

Starrucca Borough

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-25, Starrucca Borough; 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



Starrucca Borough is located along the northwestern boundary of Wayne County with Susquehanna County forming its western border. It is the largest Borough in Wayne County covering over 5,700 acres, or nearly nine square miles, which accounts for 1.2% of the County's total land area.

Starrucca Borough was able to maintain over 73% of its cropland over the forty-plus year study period, which ranked first in the percentage of cropland retention within Wayne County. As can be seen in Table 1 {below} and Charts 1 and 2 {right}, the majority of the Borough was covered by cropland, forest, and pasture/brush in both 1959 and 2002.

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

Chart 1
1959 Starrucca Borough Land Use/Cover

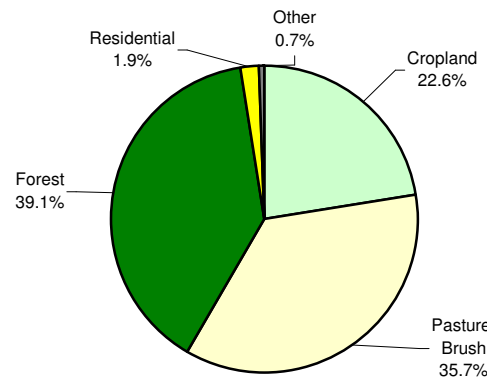


Chart 2
2002 Starrucca Borough Land Use/Cover

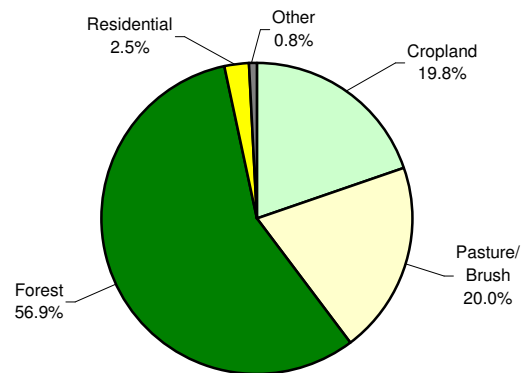


Table 1 - Starrucca Borough Land Use/Land Cover

Land Use/Land Cover	Starrucca 1959 Acres	Category Percent of Total	Starrucca 2002 Acres	Category Percent of Total
Residential	46.97	0.8%	118.55	2.1%
Commercial	2.08	0.0%	2.71	0.0%
Industrial	-	0%	-	0%
Transportation	6.46	0%	-	0%
Utilities	-	0%	0.03	0.0%
Religious	7.61	0.1%	8.06	0.1%
Government/Institution	2.76	0.0%	1.69	0.0%
Recreational	2.35	0.0%	2.35	0.0%
Cropland	1,294.90	22.6%	1,134.88	19.8%
Farmstead	59.48	1.0%	23.09	0.4%
Pasture/Brush	2,046.19	35.7%	1,145.34	20.0%
Forest	2,242.02	39.1%	3,260.74	56.9%
Water	16.76	0.3%	30.14	0.5%
Mining/Extraction	-	0%	-	0%
Total	5,727.58	100.0%	5,727.58	100.0%

The table above shows the acreage and percent values for the land use/land cover categories in Starrucca Borough for both 1959 and 2002.

Notice the slight decrease in cropland and the more obvious decrease in pasture/brush. The largest increase was forest covering 18% more of the Borough. Residential land also increased, now covering 2.5% of the Borough's land area. The transportation acreage from 1959 {see Table 1}, was the former O & W Railroad Line that passed through Starrucca Borough and has been included in the "other" category.

