

Sterling 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-26, Sterling 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

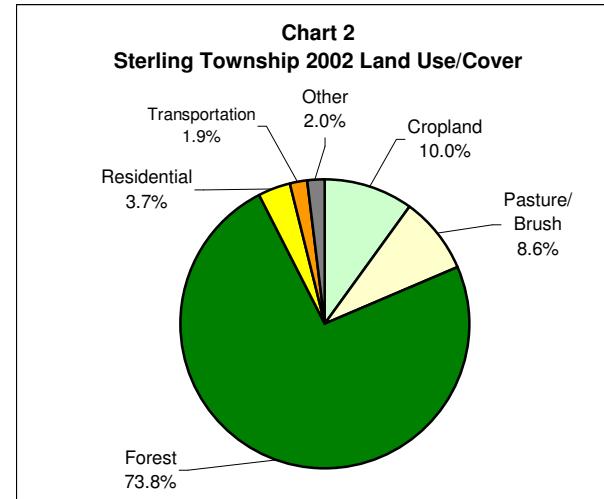
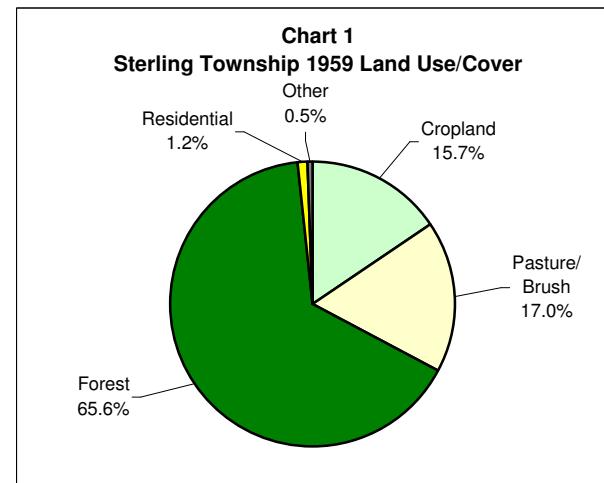
Sterling Township is located in southern Wayne County with both the Wilcox Creek and the West Branch of the Wallenpaupack Creek forming its northern border. It is the fourteenth largest municipality in Wayne County with a total of 17,382 acres or approximately 27 square miles, which accounts

for 3.6% of the County's total land area. As can be seen in Table 1 {below} and Charts 1 and 2 {right}, the majority of the Township was covered by forest in both 1959 and 2002. The area of farming related land use/cover decreased by a certain extent over the forty plus year study period. Conversely, the amount of forest, residential, commercial and water land use and land cover increased. Major transportation covers nearly 2% of the Township due mainly to the construction of Interstate 84, which crosses through the northern portion of the Township.

Table 1 - Sterling Township Land Use/Land Cover

Land Use/Land Cover	Sterling 1959 Acres	Category Percent of Total	Sterling 2002 Acres	Category Percent of Total
Residential	82.80	0.5%	612.06	3.5%
Commercial	0.85	0.0%	71.13	0.4%
Industrial	4.66	0.0%	15.02	0.1%
Transportation	-	0%	331.47	1.9%
Utilities	-	0%	3.03	0.0%
Religious	5.91	0.0%	7.70	0.0%
Government/Institution	0.08	0.0%	5.81	0.0%
Recreational	-	0.0%	7.40	0.0%
Cropland	2,721.45	15.7%	1,732.91	10.0%
Farmstead	132.42	0.8%	27.92	0.2%
Pasture/Brush	2,960.11	17.0%	1,498.83	8.6%
Forest	11,395.55	65.6%	12,830.05	73.8%
Water	78.51	0.5%	157.09	0.9%
Mining/Extraction	-	0%	81.57	0.5%
Total	17,382.34	100.0%	17,381.99	100.0%

The charts below show the percent values for the land use/land cover categories in Sterling 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.



Notice the slight decrease in cropland and the more noticeable decrease in pasture/brush over this time period. The largest increase was forest with an additional 1,435 acres or 8.2% more of the Township. There were also increases in residential land use and transportation. The 2002 transportation total was comprised of Interstate 84 (306 +/- acres) and the Spring Hill Airpark (25 +/- acres).

