin County was rapidly becoming urban and Medina County near Cleveland experienced a major development boom. Southeast Ohio had experienced little if any development pressure as population continued to leave for better opportunities elsewhere. Allen County, home of the City of Lima, experienced a high rate of urban land conversion during that period and has continued into the 1990's.

# Absolute Change in Urban Land 1982 to 1987



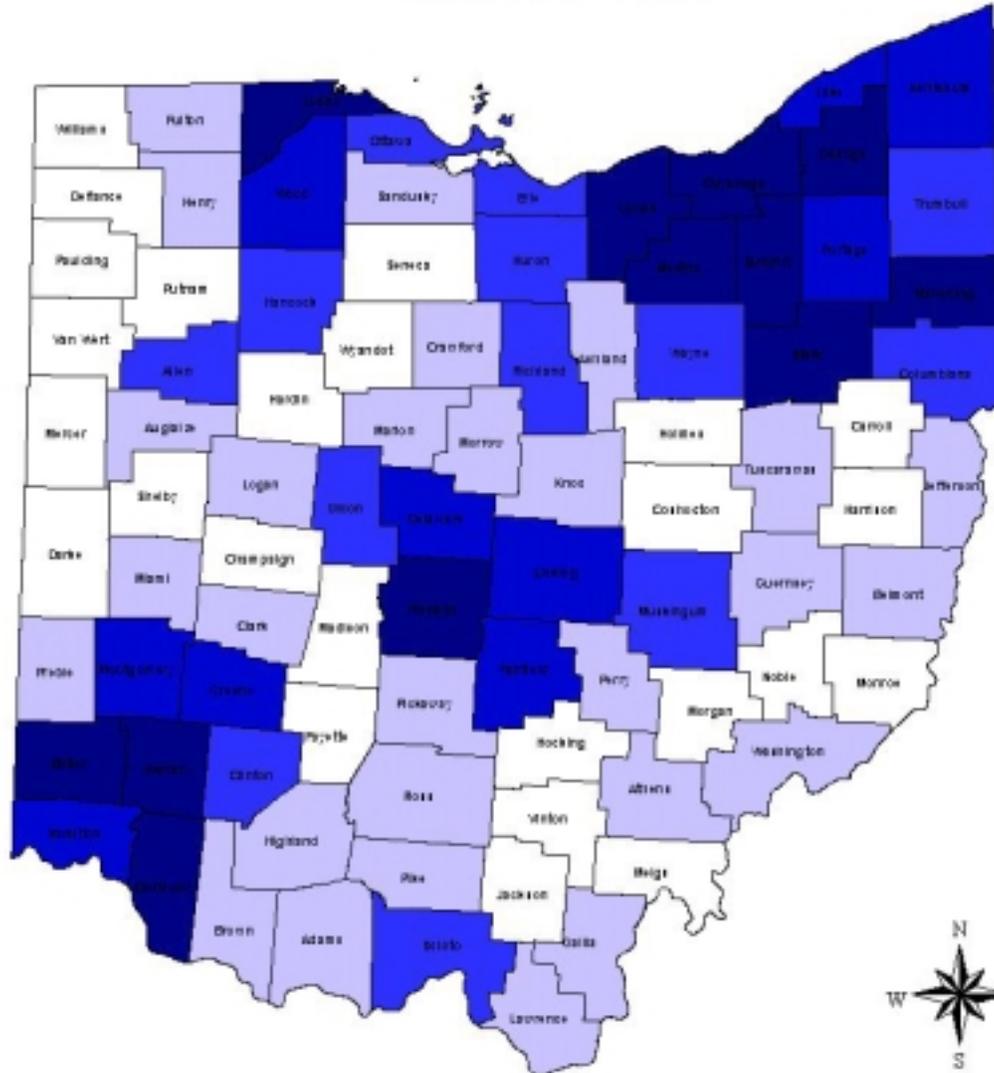
- Less than 1,000 Acres
- 1,000 to 3,000 Acres
- 3,000 to 5,000 Acres
- 5,000 to 7,000 Acres
- Greater than 7,000 Acres

Absolute Change for the State of Ohio: 201,200 acres  
Source: National Resource Inventory

Prepared by:  
Jason Reece, Exurban Change Project  
Department of AEDE & HCRD, The Ohio State University  
6.21.01

Over the fifteen years from 1982 to 1997, counties experiencing the greatest acreage conversion from agricultural to urban use are those containing the cities of Cleveland, Columbus, Cincinnati and Toledo, first tier outlying counties and the entire northeast quadrant. The very strong farming counties are the least urbanizing, though most are seeing some urban land increase. Those consistently in the lowest bracket are along the western state border, Carroll and Harrison in the east, and Vinton County in the heart of Appalachian Ohio. Counties with a strong Amish component have had relatively little urban change as well.