Cropland

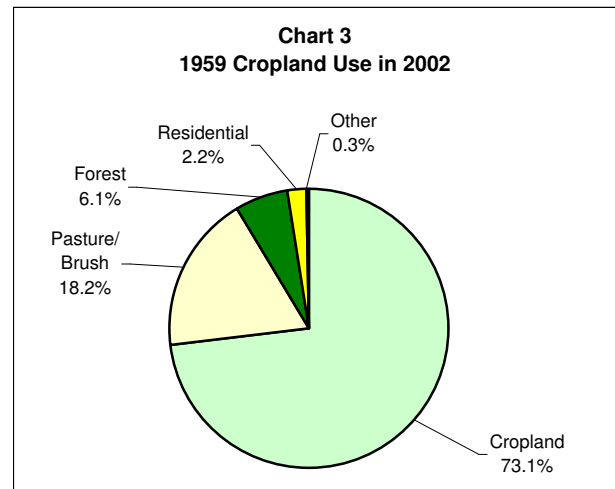
Cropland was the third largest land use in Starrucca Borough in both 1959 and 2002. In 1959, a total of 1,295 acres of the Starrucca Borough land area consisted of cropland. By 2002, the area of cropland had decreased to 1,135 acres, a loss of only 160 acres. It still accounted for nearly one-fifth of the Borough's total land area. Starrucca ranked first in Wayne County in the percentage of cropland retained during the study period. The western area of the Borough along with the east central area appears to be the area where the greatest cropland retention occurred. Table 2 {below} and Chart 3 {right} show what became of the 1959 cropland that existed within Starrucca Borough.

Table 2 - 1959 Cropland Use in 2002

Land Use/Land Cover	1959 Cropland Classification in 2002	
	Acres	Percent
Residential	23.99	1.9%
Commercial	0.66	0.1%
Industrial	-	0%
Transportation	-	0%
Utilities	-	0%
Religious	0.45	0%
Government/Institution	-	0%
Recreational	-	0%
Cropland	946.98	73.1%
Farmstead	3.97	0.3%
Pasture/Brush	236.30	18.2%
Forest	79.49	6.1%
Water	3.05	0.2%
Mining/Extraction	-	0%
Total	1,294.89	100.0%

Of the nearly 1,300 acres of 1959 cropland, 947 acres or just over 73% remained as cropland in 2002. An additional 24% converted to natural land cover types, either as forest (6.1%) or pasture/brush (18.2%). A total of 28 acres or 2.2% was changed to residential land use.

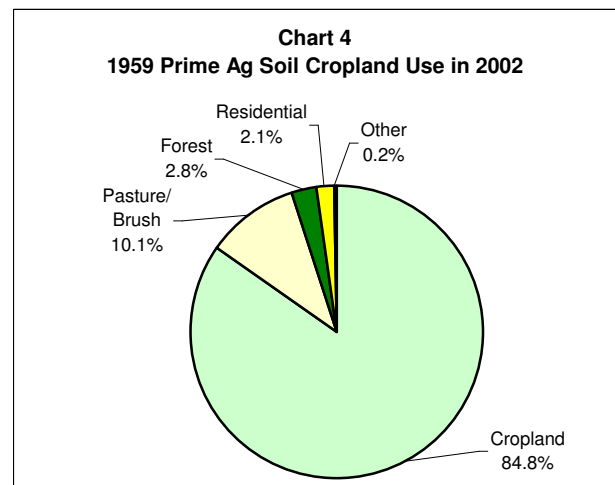
The United States Department of Agriculture (USDA) classifies soil as prime agricultural soil, farmland of statewide importance or non-prime soil. Details of the three classifications can be found in the County summary. The following sections will examine soils from a prime verses non-prime perspective.



The chart above shows the percent values for the 1959 cropland and what it became by 2002.

