

South Canaan 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-24, South Canaan 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.



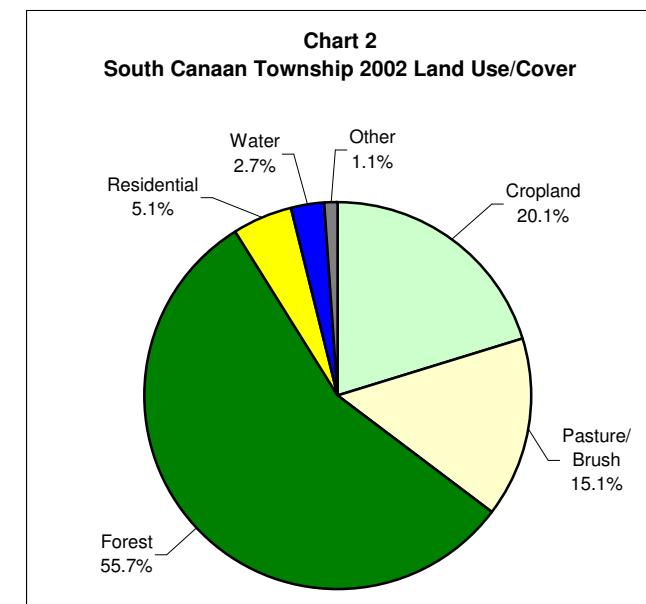
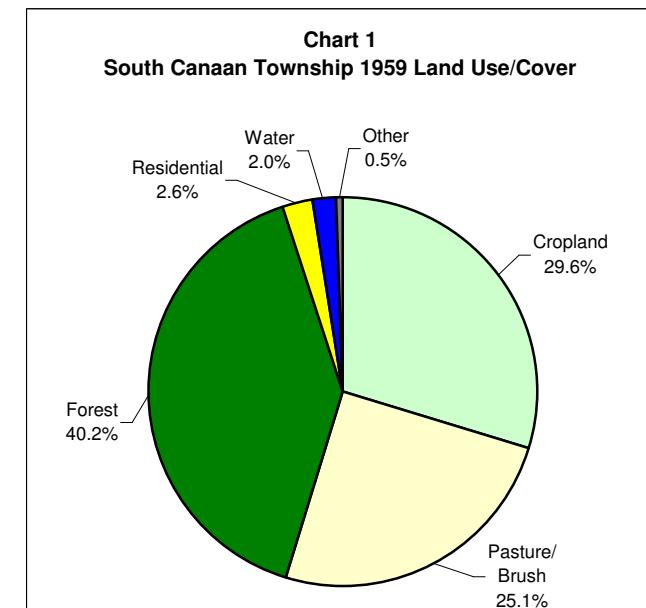
Overview

South Canaan Township is located along the western border of Wayne County. The total land area of the Township is approximately 18,161 acres or about 28 square miles. The agricultural types of land use/cover, namely cropland, pasture/brush and farmsteads decreased by 3,598 acres, but forestland increased by about 2,817 acres. In 1959, agricultural land use/cover types accounted for slightly more than 56% of the total South Canaan Township land area. By 2002, the percentage of total land area comprised of agricultural land use/cover types was reduced to about 36%. By 2002, forest accounted for nearly 56% of the entire Township's land area, up from 40% in 1959. The residential land use/cover increased by 3% of the total land area during the study period.

Table 1 – South Canaan Twp Land Use/Land Cover

Land Use/Land Cover	South Canaan 1959 Acres	Category Percent of Total	South Canaan 2002 Acres	Category Percent of Total
Residential	184.06	1.0%	719.81	4.0%
Commercial	9.77	0.1%	48.86	0.3%
Industrial	8.24	0.0%	9.25	0.1%
Transportation	32.93	0.2%	-	0%
Utilities	1.61	0%	4.10	0.0%
Religious	30.35	0.2%	45.60	0.3%
Government/Institution	5.73	0.0%	62.61	0.3%
Recreational	-	0%	-	0%
Cropland	5,375.43	29.6%	3,659.43	20.1%
Farmstead	281.57	1.6%	211.79	1.2%
Pasture/Brush	4,562.83	25.1%	2,750.80	15.1%
Forest	7,304.11	40.2%	10,121.54	55.7%
Water	364.38	2.0%	491.07	2.7%
Mining/Extraction	-	0%	36.15	0.2%
Total	18,161.01	100.0%	18,161.01	100.0%

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



Note the decrease in the agricultural land use/cover and the substantial increase in the amount of forest cover in the above charts.

