

Profile 6 - Existing Land Use Profile

Introduction

Land use data reflects the ways in which humans have or have not altered the places in which they live and/or work. Land uses are generally categorized as either developed or undeveloped areas. Developed uses refer to the built environment – residential, commercial, industrial, and similar uses. Undeveloped uses generally refer to areas that have not been built upon, although they do reflect the presence of both farming –forested and vacant areas and extractive industries – disturbed areas.

Land use information is used to understand how a community is changing the landscape. It provides a basis for the planning of new development and the management of its potential impacts on the environment. Land use patterns and information provide the basis for effective zoning and land development decision making.

Existing Land Use Patterns

Generally, land use evolves over time as a community grows and changes. Numerous factors can impact land use, including economic activity, population growth and redistribution, transportation facilities, and the presence and relative importance of natural resources, particularly water and valuable minerals.

Mercer County has remained a predominantly rural county. The earliest residents established farms, mills and community centers. Once coal and iron were discovered in the mid 1800s, mining, processing and refining activities began to appear and eventually evolved into a steel industry that has played a primary role in shaping the County's land use and development patterns, especially in the Shenango Valley..

As shown in Table 6-1 on the following page, the vast majority of the County's land use falls into the undeveloped categories. Almost 50 percent of the total land area is classified as Agricultural, with an additional 37 percent in the Forest/Woodland category. As illustrated on the Land Use/Land Cover Map, these uses are dispersed throughout the county. However, there is a significant concentration of woodland in the eastern part of the County.

Less than 10 percent of the County is classified as either high- or low-density urban areas. These areas are primarily located at the junctions of the County's original major transportation routes and include the Shenango Valley (Sharon/Farell/Hermitage), Greenville, Mercer, and Grove City, as well as several of the smaller boroughs and villages. Land uses within these areas include residential, commercial, industrial, and public and semi-public uses. The Land Use/Land Cover Map illustrates the distribution of existing land uses within Mercer County.

In addition, there are more specific details regarding existing land use on the maps that have been prepared as part of several local multi-municipal planning efforts throughout the County, including the Greenville Borough and Hempfield Township Joint Comprehensive Plan and the

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Wolf Creek/Slippery Rock Council of Governments Multi-Municipal Plan. These maps can be found in Appendix B – Geographic Information Systems Mapping.

Table 6-1 Existing Land Use

Land Use Category	# of acres	% of Total
Low Density Urban	29,658.3	6.80
High Density Urban	2,459.7	0.56
Transitional	3,625.0	0.83
Developed Land	35,743.0	8.19
Hay/Pasture	67,081.7	15.37
Row Crops	149,788.4	34.32
Probably Row Crops	2.2	0.00
Agricultural Land	216,872.3	49.7
Coniferous Forest	4,664.0	1.07
Mixed Forest	2,853.7	0.65
Deciduous Forest	154,650.7	35.44
Forest/Woodland	162,168.4	37.2
Water	7,463.8	1.71
Woody Wetland	10,740.8	2.46
Emergent Wetland	1,581.8	0.36
Quarries	1,757.7	0.40
Coal Mines	103.7	0.02
Beach	0.0	0.00
Total Land Area	436,315	100.00
Source: PSU		

Land Use by Watershed

Mercer County lies within the Ohio River Basin, which covers virtually all of Western Pennsylvania. Each major basin is divided into sub-basins, which are further broken down into watersheds, which are made up of Hydrologic Units. There are two sub-basins in Mercer County – The Upper Allegheny and the Ohio – and four watersheds: the Shenango



River and Slippery Rock Creek in the Ohio Sub-basin and the Sandy Creek and Lower French Creek in the Upper Allegheny Sub-basin. (See Figure 6-1).

There are many hydrologic units within each of these watersheds, four are found in Mercer County - The Shenango HUC (hydrologic unit code) and the Connoquenessing HUC are part of the Ohio Sub-basin and the French Creek HUC and the Middle Allegheny HUC are in the Upper Allegheny. An understanding of the level of development within each provides a basis for measuring the impacts of development on the County's surface and ground waters. This information can also assist in the development of effective stormwater management plans.

Table 6-2 details the land uses within each of the four HUC's in Mercer County. Within each, forests and agricultural land uses dominate. They account for approximately 89 percent of the land uses in the Shenango and Connoquenessing HUCs; 93 percent in the Middle Allegheny HUC and 99 percent of the land area in the French Creek HUC.