Cropland

Cropland was the third largest land use in Sterling Township in 1959. By 2002, however, it became the second largest land use/cover in the Township due to the greater decrease of pasture/brush land. In 1959, approximately 2,721 acres, equaling 15.7% of the Township were being used for cropland production. By 2002, the area of cropland had decreased to 1,733 acres or 10% of the Township. Table 2 {below} and Chart 3 {right} show what became of the Sterling Township 1959 cropland.

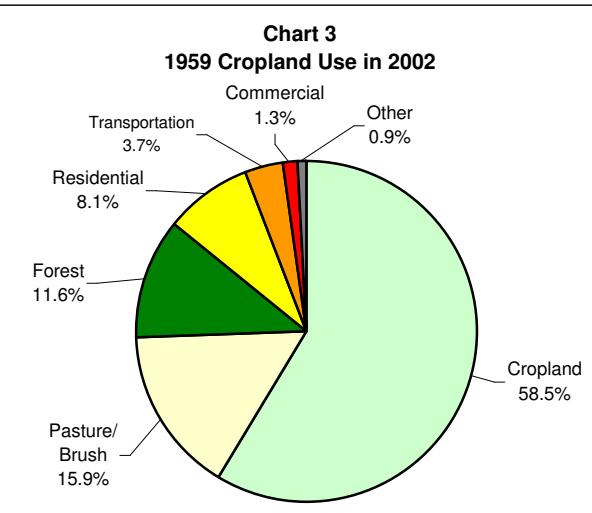
Table 2 - 1959 Cropland Use in 2002

Land Use/Land Cover	1959 Cropland Classification in 2002	
	Acres	Percent
Residential	211.23	7.8%
Commercial	35.34	1.3%
Industrial	6.03	0.2%
Transportation	100.73	3.7%
Utilities	-	0%
Religious	2.59	0.1%
Government/Institution	0.96	0.0%
Recreational	2.79	0.1%
Cropland	1,591.38	58.5%
Farmstead	10.46	0.4%
Pasture/Brush	432.95	15.9%
Forest	314.45	11.6%
Water	7.90	0.3%
Mining/Extraction	4.65	0.2%
Total	2,721.46	100.0%

Of the approximately 2,721 acres of 1959 cropland, nearly 1,600 acres or 58.5% remained as cropland by 2002. Another 27.5% of the 1959 cropland converted to natural land cover, namely pasture/brush (15.9%) and forest (11.6%). These two land categories accounted for almost 750 acres. A total of 222 acres, equaling 8.1%, changed to residential land use and over 100 acres or 3.7% was converted to transportation for the airpark and Interstate 84 construction project.

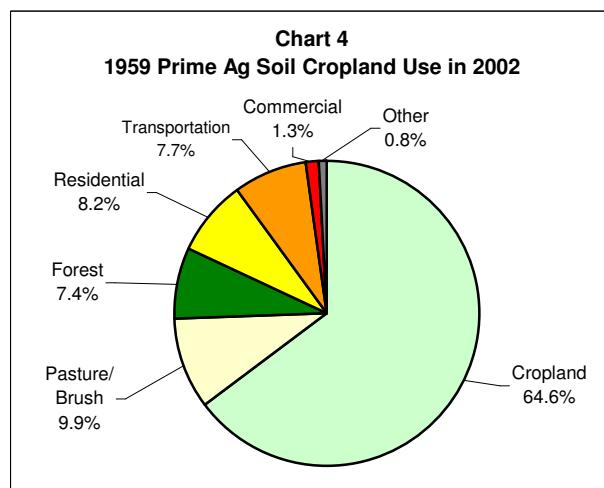
The United States Department of Agriculture (USDA) classifies soil as prime agricultural soil, farmland of statewide importance or non-prime soil. Details of the three classifications can be found in the County summary. The following

sections analyze soils from a prime versus non-prime perspective.