Cropland

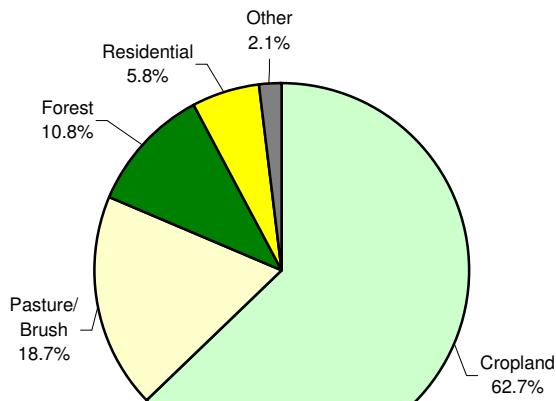
For the purposes of this study, the cropland consisted of various types of agricultural products, including but not limited to corn and hay. In 1959, nearly 30% of the total Township land area was comprised of cropland. {See Table 1} By 2002, about one-fifth of the Township consisted of cropland. In total, the amount of cropland decreased by about 1,716 acres over the course of the study period. Table 2 {below} and Chart 3 {right} depict what became of the 1959 cropland.

Table 2 – 1959 Cropland Use in 2002

Land Use/Land Cover	1959 Cropland Classification in 2002	
	Acres	Percent
Residential	267.46	5.0%
Commercial	34.02	0.6%
Industrial	9.25	0.2%
Transportation	-	0%
Utilities	1.25	0.02%
Religious	14.09	0.3%
Government/Institution	29.09	0.5%
Recreational	-	0%
Cropland	3,371.19	62.7%
Farmstead	42.15	0.8%
Pasture/Brush	1,003.91	18.7%
Forest	580.07	10.8%
Water	14.26	0.3%
Mining/Extraction	8.70	0.2%
Total	5,375.44	100.0%

Of the 1959 cropland, nearly 63% or about 3,371 acres remained as cropland in 2002. In terms of cropland retention, South Canaan Township ranked ninth out of all Wayne County municipalities. By 2002, a large amount of the 1959 cropland had converted to natural types of land use/cover either as pasture/brush (18.7%) or forest (10.8%). Almost 6% or about 310 acres of the 1959 cropland converted to residential use. 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.