Figure 6-1 Watersheds in Mercer County

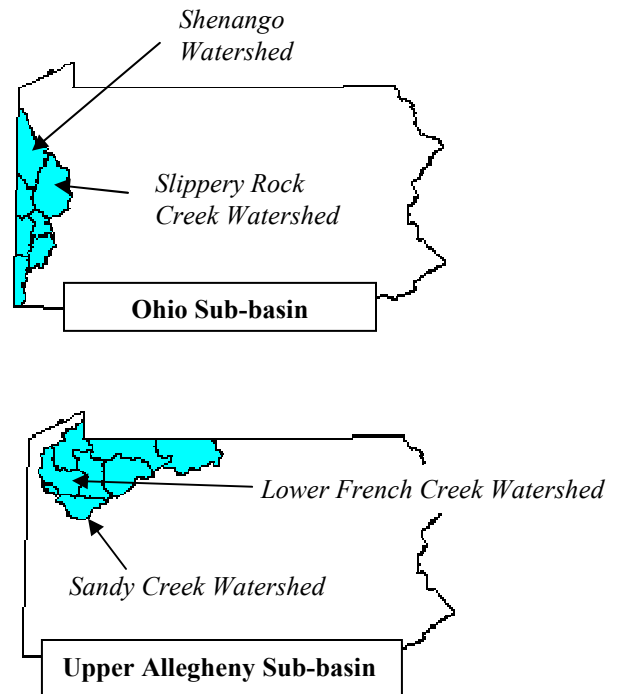


Table 6-2 Land Use by HUC

Shenango HUC			
	Land Use Code	# of Acres	% of Sub-Basin
11	Open Water	5,352.8	1.72
21	Low-intensity Residential	10,912.4	3.50
22	High-intensity Residential	1,105.8	0.35
23	Commercial/Industrial/Transportation	4,506.2	1.45
32	Quarries/Strip Mines/Gravel Pits	714.6	0.23
33	Transitional	73.9	0.02
41	Deciduous Forest	109,989.3	35.28
42	Evergreen Forest	3,252.1	1.04
43	Mixed Forest	10,752.0	3.45
81	Pasture/Hay	130,783.4	41.95
82	Row Crops	22,955.7	7.36
91	Woody Wetlands	9,350.8	3.00
85	Urban/recreational grasses	5.3	0.00
92	Emergent Herbaceous Wetlands	2,022.7	0.65
	Total Acreage	311,777.2	100.00

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Connoquenessing HUC			
Land Use Code		# of Acres	% of Sub-Basin
11	Open Water	129.7	0.24
21	Low-intensity Residential	1,047.8	1.93
22	High-intensity Residential	40.2	0.07
23	Commercial/Industrial/Transportation	487.6	0.90
32	Quarries/Strip Mines/Gravel Pits	761.6	1.40
33	Transitional	27.6	0.05
41	Deciduous Forest	19,640.9	36.16
42	Evergreen Forest	898.6	1.65
43	Mixed Forest	1,841.7	3.39
81	Pasture/Hay	23,267.9	42.84
82	Row Crops	2,568.4	4.73
91	Woody Wetlands	2,936.2	5.41
92	Emergent Herbaceous Wetlands	666.1	1.23
	Total Acreage	54,314.2	100.00

Mid Allegheny HUC			
Land Use Code		# of Acres	% of Sub-Basin
11	Open Water	1,467.4	2.90
21	Low-intensity Residential	394.9	0.78
22	High-intensity Residential	6.0	0.01
23	Commercial/Industrial/Transportation	207.8	0.41
32	Quarries/Strip Mines/Gravel Pits	190.8	0.38
33	Transitional	20.4	0.04
41	Deciduous Forest	24,859.2	49.16
42	Evergreen Forest	1,021.2	2.02
43	Mixed Forest	2,498.1	4.94
81	Pasture/Hay	16,633.1	32.89
82	Row Crops	2,007.6	3.97
91	Woody Wetlands	1,090.7	2.16
92	Emergent Herbaceous Wetlands	174.8	0.35
	Total Acreage	50,572.1	100.00

French Creek HUC			
Land Use Code		# of Acres	% of Sub-Basin
11	Open Water	8.4	0.04
21	Low-intensity Residential	39.2	0.18
23	Commercial/Industrial/Transportation	2.6	0.01
33	Transitional	2.6	0.01

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French Creek HUC			
Land Use Code		# of Acres	% of Sub-Basin
41	Deciduous Forest	11,405.1	52.98
42	Evergreen Forest	180.2	0.84
43	Mixed Forest	661.5	3.07
81	Pasture/Hay	7,704.5	35.79
82	Row Crops	1,471.3	6.84
91	Woody Wetlands	46.3	0.22
92	Emergent Herbaceous Wetlands	4.4	0.02
	Total Acreage	21,526.0	100.00

Table 6-3 below lists the five largest local watersheds within the County. Combined, they encompass just over 40% of the County.