# Absolute Change in Urban Land 1982 to 1997



- Less than 4,000 Acres
- 4,000 to 8,000 Acres
- 8,000 to 12,000 Acres
- 12,000 to 20,000 Acres
- Greater than 20,000 Acres

Absolute Change for the State of Ohio: 828,500 acres  
Source: National Resource Inventory

Prepared by:  
Jason Reece, Exurban Change Project  
Department of AEDE & HCRD, The Ohio State University  
6.21.01

## **Glossary**

**Artificial and modified surfaces.** A *General cover* category consisting of roads and right-of-ways, buildings, parking lots, *farmsteads and ranch headquarters, urban and built-up areas*, small built-up areas, *rural transportation*, and any other buildings that have a surface area greater than 1,000 square feet.

**Barren.** A *General cover* category consisting of nonvegetated lands, including alkaline barrens, unreclaimed mined land, and other barren areas incapable of supporting vegetation. Barren areas are nonvegetated either because the substrate will not support plant growth or because the area is subject to frequent disturbance (e.g., scouring, flooding) that prevents plant growth.

**Barren land.** A *Land cover/use* category used to classify lands with limited capacity to support life and having less than 5 percent vegetative cover. Vegetation, if present, is widely spaced.

- Typically, the surface of barren land is sand, rock, exposed subsoil, or salt-affected soils. Subcategories include *salt flats; sand dunes; mud flats; beaches; bare exposed rock; quarries, strip mines, gravel pits, and borrow pits; riverwash; oil wasteland; mixed barren lands; and other barren land.*

**Close-grown crops.** Crops that are generally drill-seeded or broadcast, such as wheat, oats, rice, barley, and flax.

**Conservation practice.** A specific treatment, such as a structural or vegetative measure or management technique commonly used to meet specific needs in planning and conservation, for which standards and specifications have been developed. Conservation practices are in the NRCS Field Office Technical Guide, Section IV, which is based on the National Handbook of Conservation Practices.

- The practices recorded for NRI have been applied to the area of land in which the NRI point falls or the portion of the field that would be used in conservation planning. The point need not fall on a specific practice.

**Conservation Reserve Program (CRP).** A federal program established under the Food Security Act of 1985 to assist private landowners to convert highly erodible cropland to vegetative cover for 10 years.

**Conservation Reserve Program (CRP) land.** A *Land cover/use* category that includes land under a CRP contract.

**Cropland.** A *Land cover/use* category that includes areas used for the production of adapted crops for harvest. Two subcategories of cropland are recognized: cultivated and noncultivated. Cultivated cropland comprises land in *row crops* or *close-grown crops* and also other cultivated cropland, for example, hayland or pastureland that is in a rotation with row or close-grown crops. Noncultivated cropland includes permanent *hayland* and *horticultural cropland*.

**Cropping history.** A record of the crop that was on the land during each of the 3 years preceding the current inventory year. These data are recorded on *cropland*, *pastureland*,

and CRP land cover/uses only. Data are used to determine some of the values used to calculate water and wind erosion rates.

**Developed land.** A combination of land cover/use categories, *Large urban and built-up areas*, *Small built-up areas*, and *Rural transportation land*.

**Farmsteads and ranch headquarters.** A *Land cover/use* category that includes dwellings, outbuildings, barns, pens, corrals and feedlots next to buildings, farmstead or feedlot windbreaks, and family gardens associated with operating farms and ranches. (Commercial feedlots, greenhouses, poultry facilities, overnight pastures for livestock, and field windbreaks are not considered part of farmsteads.)

**Field.** A cultivated area of land that is marked out for a particular crop or cropping sequence.

**Forest land.** A *Land cover/use* category that is at least 10 percent stocked by single-stemmed woody species of any size that will be at least 4 meters (13 feet) tall at maturity. Also included is land bearing evidence of natural regeneration of tree cover (cut over forest or abandoned farmland) and not currently developed for nonforest use. Ten percent stocked, when viewed from a vertical direction, equates to an areal canopy cover of leaves and branches of 25 percent or greater. The minimum area for classification as forest land is 1 acre, and the area must be at least 100 feet wide.

**General cover.** Nine general cover categories are defined, based upon vegetative structure (e.g., canopy cover percentage) or substrate characteristics (e.g., barren land/artificial surfaces). They are:

*Crop; Herbaceous; Open canopy short woody plants; Short woody plants; Open canopy tall woody plants; Tall woody plants; Barren; Artificial and modified surfaces; Water*

- See also *Habitat composition* and *Habitat configuration*.

**Growing season.** The period and/or number of days between the last freeze in the spring and the first frost in the fall for the freeze threshold temperature of the crop or other designated temperature threshold.

**Hayland.** A subcategory of *Cropland* managed for the production of forage crops that are machine harvested. The crop may be grasses, legumes, or a combination of both. Hayland also includes land in set-aside or other short-term agricultural programs.

**Horticultural cropland.** A subcategory of *Cropland* used for growing fruit, nut, berry, vineyard, and other bush fruit and similar crops. Nurseries and other ornamental plantings are included.

**Irrigated land.** Land that shows evidence of being irrigated during the year of the inventory or of having been irrigated during 2 or more of the last 4 years. Water is supplied to crops by ditches, pipes, or other conduits. For the purposes of the NRI, *water spreading* is not considered irrigation.

