

Dyberry 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-9, Dyberry 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



Dyberry Township is centrally located within Wayne County and is bordered to the southeast by Honesdale Borough. The Township entirely surrounds the Borough of Bethany. The total land area of Dyberry Township is about 14,655 acres or roughly 23 square miles. During the

study period, the amount of agricultural types of land use/land cover decreased. The classifications of cropland, farmstead and pasture/brush decreased by more than twenty-one percent as a whole, relevant to the total land area of the Township. {See Table 1 below} Forest was the predominant type of land use/land cover in both study periods in the Township. The forest cover increased by the greatest extent over the period. Residential, commercial and government/institution types of land use/land cover increased, but to lesser extents. The amount of water also increased slightly during the study period.

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

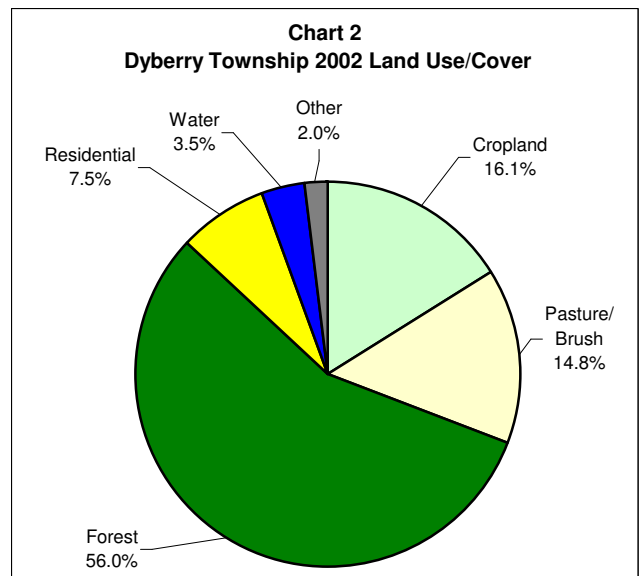
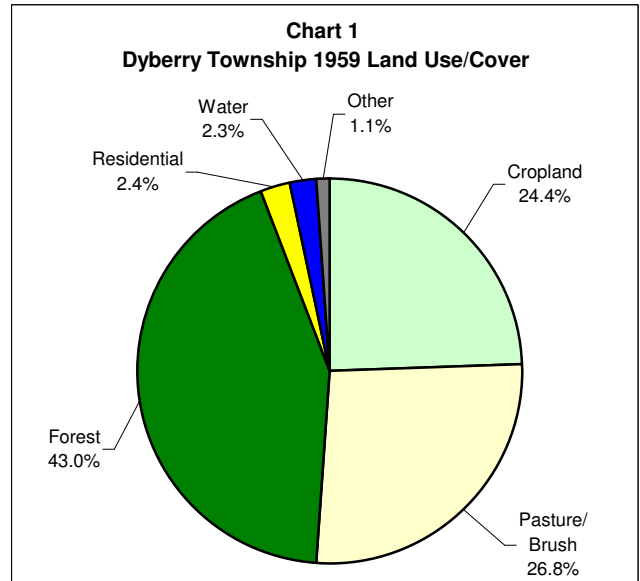


Table 1-Dyberry Township Land Use/Land Cover

Land Use/Land Cover	Dyberry 1959 Acres	Category Percent of Total	Dyberry 2002 Acres	Category Percent of Total
Residential	135.58	0.9%	1,046.47	7.1%
Commercial	41.63	0.3%	118.17	0.8%
Industrial	-	0%	6.54	0.0%
Transportation	-	0%	-	0%
Utilities	-	0%	-	0%
Religious	7.05	0.0%	15.88	0.1%
Government/Institution	95.86	0.7%	129.88	0.9%
Recreational	0.69	0.0%	0.78	0.0%
Cropland	3,571.15	24.4%	2,364.36	16.1%
Farmstead	216.38	1.5%	60.35	0.4%
Pasture/Brush	3,928.72	26.8%	2,165.99	14.8%
Forest	6,307.11	43.0%	8,205.50	56.0%
Water	335.69	2.3%	517.78	3.5%
Mining/Extraction	15.44	0.1%	23.56	0.2%
Total	14,655.30	100.0%	14,655.26	100.0%

The above charts clearly depict the decrease in agricultural related land use/cover and the obvious increase in forest cover. Also note the increases in residential and water land use/land cover.

