

Salem Township

Wayne County Agricultural Land Use/Land Cover Study

A study examining the change of agricultural land use and land cover
in Wayne County from 1959 to 2002

This is report M-22, Salem Township; in a series of reports examining land use and land cover change in Wayne County's 28 municipalities, particularly agricultural land between 1959 and 2002. For a detail of the study procedures, see the Project Narrative.



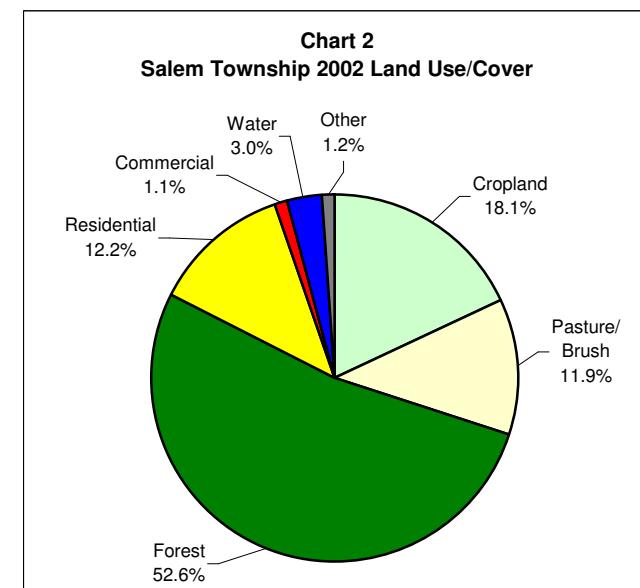
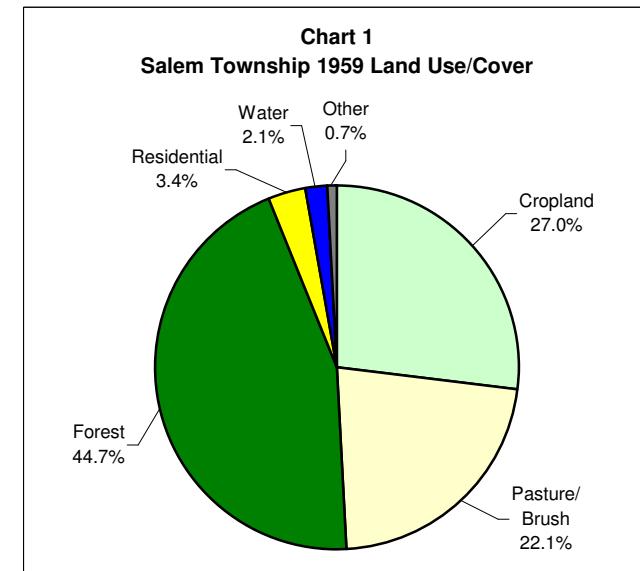
Overview

Salem Township is located in southern Wayne County. The total land area of the Township is approximately 20,178 acres or 31.5 square miles. The most notable change during the 43-year study period was the decrease in agricultural land use/cover. Cumulatively, agricultural types of land use/cover, namely cropland, pasture/brush and farmsteads comprised more than 50% of the Salem Township land area in 1959. However, by the end of the study period in 2002, these agricultural land use/cover types comprised slightly more than 30% of the total land area. Conversely, the amount of forest cover in the Township increased by nearly 1,587 acres during the time span. By 2002, forest cover accounted for more than 50% of the total Salem Township land area. Residential land use/cover, which includes farmsteads, also increased and by 2002 it accounted for 12.2% of the Township land area, compared to 3.4% in 1959.

Table 1 – Salem Township Land Use/Land Cover

Land Use/Land Cover	Salem 1959 Acres	Category Percent of Total	Salem 2002 Acres	Category Percent of Total
Residential	334.50	1.7%	2,296.27	11.4%
Commercial	31.11	0.2%	222.63	1.1%
Industrial	1.78	0.0%	34.08	0.2%
Transportation	1.74	0.0%	19.44	0.1%
Utilities	-	0%	14.61	0.1%
Religious	23.33	0.1%	25.55	0.1%
Government/Institution	8.21	0.0%	30.33	0.2%
Recreational	71.15	0.4%	99.65	0.5%
Cropland	5,452.52	27.0%	3,653.87	18.1%
Farmstead	346.58	1.7%	170.64	0.8%
Pasture/Brush	4,466.60	22.1%	2,395.86	11.9%
Forest	9,017.60	44.7%	10,604.54	52.6%
Water	417.52	2.1%	600.53	3.0%
Mining/Extraction	5.34	0.0%	9.98	0.0%
Total	20,177.98	100.0%	20,177.98	100.0%

The charts below show the percent values for the land use/land cover categories in Salem Township for 1959 and 2002. The residential category includes farmsteads in each chart's total throughout this report, and the category "other" includes land use/land cover categories that were too small to illustrate individually.