Table 6-3 - Five Largest Watersheds in Mercer County

Local Watershed	Sub-Basin	Total Acres	% of Sub-Basin	% of Total
SHENANGO RIVER	Shenango	56,056.1	18.0	12.8
LITTLE SHENANGO RIVER	Shenango	32,888.9	10.5	7.5
WOLF CREEK	Connoquenessing	28,515.5	52.5	6.5
SANDY CREEK	Middle Allegheny	27,893.8	58.4	6.4
OTTER CREEK	Shenango	23,069.9	7.4	5.3
TOTAL		168,424.2		38.4

From a development standpoint, there are only five local watersheds that have approximately 15% or more of their total land area classified as developed. This would include high and low density residential, commercial and industrial, transportation, quarrying, and transitional land uses. Three of the five – Bobby Run, Pine Hollow Run, and Thornton Run, are located within the Sharon, Farrell, and Hermitage area. The other two, Mathay Run and Saul Run, are located in Hempfield Township, just south of Greenville. All are located in the Shenango Sub-Basin. Table 6-4 provides the land use details for these five watersheds.

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Table 6-4 - Watersheds with the Highest Percentage of Developed Area

Watershed	Land Use	Acres	% of Total
BOBBY RUN	Open Water	1.7	0.1
	Low-intensity Residential	431.8	23.0
	High-intensity Residential	58.1	3.1
	Commercial/Industrial/Transportation	65.4	3.5
	Deciduous Forest	566.0	30.1
	Evergreen Forest	7.9	0.4
	Mixed Forest	147.2	7.8
	Pasture/Hay	536.8	28.6
	Row Crops	61.3	3.3
	Woody Wetlands	1.3	0.1
	TOTAL	1,877.5	100.0
MATHAY RUN	Open Water	5.4	0.2
	Low-intensity Residential	267.1	10.6
	High-intensity Residential	42.8	1.7
	Commercial/Industrial/Transportation	57.8	2.3
	Deciduous Forest	866.8	34.4
	Evergreen Forest	29.7	1.2
	Mixed Forest	143.4	5.7
	Pasture/Hay	904.8	35.9
	Row Crops	200.0	7.9
	TOTAL	2,517.7	100.0
PINE HOLLOW RUN	Open Water	5.8	0.2
	Low-intensity Residential	626.3	22.2
	High-intensity Residential	35.1	1.2
	Commercial/Industrial/Transportation	127.2	4.5
	Deciduous Forest	790.8	28.0
	Evergreen Forest	51.8	1.8
	Mixed Forest	128.6	4.6
	Pasture/Hay	918.4	32.6
	Row Crops	137.1	4.9
	TOTAL	2,821.0	100.0
SAUL RUN	Open Water	1.2	0.1
	Low-intensity Residential	177.7	15.0
	High-intensity Residential	3.2	0.3
	Commercial/Industrial/Transportation	9.6	0.8
	Deciduous Forest	363.2	30.6
	Evergreen Forest	7.0	0.6
	Mixed Forest	63.4	5.3
	Pasture/Hay	499.6	42.1
	Row Crops	62.5	5.3
	TOTAL	1,187.3	100.0

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Watershed	Land Use	Acres	% of Total
THORNTON RUN	Open Water	6.6	0.9
	Low-intensity Residential	371.7	47.7
	High-intensity Residential	25.5	3.3
	Commercial/Industrial/Transportation	41.4	5.3
	Deciduous Forest	126.0	16.2
	Evergreen Forest	0.3	0.0
	Mixed Forest	79.5	10.2
	Pasture/Hay	122.4	15.7
	Row Crops	6.2	0.8
	TOTAL	779.7	100.0

Of the five, only Bobby Run is currently classified as impaired by the DEP; however, it should be noted that the Shenango River, from the lake south to the County border is also considered impaired. In both cases it is likely that urban runoff is the primary cause of impairment.

Figure 6-2- Developed Land Trends 1973-2003

Land Use Trends

Figure 6-2 illustrates the change in developed land uses within Mercer County from 1973 to 2003. During the twenty years between 1973 and 1993, over 10,000 acres were developed. Data available for 2003 contained land use categories that were not easily comparable with 1973 and 1993 data. Thus the use of such broad categories as “developed land” As the county develops a GIS data base, including parcel mapping, it will be possible to accurately measure changes in land use.