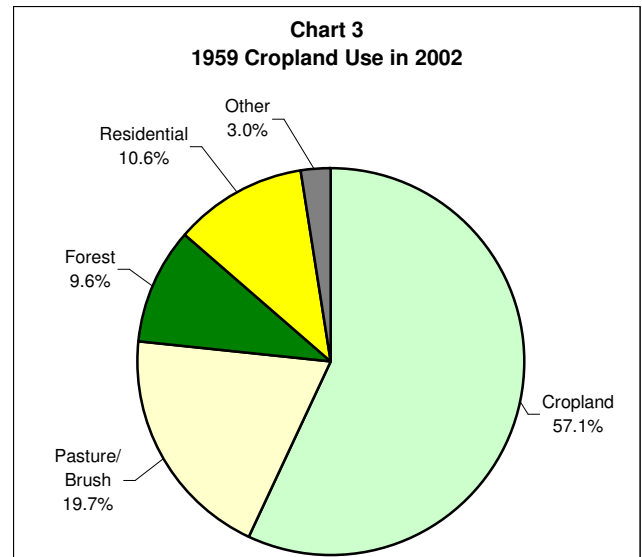
Cropland

For the purposes of this study, cropland consists of various types of agricultural products, including but not limited to corn and hay. In 1959, nearly one quarter of the total Dyberry Township landscape consisted of cropland. By 2002, the amount of cropland coverage in the Township decreased to 16%, as a percentage of the total Township land area, from about 3,571 acres in 1959 to 2,364 acres {See Table 1}. Table 2 {below} and Chart 3 {right} depict what became of the 1959 cropland.

Table 2 - 1959 Cropland Use in 2002

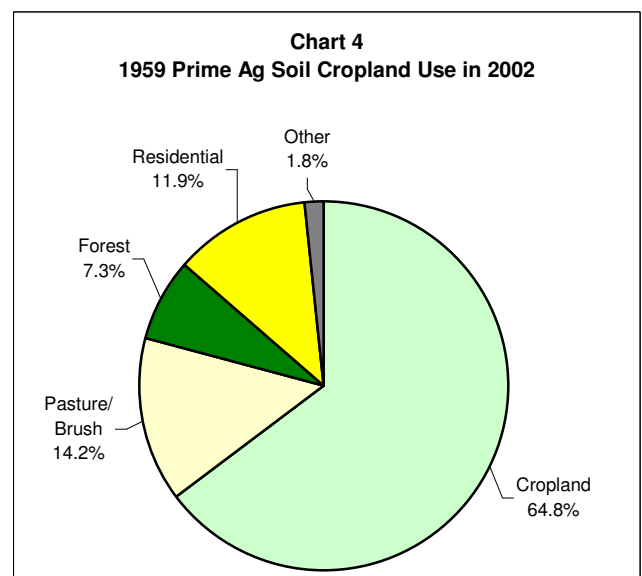
Land Use/Land Cover	1959 Cropland Classification in 2002	
	Acres	Percent
Residential	379.76	10.6%
Commercial	32.04	0.9%
Industrial	-	0%
Transportation	-	0%
Utilities	-	0%
Religious	8.83	0.2%
Government/Institution	4.37	0.1%
Recreational	-	0%
Cropland	2,037.43	57.1%
Farmstead	17.04	0.5%
Pasture/Brush	703.85	19.7%
Forest	341.21	9.6%
Water	41.49	1.2%
Mining/Extraction	5.24	0.1%
Total	3,571.26	100.0%

Of the 1959 cropland, approximately 57% or about 2,037 acres remained as cropland in 2002. Pasture/brush accounted for the largest conversion to another use. Almost 20% of the 1959 cropland converted to pasture/brush. Nearly 10% or approximately 341 acres converted to forest cover. Another 10.6% or 380 acres of the 1959 cropland converted to residential land use. Nearly 1% or 32 acres converted to commercial types of land use. The remaining area of 1959 cropland converted to various other uses. 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.



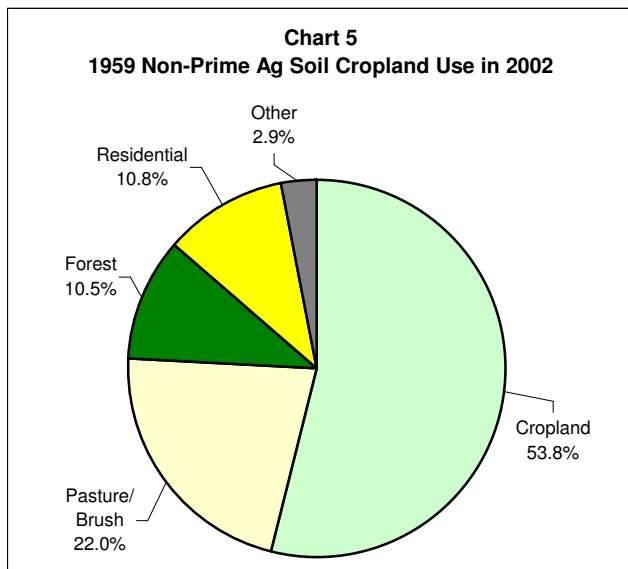
Prime Agricultural Soil

In 1959, almost 30% or approximately 1,049 acres of the cropland in Dyberry Township was utilizing prime agricultural soil. Of that prime agricultural soil cropland, nearly 65% or 680 acres was still cropland at the end of the study period in 2002. Of the remaining percentage of the 1959 cropland that was utilizing prime agricultural soil, more than 21% converted to natural types of land use/cover as pasture/brush (14.2%) or forest (7.3%). Another 11.9% converted to residential land use by 2002. The remaining area converted to various other types of land use/land cover. Chart 4 {below} depicts what became of the 1959 cropland that was utilizing prime agricultural soil.