**Land capability classification (class and subclass).** Land capability classification is a system of grouping soils primarily on the basis of their capability to produce common cultivated crops and pasture plants without deteriorating over a long period. Land

capability classification is subdivided into capability class and capability subclass nationally.

**Capability class.** The broadest category in the system. Class codes I to VIII indicate progressively greater limitations and narrower choices for agriculture. The numbers are used to represent both irrigated and nonirrigated land capability.

**Capability subclass.** The second category in the system. Class codes **e** (erosion problems), **w** (wetness problems), **s** (root zone limitations), and **c** (climatic limitations) are used for land capability subclasses.

**Land cover/use.** A term that includes categories of land cover and categories of land use. Land cover is the vegetation or other kind of material that covers the land surface. Land use is the purpose of human activity on the land; it is usually, but not always, related to land cover. The NRI uses the term land cover/use to identify categories that account for all the surface area of the United States.

**Marshland.** A subcategory of the *Land cover/use* category Other rural land, described as a nonforested area of land partly or intermittently covered with water and usually characterized by the presence of such monocotyledons as sedges and rushes. These areas are usually in a wetland class and are not placed in another NRI land cover/use category, such as *rangeland* or *pastureland*.

**Minor land cover/uses.** See Other rural land. A miscellaneous group of land cover/uses that is sometimes used in NRI tables and reports but not in data collection.

**Mud flat.** A *Land cover/use* subcategory under *Barren land*. A mud area with less than 5 percent vegetative cover.

**Other rural land.** A *Land cover/use* category that includes farmsteads and other farm structures, field windbreaks, *barren land*, and *marshland*.

**Ownership.** The separation of federal and nonfederal lands and the distinction between administrative units of land. Water areas are not classified according to ownership. The six categories of ownership are:

**Private.** A type of ownership pertaining to land belonging to an individual person or persons, a partnership, or a corporation (all of which are persons in the legal sense), as opposed to the public or the government; private property.

**Municipal.** A type of ownership pertaining to land belonging to the local government of a town or city.

**County or parish.** A type of ownership pertaining to land belonging to an administrative subdivision of a state in the United States, which is identified as a county or an equivalent administrative unit in areas where counties do not exist; examples are parishes in Louisiana and boroughs in Alaska.

**State.** A type of ownership pertaining to land belonging to one of the states, commonwealths, or territories of the United States of America.

**Federal land.** A land ownership category designating land that is owned by the federal government. It does not include, for example, trust lands administered by the Bureau of Indian Affairs or Tennessee Valley Authority (TVA) land. No data are collected for any year that land is in this ownership.

**Indian tribal\_and\_individual Indian trust lands.** A type of ownership of land administered by officially constituted Indian tribal or individual Indian trust entities.

**Pastureland.** A *Land cover/use* category of land managed primarily for the production of introduced forage plants for livestock grazing. Pastureland cover may consist of a single species in a pure stand, a grass mixture, or a grass-legume mixture. Management usually consists of cultural treatments: fertilization, weed control, reseeding or renovation, and control of grazing. For the NRI, includes land that has a vegetative cover of grasses, legumes, and/or forbs, regardless of whether or not it is being grazed by livestock.

**Prime farmland.** Land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is also available for these uses.

**Rangeland.** A *Land cover/use* category on which the climax or potential plant cover is composed principally of native grasses, grasslike plants, forbs or shrubs suitable for grazing and browsing, and introduced forage species that are managed like rangeland. This would include areas where introduced hardy and persistent grasses, such as crested wheatgrass, are planted and such practices as deferred grazing, burning, chaining, and rotational grazing are used, with little or no chemicals or fertilizer being applied. Grasslands, savannas, many wetlands, some deserts, and tundra are considered to be rangeland. Certain communities of low forbs and shrubs, such as mesquite, chaparral, mountain shrub, and pinyon-juniper, are also included as rangeland.

**Rural transportation land.** A *Land cover/use* category which consists of all highways, roads, railroads and associated right-of-ways outside *urban and built-up areas*; also includes private roads to *farmsteads or ranch headquarters*, logging roads, and other private roads (field lanes are not included).

**Small built-up areas.** A *Land cover/use* category consisting of developed land units of 0.25 to 10 acres, which meet the definition of *Urban and built-up areas*.

**Urban and built-up areas.** A *Land cover/use* category consisting of residential, industrial, commercial, and institutional land; construction sites; public administrative sites; railroad yards; cemeteries; airports; golf courses; sanitary landfills; sewage treatment plants; water control structures and spillways; other land used for such purposes; small parks (less than 10 acres) within urban and built-up areas; and highways, *railroads*, and other transportation facilities if they are surrounded by urban areas. Also included are tracts of less than 10 acres that do not meet the above definition but are completely surrounded by Urban and built-up land. Two size categories are recognized in the NRI: areas of 0.25 acre to 10 acres, and areas of at least 10 acres.

**Wetlands.** Lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes; (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year. (Cowardin, L. M., V. Carter, F. C. Golet, E. T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. FWS/OBS-79/31. U.S. Department of the Interior, Fish and Wildlife Services.

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