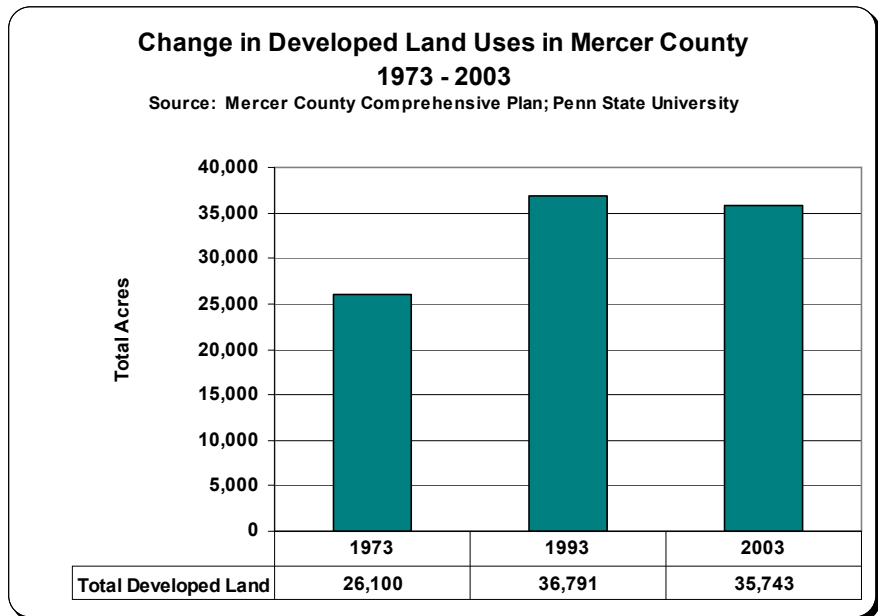
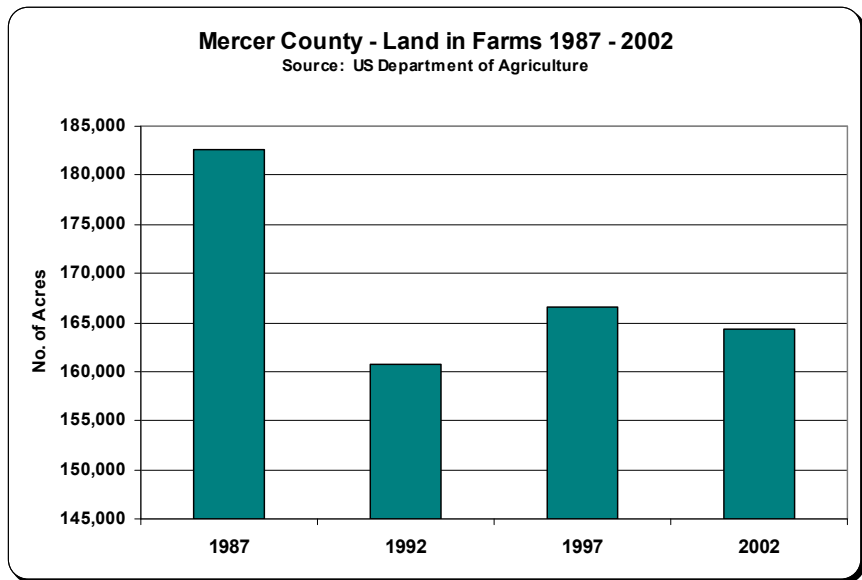


Figure 6-3 - Farmland Trends, 1987 - 2002

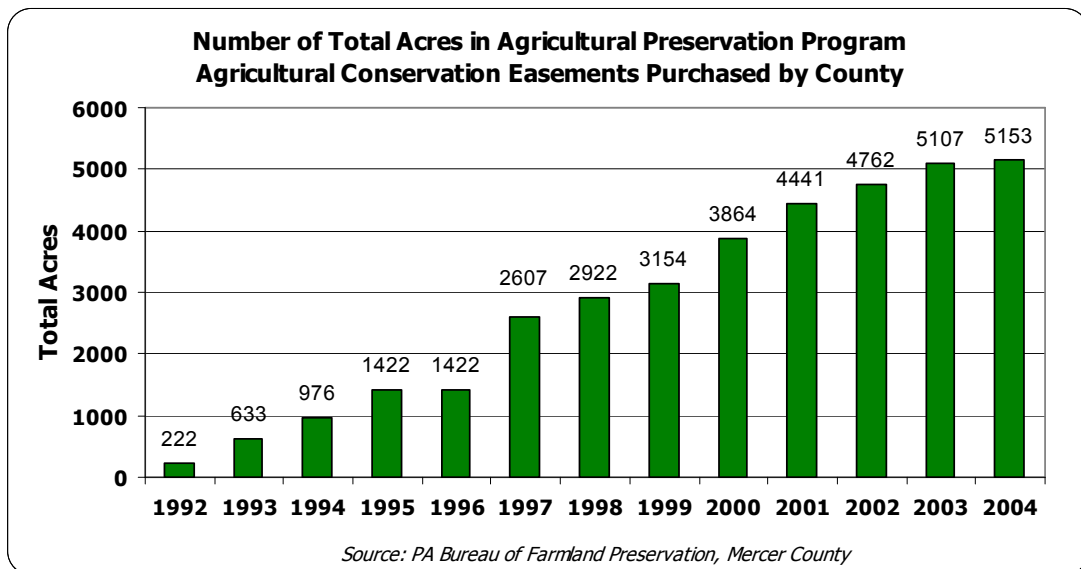
Figure 6-3 indicates the number of acres of farmland in Mercer County from 1987 to 2002. The overall trend is decreasing farmland. This decrease may be due to fewer families farming as well as more land being converted from farmland to forest lands.