Prime Agricultural Soil

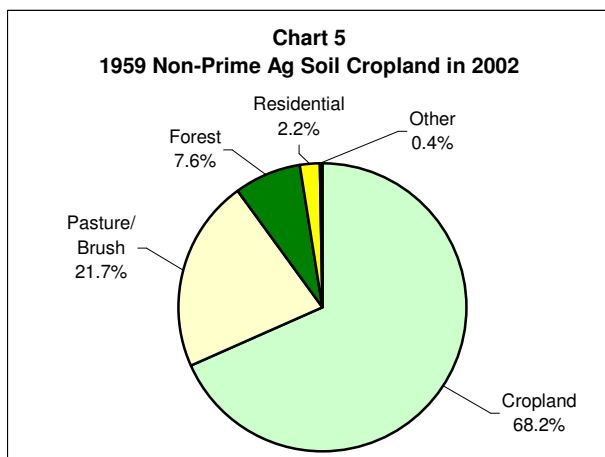
In 1959, approximately 30% or nearly 384 acres of the cropland in Starrucca Borough was located on prime agricultural soil. Of that prime agricultural soil cropland, nearly 85% {Chart 4 below} or roughly 325 acres was still being utilized as cropland by the end of the study period in 2002. Of the remaining 15% of prime soil cropland, nearly 13% converted to natural types of land cover, namely forest (2.8%) and pasture/brush (10.1%). Residential land use (1.5%) and farmstead expansion (0.6%) accounted for the remaining 2.1%. Chart 4 illustrates what became of the 1959 cropland that was located on prime agricultural soil.



The above chart shows the percent values for the 1959 cropland located on prime agricultural soil and what it became by 2002. Nearly 85% remained as cropland and just over 10% became pasture/brush land.

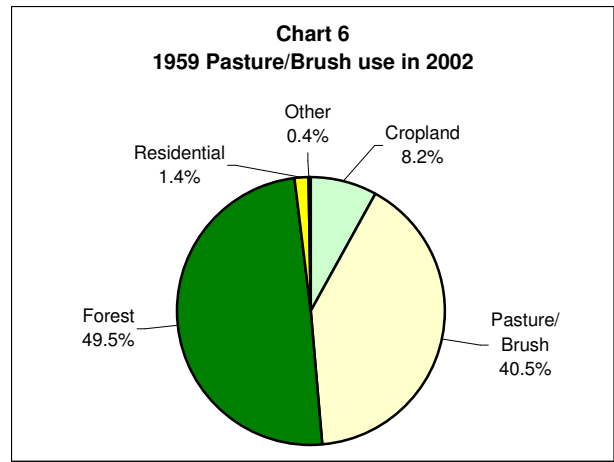
Non-Prime Agricultural Soil

In 1959, approximately 70% or 911 acres of the cropland in Starrucca Borough was located on non-prime agricultural soil. As in the last section, we will examine what became of the 1959 non-prime agricultural soil cropland. As compared to the prime agricultural soil cropland, a lesser percentage of the non-prime agricultural soil cropland was still being used for cropland production in 2002. Over 68% or approximately 621 acres of the non-prime agricultural soil cropland was still being used as cropland in 2002 {see Chart 5 below}. Nearly 200 acres or 21.7% converted to pasture/brush and nearly 70 acres, equaling 7.6%, converted to forest. Another 2.2% became utilized for residential purposes, which was less than twenty acres.



Pasture/Brush

In 1959, pasture/brush accounted for 2,046 acres or 35.7% of the Borough's total land area. By 2002, there were 900 acres less of this land cover classification {See Table 1}. However, the 2002 acreage still accounted for one-fifth of the Borough's land area. Of the 1959 pasture/brush acreage, a total of 40.5% remained the same land cover over four decades later {see Chart 6 upper right}. By 2002, nearly half of the acreage grew into forest. These two land classifications alone account for 90% of all the pasture/brush that existed in 1959. Of the remaining 10%, cropland accounted for 8.2% or nearly 168 acres of the 1959 pasture/brush.



The above chart shows the percent values for the 1959 pasture/brush and what it became by 2002. Nearly half matured into forest cover over the forty-three year period.

Forest

The largest percentage of land cover within Starrucca Borough both in 1959 and 2002 was forest. In 1959, there were 2,242 acres of forest, which was equivalent to 39.1% of the Borough's total land area. Table 3 {below} shows the 1959 forest and what it became by 2002.