The charts above clearly illustrate the decrease in agricultural land use/cover and the increase in forest cover. Also, note the increase in the residential land use between 1959 and 2002.

Cropland

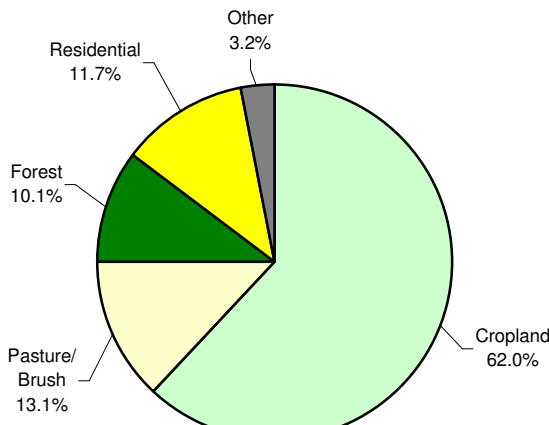
For the purposes of this study, the cropland consisted of various types of agricultural products, including but not limited to corn and hay. In 1959, cropland comprised 27% of the total Salem Township land area with a total area of more than 5,452 acres. {See Table 1} By 2002, cropland had decreased by nearly 1,800 acres and accounted for slightly more than 18% of the Township land area. Table 2 {below} and Chart 3 {right} depict what became of the 1959 cropland in Salem Township.

Table 2 – 1959 Cropland Use in 2002

Land Use/Land Cover	1959 Cropland Classification in 2002	
	Acres	Percent
Residential	597.13	11.0%
Commercial	92.60	1.7%
Industrial	18.54	0.3%
Transportation	-	0%
Utilities	0.01	0.00%
Religious	0.88	0.0%
Government/Institution	11.73	0.2%
Recreational	5.19	0.1%
Cropland	3,380.05	62.0%
Farmstead	39.15	0.7%
Pasture/Brush	711.87	13.1%
Forest	550.44	10.1%
Water	40.89	0.7%
Mining/Extraction	4.04	0.1%
Total	5,452.52	100.0%

Of the 1959 cropland, 62% remained as cropland at the end of the study period in 2002. In terms of cropland retention, Salem Township ranked tenth out of all Wayne County municipalities. By 2002, more than 23% of the 1959 cropland had converted to natural types of land use/cover either as pasture/brush (13.1%) or forest (10.1%). More than 600 acres or 11.7% of the 1959 cropland converted to residential land use/cover. The remaining area converted to various other types of land use/cover. The United States Department of Agriculture classifies soil as prime agricultural soil, farmland of statewide importance or non-prime soil. Details of the three classifications can be found in the County summary. The following sections will analyze soil from a prime versus non-prime perspective.