Land Preservation

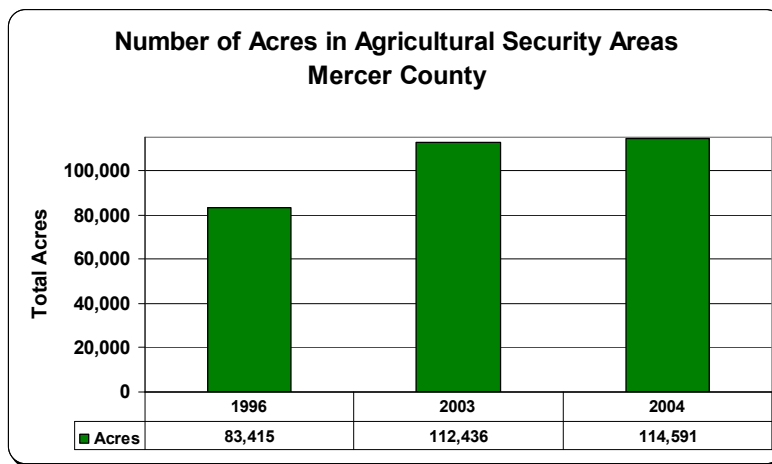
Mercer County has participated in the Agricultural Conservation Easement program since 1992. These easements perpetually restrict the use of land to agriculture and directly related uses. Selling an agricultural conservation easement can ensure that farmland will be protected from development and used for agricultural purposes only. Figure 3 indicated the total acres placed in the program from 1992 to 2004. In 2004, there were 5153 acres in the County's Agricultural Preservation Program.

Figure 6-4 – Mercer County Agricultural Conservation Easements



In addition to Agricultural Easements, Mercer County farms can participate in the Agricultural Security Area Program. Agricultural Security Areas or ASAs entitle a farmer to special consideration from local and state government agencies, and other “nuisance” challenges, thus encouraging the continuing use of the land for productive agricultural purposes. Agricultural security areas are created by the local municipalities in Mercer County in cooperation with individual landowners who agree to collectively place at least 250 acres in an agricultural security area. The number of acres in the Agricultural Security Areas Program in Mercer County is located in Figure 4. Between 1996 and 2004, the number of acres in the program increased by 37 percent. In 2004, Mercer County Agricultural Security Areas totaled 114,591 acres.

Figure 6-5 – Mercer County Agricultural Security Areas



Land use regulatory Measures

As shown in Table 6-5 and Figure 6-6 , the majority of the county's municipalities and the largest portion of county residents are covered by a community plan and zoning. However, most are more than 10 years old. Almost 50 percent of the communities’ plans are over 20 years old. Given the economic and demographic changes that have occurred in the interim it is most likely that they are seriously outdated and have little relevance to existing conditions.

Table 6-5 – Community Comprehensive Plans in Mercer County, 2003

County Residents in Municipality with:	Population	% of total	No. of Municipalities	% of total
Some form of community comprehensive plan	111,033	92.3%	38	79.2%
Plan no more than 10 years old	20,787	17.3%	17	35.4%
Plan 10-20 years old	30,979	25.8%	3	6.3%
Plan more than 20 years old	59,267	49.3%	18	37.5%
New plan or update pending	52,014	43.2%	25	52.1%

Source: MCRPC

Figure 6-6 - Zoned and Unzoned Municipalities, 2003

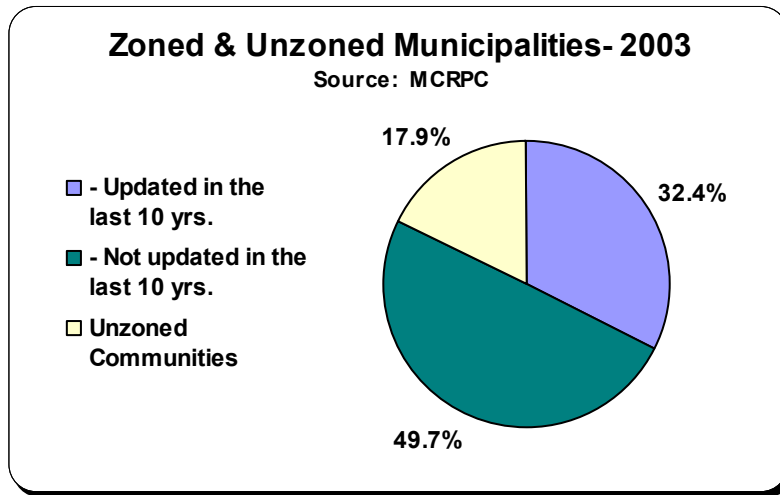


Table 6-6 - Land Use Regulations by Municipality

Municipality	Comprehensive Plan	Zoning Ordinance	SLDO
Clark Borough	X	X	x
Coolspring Township		X	
Deer Creek Township			
Delaware Township			
East Lackawannock Township		X	
Fairview Township			
Farrell City	X	X	X
Findley Township		X	
Fredonia Borough	X		
French Creek Township			
Greene Township			
Greenville Borough		X	
Grove City Borough	X	X	X
Hempfield Township		X	
Hermitage City	X	X	X
Jackson Center Borough			
Jackson Township		X	
Jamestown Borough	X	X	
Jefferson Township	X	X	X
Lackawannock Township			
Lake Township			
Liberty Township		X	
Mercer Borough		X	X