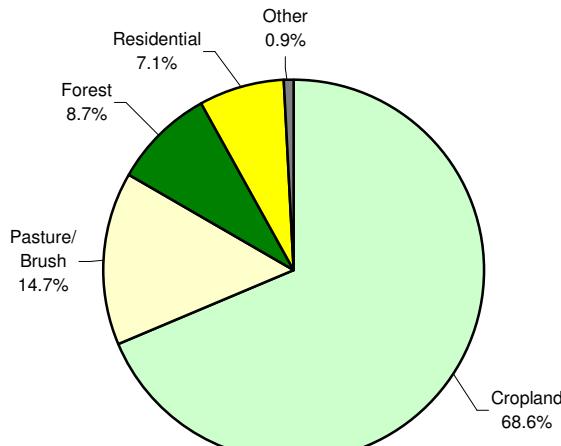
Chart 3
1959 Cropland Use in 2002



Prime Agricultural Soil

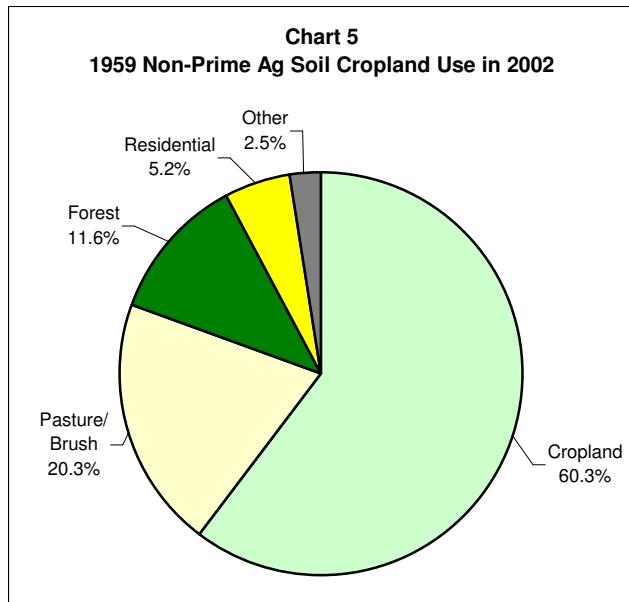
In 1959, more than 1,564 acres or about 29% of the cropland in South Canaan Township was situated on prime agricultural soil. Of that prime agricultural soil cropland, nearly 69% or 1,073 acres were still in existence as cropland in 2002. {See Chart 4 below} Of the remaining percentage of 1959 prime agricultural soil cropland, about 23% converted to natural land use/cover as either pasture/brush (14.7%) or forest (8.7%). Also, slightly more than 7% of the 1959 prime agricultural soil cropland converted to residential land use/cover by 2002. The area remaining converted to various other land use/cover types.

Chart 4
1959 Prime Ag Soil Cropland Use in 2002



Non-Prime Agricultural Soil

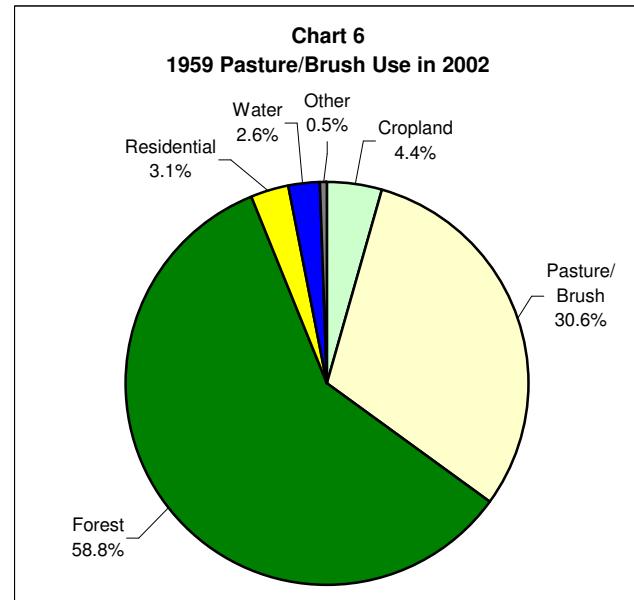
In 1959, almost 71% or about 3,811 acres of the cropland in South Canaan Township was situated on non-prime agricultural soil. A large percentage (60.3%) of the non-prime agricultural soil cropland was also retained as cropland in 2002. {See Chart 5 below} Of the remaining area of non-prime agricultural soil cropland, about 32% converted to natural types of land use/cover as either pasture/brush (20.3%) or forest (11.6%). More than 5% converted to residential land use by 2002. The remaining area converted to other types of land use/cover.



Pasture/Brush

In 1959, pasture/brush accounted for about one quarter of the total Township land area. By 2002, the area of pasture/brush had decreased by about 1,812 acres and accounted for slightly more than 15% of the total land area. {See Table 1} Of the 1959 pasture/brush, about 31% remained as pasture/brush at the end of the period in 2002. {See Chart 6, above right} The majority of the 1959 pasture/brush evolved into forest cover by 2002. Nearly 59% of the 1959 pasture/brush was classified as forest in 2002. Slightly more than 4% was classified as cropland in 2002. About 3.1% and 2.6% of the 1959 pasture/brush was classified as residential and water in 2002, respectively. The remaining

area consisted of relatively smaller percentages of other land use/cover types.