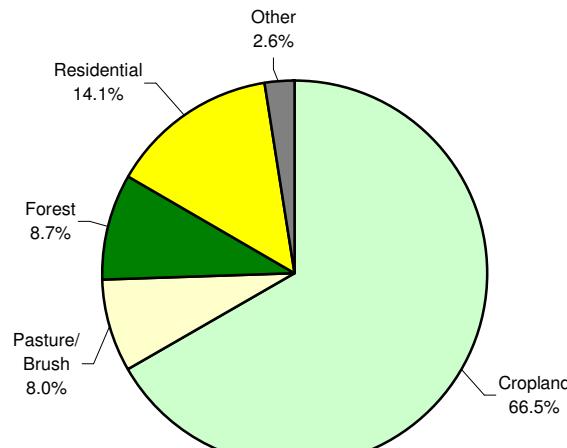
Chart 3
1959 Cropland Use in 2002



Prime Agricultural Soil

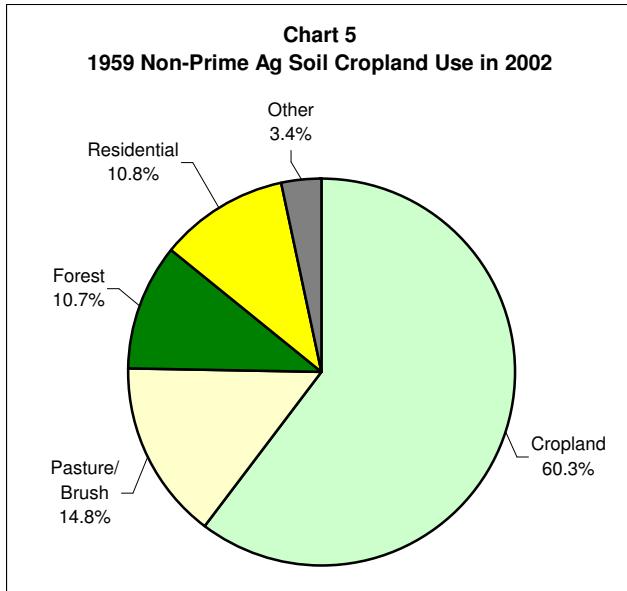
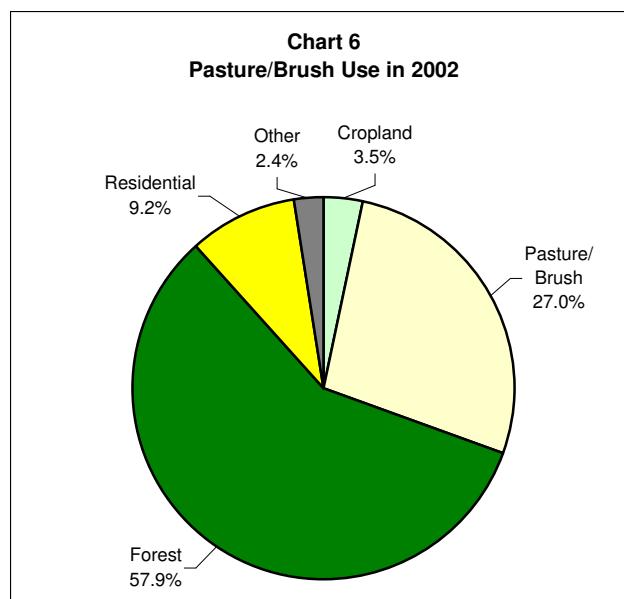
In 1959, over 25% or approximately 1,382 acres of the cropland in Salem Township was situated on prime agricultural soil. Of that prime agricultural soil cropland, about two-thirds or 920 acres were still cropland at the end of the study period in 2002. {See Chart 4, below} More than 16% of the 1959 prime agricultural soil cropland converted to natural types of land use/cover by 2002, namely as pasture/brush (8.0%) or forest (8.7%). Slightly more than 14% converted to residential land use/cover by 2002. The remaining area converted to various other smaller percentages of land use/cover.

Chart 4
1959 Prime Ag Soil Cropland Use in 2002



Non-Prime Agricultural Soil

In 1959, almost 75% or about 4,070 acres of the cropland in Salem Township was situated on non-prime agricultural soil. Of that non-prime agricultural soil cropland, more than 60% remained as cropland in 2002. {See Chart 5, below} More than 25% of the 1959 non-prime agricultural soil cropland converted to natural types of land use/cover by 2002, either as pasture/brush (14.8%) or forest (10.7%). Another 10.8% converted to residential land use/cover. The remaining area converted to relatively smaller percentages of land use/cover types.



Pasture/Brush

In 1959, pasture/brush accounted for more than 22% of the total Salem Township land area. By 2002, the land designated as pasture/brush had decreased by more than 2,070 acres and comprised less than 12% of the total Salem Township land area. {See Table 1} About 1,207 acres or 27% of the 1959 pasture/brush remained as pasture/brush in 2002. {See Chart 6, above right} The majority of the 1959 pasture/brush (nearly 2,600 acres or 58%) converted to forest cover by 2002. About 9.2% converted to residential land use/cover and another 3.5% was used as cropland by 2002.