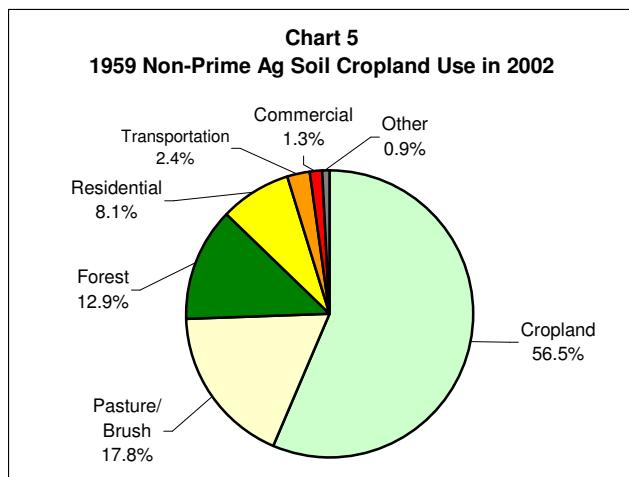
Prime Agricultural Soil

In 1959, nearly one-quarter or approximately 665 acres of the cropland in Sterling Township was located on prime agricultural soil. Of that prime agricultural soil cropland, roughly 430 acres, equaling 64.6%, were still being utilized for crop production by 2002 {see Chart 4 below}. A total of 115 acres converted naturally to other land covers during this four-decade plus period. Pasture/brush consumed 66 acres, equaling 9.9% of the prime cropland from 1959, and forest accounted for nearly 50 acres, which equaled 7.4%. An additional 54 acres was converted to residential land use, which was equivalent to 8.2% and over 50 acres or 7.7% was changed to the land classification of transportation for the I-84 route. Less than 10 acres or 1.3% was changed to commercial land.



Non-Prime Agricultural Soil

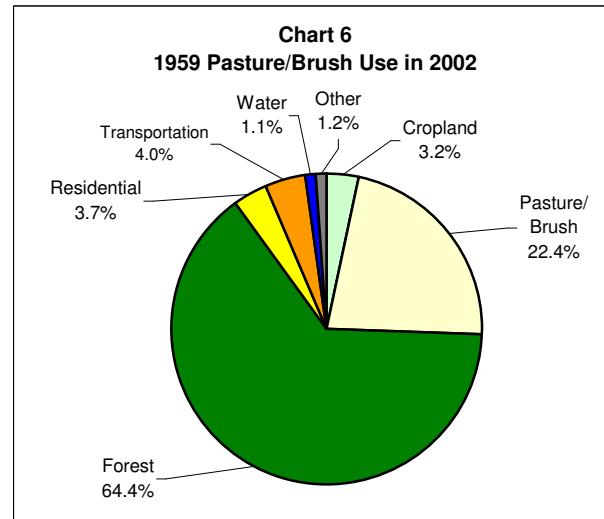
In 1959, over three quarters or approximately 2,057 acres of the cropland in Sterling Township was located on non-prime agricultural soil. Of that non-prime agricultural soil, roughly 1,162 acres, equaling 56.5%, were still utilized for crop production by 2002. Over 30% had converted to other natural land covers, namely pasture/brush (17.8%) and forest (12.9%). These two land classifications accounted for 633 acres of the 1959 non-prime soil cropland. An additional 167 acres, equaling 8.1%, were changed to residential use during this time period. For the construction of I-84, nearly 50 acres or 2.4% of the non-prime cropland was changed to transportation use. Approximately 27 acres, equal to 1.3%, were converted to commercial land use as illustrated in Chart 5 {below}.



Pasture/Brush

In 1959, pasture/brush accounted for 17% or 2,960 acres of Sterling Township's total land area {See Table 1}. By 2002, this land cover had decreased by nearly half to less than 1,500 acres or 8.6% of the Township. Of the 1959 pasture/brush acreage, only 22.4% remained as such by 2002. This was equivalent to roughly 662 acres. Over 1,900 acres or 64.4% of the 1959 pasture/brush converted naturally to forest by 2002. Nearly 120 acres, equaling 4%, was changed to transportation for the I-84 corridor and approximately 106 acres was converted to residential land. Almost 95 acres, equal to 3.2%, were converted to cropland use.

Chart 6 {below} shows the 1959 pasture/brush and what it became by 2002.