Forest

Over the course of the study period, the forest cover increased substantially. In 1959, the forest cover accounted for slightly more than 40% of the total Township land area. By 2002, the amount of forest had increased by more than 2,817 acres and accounted for almost 56% of the Township land area. {See Table 1}

Table 3 – 1959 Forest Use in 2002

Land Use/Land Cover	1959 Forestland Classification in 2002	
	Acres	Percent
Residential	108.75	1.5%
Commercial	0.92	0.0%
Industrial	-	0%
Transportation	-	0%
Utilities	0.33	0.0%
Religious	2.44	0.0%
Government/Institution	23.60	0.3%
Recreational	-	0%
Cropland	61.00	0.8%
Farmstead	5.06	0.1%
Pasture/Brush	273.45	3.7%
Forest	6,776.30	92.8%
Water	38.68	0.5%
Mining/Extraction	13.58	0.2%
Total	7,304.11	100.0%

The increase in the amount of forest cover is attributed to two causes. The first reason is that a large percentage of the 1959 pasture/brush evolved and matured into forest cover by 2002. {See Chart 6 on the preceding page} Secondly, almost 93% of the 1959 forest cover was retained as forest cover by 2002. {See Table 3, on the previous page} These two factors accounted for the significant gains in forest cover between 1959 and 2002. Of the 1959 land area that was not retained as forest cover in 2002, 3.7% was classified as pasture/brush and another 1.5% converted to residential use.

Residential

Between 1959 and 2002, the amount of residential land use/cover in South Canaan Township increased from about 184 acres to nearly 720 acres. The percentage of total land area consisting of residential land use/cover increased by 3% over the time span. {See Table 1} According to the U.S. Census Bureau, the total population of South Canaan Township increased from 1,058 in 1960 to 1,666 at the time of the 2000 census. In a municipality that is roughly 28 square miles, that translates to an increase in population density from about 38 persons per square mile to nearly 60 persons per square mile.

Commercial

The amount of commercial land in the Township increased from less than ten acres to nearly 50 acres over the course of the study period. However, in terms of percentage of the entire municipal land area, commercial land still comprised well under 1% by 2002. {See Table 1}

Protected Agricultural Land

South Canaan Township has approximately 4,634 acres enrolled in the Agricultural Security Area Program. Additionally, there were approximately 205 acres enrolled in the Agricultural Conservation Easement Purchase Program in the Township by the end of the study period. There were also approximately 3,340 acres of land accepted into the Act 319

Program (Clean & Green), which accounts for nearly one-fifth of the taxable acreage within South Canaan Township. This tax designation reduces the assessed value of the Township by \$4,734,300 or 4%.

Summary

By 2002, agricultural land use/cover comprised nearly 20% less of the Township than it did in 1959. In 1959, cropland, pasture/brush and farmsteads cumulatively accounted for more than 56% of the entire municipal land area. However, by 2002, these agricultural land use/cover types accounted for little more than 36% of the total land area of South Canaan Township. In contrast to the loss of agricultural related land was the fact that the amount of forest cover increased rather substantially over the 43-year study period. Forest cover increased by more than 2,817 acres between 1959 and 2002. By 2002, forest cover comprised nearly 56% of the entire Township land area. The evolution and maturation of the pasture/brush, coupled with a high rate of forest retention undoubtedly accounted for the significant increases in forest cover over the time span. Residential and commercial land increased with respect to the 1959 acreages. However, residential and commercial land accounted for a relatively small percentage of the total municipal land area by 2002. The government/institution land use/cover also increased slightly from almost 6 acres to more than 62 acres by 2002. This increase was due to the construction of the Western Wayne School in the south central portion of the Township.

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.

Wayne County Department of Planning 2006

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