Table 3 - 1959 Forest Use in 2002

Land Use/Land Cover	1959 Forestland Classification in 2002	
	Acres	Percent
Residential	9.80	0.4%
Commercial	0.02	0.0%
Industrial	-	0%
Transportation	-	0%
Utilities	-	0%
Religious	-	0%
Government/Institution	-	0%
Recreational	-	0%
Cropland	15.16	0.7%
Farmstead	0.22	0.0%
Pasture/Brush	54.28	2.4%
Forest	2,158.29	96.3%
Water	4.25	0.2%
Mining/Extraction	-	0%
Total	2,242.02	100.0%

Notice the acreage and percentage that was still forested over forty-three years later. At 96.3%, Starrucca Borough was tied for second, ranking behind only Buckingham Township, at 96.5%, in the percentage of forest retention during the study period.

By 2002, the forest cover increased by an additional 1,019 acres to a total of nearly 3,261 acres, which equaled 56.9% of the Borough's land area. Table 4 {below} lists where that additional forest acreage came from.

Table 4 - 2002 Forest Use in 1959

Land Use/Land Cover	2002 Forest Classification in 1959	
	Acres	Percent
Residential	3.26	0.1%
Commercial	0.25	0.0%
Industrial	-	0%
Transportation	4.47	0.0%
Utilities	-	0%
Religious	-	0%
Government/Institution	-	0%
Recreational	-	0%
Cropland	79.49	2.4%
Farmstead	1.97	0.1%
Pasture/Brush	1,012.72	31.1%
Forest	2,158.29	66.2%
Water	0.31	0.0%
Mining/Extraction	-	0%
Total	3,260.76	100.0%

Table 4 shows that just over two-thirds of the existing 2002 forest was already forest in 1959, which was equivalent to 2,158 acres. The remaining one-third came from nearly all 1959 pasture/brush covering over 1,000 acres. Of the remaining 2.7%, nearly 80 acres of 2002 forest was prior cropland in 1959. Almost half of the remaining 10 acres was the transportation land category, which consisted of the former O & W Railroad Line land area.

Residential

In 1959, Starrucca Borough had 47 acres of residential use, which was only 0.8% of the total land area. According to the U.S. Census Bureau, the population of Starrucca Borough in 1960 was 330. In a Borough that is approximately 9 square miles, that translates to nearly 37 persons per square mile. By 2002, the area occupied by residential land use had increased by an additional 72 acres for a total of 119 acres, which accounted for 2.1% of the Borough. Based upon the 2000 Census, the population decreased to 216, which equates to only 24 persons per square mile. The additional acreage

now being utilized for residential purposes came from various prior land classifications. One third of the 2002 residential acreage was already classified as residential in 1959, accounting for 40 acres. Twenty-four acres came from former cropland, equaling 20.2%, and twenty-three acres or 19.5% of the 2002 residential land was prior pasture/brush land in 1959. Another 10 acres was forestland, equaling 8.3%, and twenty-one acres came from former active farmsteads now being used for only residential use, which equaled 17.8%.

Protected Agricultural Land

Starrucca Borough had approximately 2,863 acres included in the Agricultural Security Area Program in 2002, which accounts for half of Starrucca Borough's total land area. Starrucca Borough had a total of 332 acres that were placed in Wayne County's Agricultural Conservation Easement Purchase Program. There are 2,106 acres enrolled in the Act 319 (Clean & Green) Program, which accounts for 38.3% of the taxable acreage within Starrucca Borough. This tax designation reduces the assessed value of the Borough by \$ 1,600,600 or 8.9%.

Summary

Over the study period, Starrucca Borough had a net loss of 160 acres of cropland since 1959. This decrease resulted from approximately 350 acres converting to other uses, but also included nearly 190 acres being converted to cropland between 1959 and 2002. During the same time, forest increased by an additional 1,000-plus acres, meaning it now covers 17.8% more of the Borough.

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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