Forest

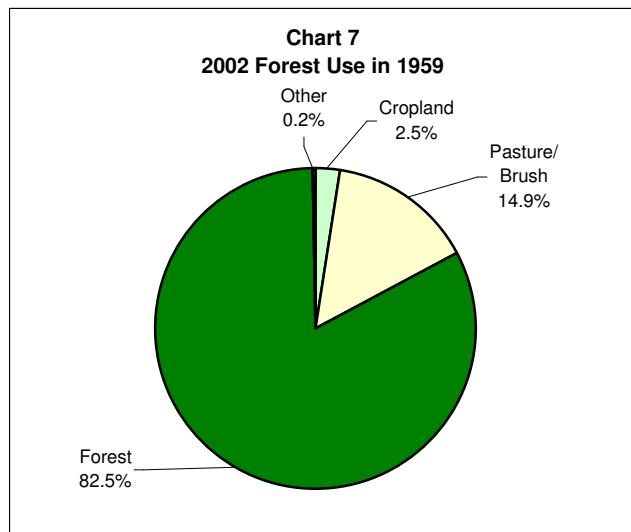
As stated in the "overview", the majority of Sterling Township was covered by forest in both 1959 and 2002. In 1959, there were nearly 11,400 acres of forest, which was equivalent to almost two-thirds of the Township {see Table 1}. By 2002, the amount of forest had increased by approximately 1,435 acres to 12,830 acres total. By percentage, close to three-quarters (73.8%) of Sterling Township was forest cover in 2002. State Game Land number 312, under the ownership of the Commonwealth of Pennsylvania and managed by the Pennsylvania Game Commission, is located in the southern portion of the Township and accounts for roughly 1,180 acres, which is equal to 9.2% of the 2002 total forest acreage. The increase in forest cover is mostly attributed to the maturation of the pasture/brush land. Also, a large portion of the 1959 forest in the Township remained as such over the study period. Of the 11,400 acres of 1959 forest, nearly 93% remained as forest by 2002 {see Table 3 on next page}. Approximately 367 acres, equaling 3.2%, of the 1959 forest became pasture/brush cover and 163 acres or 1.4% was changed to residential land use during this time. Once again, due to the construction of Interstate 84, a total of 108 acres, which amounted to less than 1% of the 1959 forest, changed to the transportation classification. Only 35 acres was converted to cropland over the study period.

Table 3 - 1959 Forest Use in 2002

Land Use/Land Cover	1959 Forestland Classification in 2002	
	Acres	Percent
Residential	163.22	1.4%
Commercial	15.08	0.1%
Industrial	3.40	0.0%
Transportation	107.95	0.9%
Utilities	1.16	0.0%
Religious	0.01	0.0%
Government/Institution	1.96	0.0%
Recreational	3.24	0.0%
Cropland	35.18	0.3%
Farmstead	0.46	0.0%
Pasture/Brush	366.70	3.2%
Forest	10,583.97	92.9%
Water	46.52	0.4%
Mining/Extraction	66.68	0.6%
Total	11,395.53	100.0%

The table above shows both the acreage and percentage of what became of the 1959 forest in Sterling Township.

Nearly three quarters of Sterling Township is forested land cover. Chart 7 {below} shows how this forest acreage existed back in 1959, by percentage.



A total of 97.4% of the 2002 forest in Sterling Township was natural land cover back in 1959, namely forest with approximately 10,584 acres and pasture/brush with over 1,906 acres. Less than 315 acres, equaling only 2.5% of the Township's 2002 forest, was previously cropland in 1959. These three land categories account for 99.9% of the 2002 forest coverage.

Protected Agricultural Land

Sterling Township had approximately 4,466 acres of land that were designated in the Agricultural Security Area Program by 2002. By percentage, this accounts for over one quarter of the Township's total land area. There were no farms enrolled in the Agricultural Conservation Easement Purchase Program. However, a total of 2,955 acres equal to 18.8% of the taxable acreage within Sterling Township had been enrolled in the Act 319 (Clean & Green) Program in order to receive a preferential assessment. This tax designation reduces the assessed value of the Township by 3,532,200 or 2.9%.

Summary

The most notable change in Sterling Township during the study period was the decrease of cropland, covering 5.7% less of the Township, and the reduction of pasture/brush, covering 8.4% less of the Township. The largest increase in land cover was forest. It now covers 8.2% more of the Township and accounts for nearly three quarters of Sterling Township's land area. Residential land now covers 3% more of the Township. Another unique change experienced only in Sterling Township was the increase in transportation land use due to the development of the Spring Hill Airpark and the construction of Interstate 84 through the entire northern portion of the Township during the early 1970's. This roadway location affected 300 plus acres of the Township's land area.

Wayne County Agricultural Land Use/Cover

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 the 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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