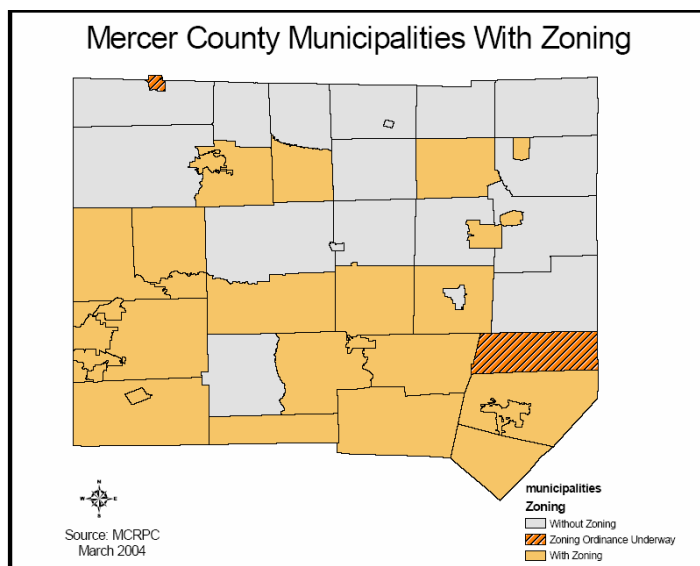
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Municipality	Comprehensive Plan	Zoning Ordinance	SLDO
Mill Creek Township			
New Lebanon Borough		X	
New Vernon Township		X	
Otter Creek Township		X	
Perry Township			
Pine Township		X	
Pymatuning Township		X	
Salem Township			
Sandy Creek Township			
Sandy Lake Borough		X	
Sandy Lake Township			
Sharon City		X	X
Sharpsville Borough		X	X
Sheakleyville Borough			
Shenango Township		X	
South Pymatuning Township		X	X
Springfield Township		X	X
Stoneboro Borough		X	
Sugar Grove Township			
West Middlesex Borough		X	X
West Salem Township			
Wheatland Borough		X	X
Wilmington Township		X	
Wolf Creek Township		X	
Worth Township			

Currently there are several multi-municipal comprehensive plans in progress in Mercer County. They include:

- Mercer Region Multi Municipal Plan
- Sharpsville Region Multi Municipal Plan
- Lakeview Region Comprehensive Plan
- Wolf Creek COG Multi Municipal Plan
- Greenville / Hempfield Comprehensive Plan
- The Shenango Valley Multi-municipal Comprehensive Plan

Figure 6-7 Municipal Zoning in Mercer County



Land Use Indicators

Residential, Commercial and Industrial Land Use Trends

Even though the County's population has been decreasing over the past 30 years (-5.4 percent between 1970 and 2000), the amount of developed land has increased significantly. Between 1973 and 1993, there was a 46 percent increase in residential land uses in Mercer County. This rate is more than double the increase in households within the County and is indicative of increasing sprawl throughout the county.

Trends in Commercial and Industrial land use also indicate increased sprawl. Commercial land uses have increased by about a third while incomes and retail sales have been decreasing (-7 percent and -4 percent respectively). Industrial land use has increased by 24 percent, yet non-agricultural employment has only increased by approximately 2 percent. As mentioned previously, the data for 2003 is not readily comparable to 1993; however, all indications are that these trends are continuing.