Forest

A large portion of the Salem Township landscape was comprised of forest in both study years. In 1959, forest cover accounted for 44.7% of the total land area. By 2002, the forest cover had increased by 1,587 acres and comprised 52.6% of the entire Salem Township land area. {See Table 1} The increase largely arose from the conversion of pasture/brush to forest as illustrated in Chart 6 {above}. Also, as depicted in Table 3 below, over 82% of the forest cover was retained between 1959 and

Table 3 – 1959 Forest Use in 2002

Land Use/Land Cover	1959 Forestland Classification in 2002	
	Acres	Percent
Residential	936.35	10.4%
Commercial	34.26	0.4%
Industrial	9.77	0.1%
Transportation	14.46	0.2%
Utilities	12.30	0.1%
Religious	-	0%
Government/Institution	5.34	0.1%
Recreational	13.31	0.1%
Cropland	53.58	0.6%
Farmstead	6.67	0.1%
Pasture/Brush	409.43	4.5%
Forest	7,420.08	82.3%
Water	100.12	1.1%
Mining/Extraction	1.93	0.0%
Total	9,017.60	100.0%

2002. Although, in itself, the 82% retention is a large percentage, only three Wayne County municipalities retained less forest cover over the course of the study period. The majority of the forest cover that was not retained converted to residential use. About 936 acres or 10.4% of the 1959 forest cover converted to residential use by 2002. Another 4.5% of the 1959 forest was classified as pasture/brush in 2002. The remaining area converted to various other smaller percentages of land use/cover.

Residential

Between 1959 and 2002 the amount of residential land use/cover increased by 1,962 acres. In 1959, residential land use/cover accounted for less than 2% of the total land area. By 2002, more than 11% of the total land area was comprised of residential land use/cover. According to the U.S. Census Bureau, the total population of Salem Township increased from 1,324 in 1960 to 3,664 at the time of the 2000 census. Of the 2002 residential area, nearly 49% of the increase came from 1959 agricultural land use/cover, namely cropland (26%), pasture/brush (16.7%) and farmsteads (6%). Another 40.8% of the 2002 residential land came from 1959 forest cover.

Commercial

The amount of commercial land increased from about 31 acres in 1959 to more than 222 acres in 2002. However, by 2002, commercial land use/cover comprised slightly more than 1% of the total land area by the end of the study period. The majority of the increase in commercial land (62%) came from 1959 agricultural land, namely cropland, pasture/brush or farmsteads. Another 15% came from land that was forested in 1959.

Protected Agricultural Land

Salem Township had approximately 4,242 acres enrolled in the Agricultural Security Area Program by 2002. Additionally, there were approximately 249 acres enrolled in the Agricultural Conservation Easement Purchase

Program by the end of the study period. There were also approximately 4,532 acres of land accepted into the Act 319 Program (Clean & Green), which accounts for about 23.5% of the taxable acreage within the Township. This tax designation reduces the assessed value of the Township by \$8,906,900 or 2%.

Summary

The most prominent change that was realized during the 43-year period was that agricultural related land use/cover decreased substantially between 1959 and 2002 in Salem Township. In 1959, the cropland, farmsteads and pasture/brush accounted for 50.8% of the entire municipal land area. By the year 2002, these land use/cover types comprised only 30.8% of the total Salem Township land area. The cropland decreased by nearly 1,800 acres and comprised nearly 9% less of the Township land area in 2002 than it did in 1959. Similarly, in 1959, pasture/brush comprised more than 22% of the Township. However, during the 43-year time span, the pasture/brush decreased by more than 2,070 acres and accounted for less than 12% of the total land area by 2002. Of the 1959 pasture/brush decrease, almost 60% converted to forest cover. That finding, in addition to a retention rate of 82% between 1959 and 2002, resulted in an increase of nearly 1,587 acres of forest cover during the study period. By 2002, forest accounted for more than 52% of the total municipal land area. The amount of residential land also increased rather substantially between 1959 and 2002. Residential land use/cover accounted for almost 12% of the total land area in 2002, compared with 1.7% of the total land area in 1959.

Wayne County Agricultural Land Use/Cover Study

This project was funded in part by the Wayne County Commissioners and by a grant from the Pennsylvania Department of Community and Economic Development. This study examines the change in agricultural land use/cover over 43 years (1959-2002). The base data is 1959 USDA aerial photos which were registered to the state plane coordinate system by Wilkes University's Center for Geographic Information Sciences. This enabled comparison with 1997 aerial photos taken by Wayne County. To aid in the analysis of the data, local municipal volunteers worked with planning department staff members in reviewing the aerial photos and resulting land use maps. A complete list of those community volunteers who aided in the completion of this report can be found in the report summary.

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