Figure 6-8 Residential Land Use Trends 1973-1993

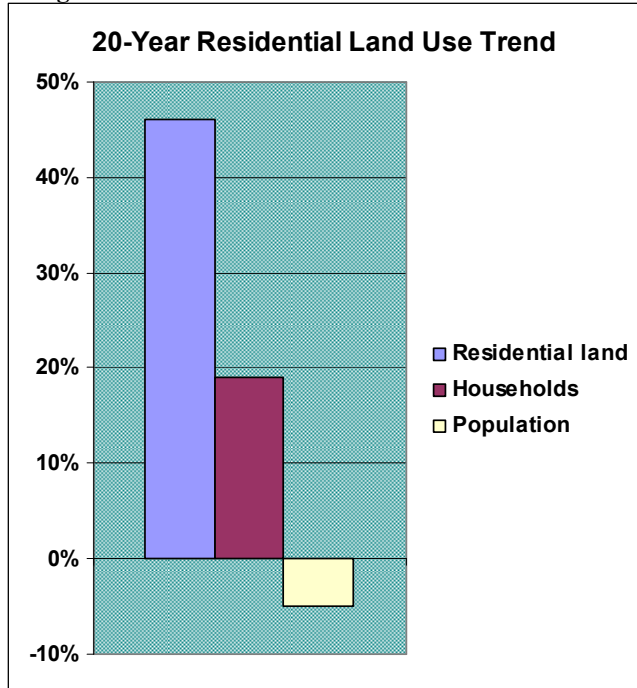
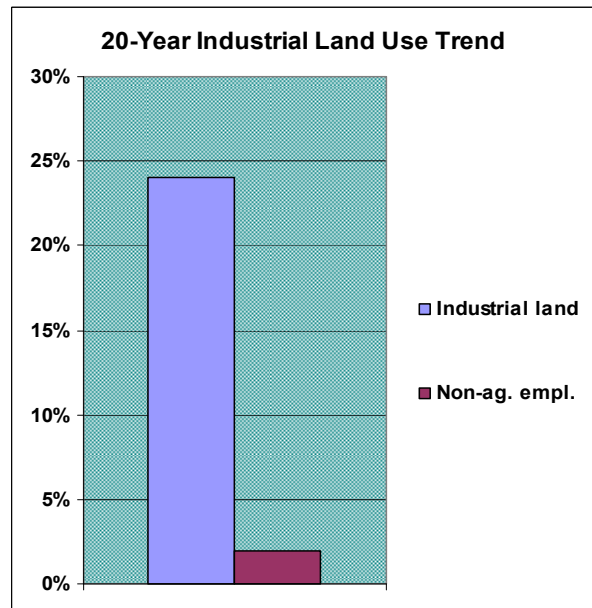
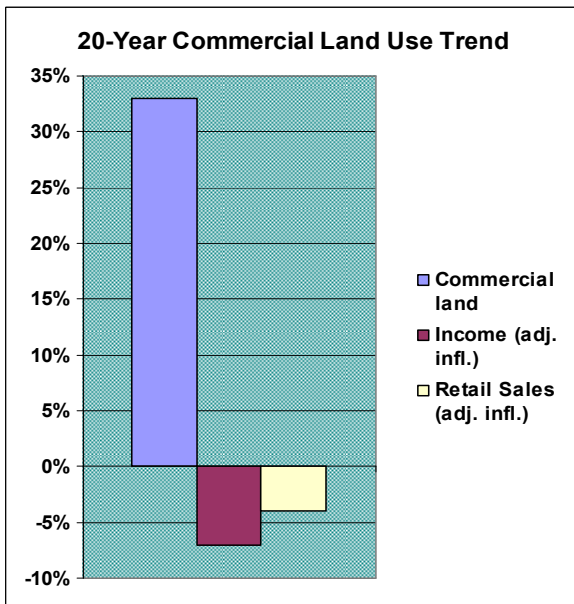


Figure 6-9 Commercial and Industrial Land Use Trends 1973 - 1993



Open Space and Agricultural Preservation

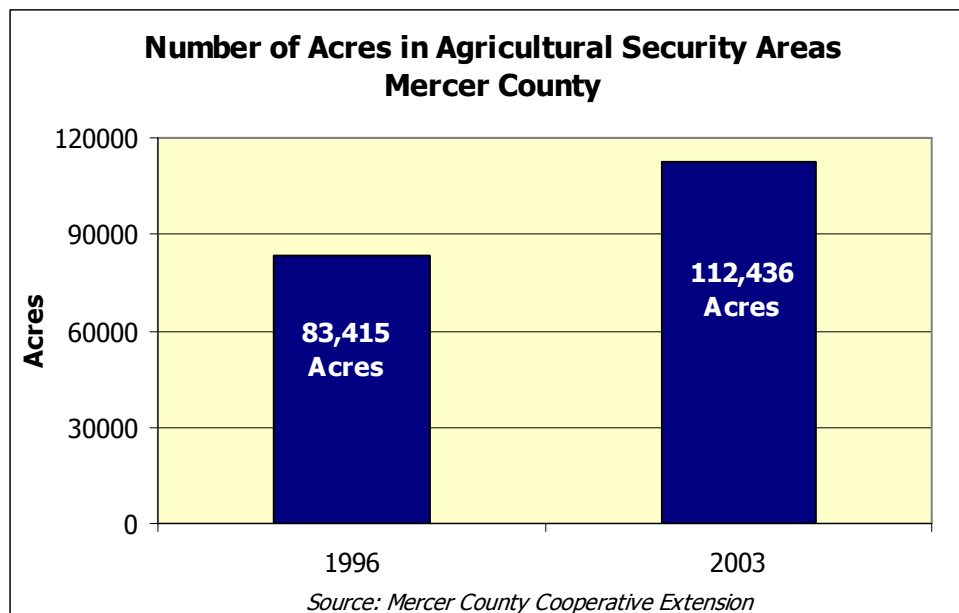
Mercer County is still a predominantly rural county, with almost 92 percent of its total land area classified as Undeveloped (woodland, farm, parks, etc.). Although the total amount of undeveloped land increased slightly over the past ten years, there has been a net decrease since 1973 as shown below.

Table 6-7 Developed and Undeveloped Land in Mercer County, 1973-2003

	1973		1993		2003		% Change 1973-93	%Change 1973 - 2003
	Acres	% Total Area	Acres	% Total Area	Acres	% Total Area		
Total Developed Land	26,100	6.1	36,791	8.5	35,743	8.2	41.0	36.9
Total Undeveloped Land	404,903	93.9	394,209	91.5	400,689	91.8	(2.6)	(1.0)

Mercer County has experienced a decline in the number of farms and acres of land in farms, but has a very successful Agricultural Security Area program, which has enrolled about one-quarter of the county's total acreage in Ag Security Areas.

Figure 6-10 Acres in Agricultural Security Areas, 1996 and 2003



The County also has an Agricultural Conservation Easements Purchase Program. Between 1992 and 2003 over 5,000 acres of farmland has been preserved through the purchase of conservation easements. On average, easements for approximately 300 acres have been purchased annually.

Shovel-Ready Industrial Areas

According to the Penn-Northwest Development Corporation, there are 196 acres of available land within the active and proposed industrial parks within Mercer County. The Broadway North Property, which will have a total of 25 acres, is expected to be available in the third quarter of 2004. However, based on historic rates of absorption, this amount of land would not be sufficient for future needs.

Table 6-8 Available Industrial/Commercial Sites Land

Available Sites in Mercer County			
Acreage	Property Name	Location	Zoning
2.3 acres	Reynolds North	Greenville-Reynolds Industrial Park	Industrial
14 acres	VIP Industrial Park	City of Hermitage	Industrial
18 acres	Broadway North	City of Sharon	Industrial
23+ acres	Lewnes/Poole Partnership	City of Hermitage	Industrial
40 acres	Jackson Commerce Park	Jackson Township	Industrial
41 acres	Wolf Fruit Farm Property	City of Hermitage	Planned Technical Park
42 acres	Barkeyville Road Property	Pine Township	Industrial
60 acres	Moroco Family Industrial Site	City of Hermitage	Industrial
82 acres	Stateline Industrial Park	City of Hermitage	Industrial
100 acres	Spanger/Quarterson Property - Coldwell Banker	City of Hermitage	Commercial
112 acres	LindenPointe	City of Hermitage	Planned Technical Park
150 acres	Reynolds East Business Park	Hempfield/Delaware Townships	Industrial
160 acres	Shenango Business Park	Shenango Township	Industrial

Source: Penn-Northwest Development Corporation. Available Sites 2005.

Mercer County Brownfields

The Pennsylvania Land Recycling Program was started in 1995 and has been responsible for over 1,300 clean ups in 64 counties across the commonwealth. The program focuses on redevelopment of brownfields and consists of four cornerstones – liability relief, financial

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incentives, uniform cleanup standards, and standardized reviews and time limits. According to the 2003 Annual Report, there have been a number of properties within Mercer County that have taken advantage of the program. These properties and their status are listed below.

Table 6-9 Brownfield Inventory

Property	Location	Size	Status
Roemer Industires	Sharon	n/a	Remediated 1996
Sharon Steel	Farrell	17 acres	Met standards for a special industrial area 1996
Sharon Steel	Farrell	1.2 acres	Met state standards 1996
Sharon Steel	Farrell	1.2 acres	met state standards 1997
Sharon Steel	Farrell	35 acres	Met state standards 1998
Duferco Farrell Corp.	Farrell	104 acres	Remediated 2000
Nicholas Cianci	Greenville	n/a	Remediated 2000
Caparo Steel	Farrell	0.77 acre	Remediated 2001
Caparo Steel	Farrell	0.2 acre	Remediated 2001
Duferco Farrell Corp.	Farrell	104 acres	Remediated to special industrial area status 2001
BP	Hermitage		Remediated to statewide health standard 2002
Caparo Steel	Farrell	250 acres	Attained non-residential statewide standard 2002
Haywood Industries	Farrell	5.75 acres	Special Industrial Area 2001
L.M. Stevenson	Grove City	2 acres	Remediated to non-residential statewide standard 2002

Source: PA Land Recycling Program 2003 Annual Report

These figures will provide a baseline for monitoring the success of this program within Mercer County.