Non-Prime Agricultural Soil

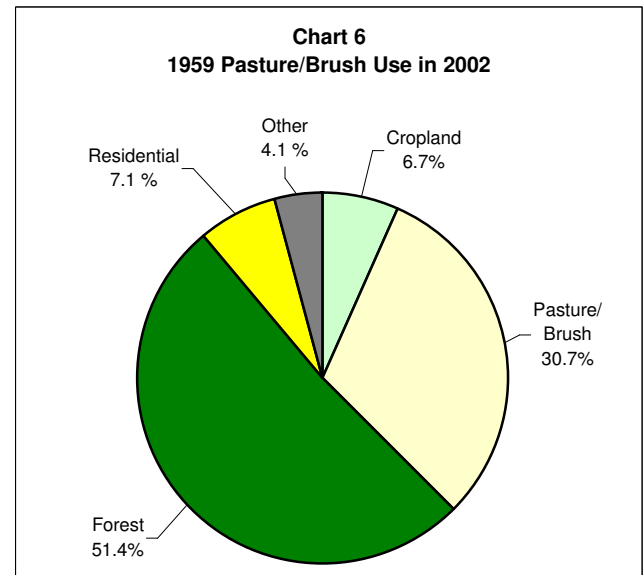
In 1959, over 70% or approximately 2,522 acres of the cropland in Dyberry Township was utilizing non-prime agricultural soil. Similar to the examination of the prime agricultural soil in the last section, we will now explore what became of the 1959 non-prime agricultural soil cropland. In comparison to the prime agricultural soil cropland, a lesser percentage (about 54% or 1,357 acres) of the non-prime agricultural soil cropland was still being used as cropland in 2002 {See Chart 5 below}. Nearly one third of the 1959 non-prime agricultural soil cropland converted to natural types of land cover, either as pasture/brush (about 22%) or forest (nearly 11%). Almost 11% converted to residential land use/cover by 2002. Although it is not shown in Chart 5 {below}, about 1% of the 1959 non-prime agricultural soil cropland converted to commercial use.



Pasture/Brush

In 1959, pasture/brush accounted for almost 3,929 acres or nearly 27% of the total land area of Dyberry Township {See Table 1}. By 2002, the amount of land categorized as pasture/brush had decreased to approximately 2,166 acres, which represents a decrease of about 12% of the total land area of the Township. Of the 1959 pasture/brush, about 31% remained as pasture/brush in 2002. The majority of the pasture/brush converted to forest by 2002.

More than 50% or roughly 2,018 acres converted to forest cover. Nearly 7% of the pasture/brush was converted to cropland. Slightly more than 7% of the 1959 pasture/brush converted to residential land use/cover. Chart 6 {below} visually depicts what became of the 1959 pasture/brush in Dyberry Township.



Forest

In 1959, 43% of the Dyberry Township land area was comprised of forest. The amount of forest cover increased considerably between 1959 and 2002. By the end of the study period, the majority of the Dyberry Township land area was forested, accounting for 56% of the total land area by 2002 {See Table 1}. As demonstrated in Chart 6 {above}, the majority of the increase in forest can be attributed to the maturation of the pasture/brush. Slightly more than half of the nearly 3,929 acres of 1959 pasture/brush converted to forest by 2002. Additionally, most of the 1959 land cover that was forested in 1959 remained forested in 2002. {See Table 3 on the next page} Almost 92% of the roughly 6,307 acres of 1959 forest was still forested at the end of the study period in 2002. Forest retention can partially be attributed to the fact that the Pennsylvania State Game Commission owns approximately 700 acres of mostly forested land in the northern portion of the Township. Nearly 3% of the 1959 forest cover converted to residential land use/cover by 2002.

Table 3 - 1959 Forest Use in 2002

Land Use/Land Cover	1959 Forestland Classification in 2002	
	Acres	Percent
Residential	168.67	2.7%
Commercial	22.30	0.4%
Industrial	1.62	0.0%
Transportation	-	0%
Utilities	-	0%
Religious	-	0%
Government/Institution	10.96	0.2%
Recreational	0.16	0.0%
Cropland	45.94	0.7%
Farmstead	3.33	0.1%
Pasture/Brush	193.69	3.1%
Forest	5,788.30	91.8%
Water	70.05	1.1%
Mining/Extraction	2.11	0.0%
Total	6,307.13	100.0%

Residential

Between 1959 and 2002, the amount of residential land use/cover in Dyberry Township increased from nearly 136 acres to about 1,046 acres. This means that about 6% more of the Township is now devoted to residential uses. According to the U.S Census Bureau, the total population of Dyberry Township increased from 594 in 1960 to 1,353 at the time of the year 2000 census. In a municipality that is roughly 23 square miles, the population increase translates to a change in population density from 26 persons per square mile to about 59 persons per square mile in 2000. Despite the increase in population and residential land use, the amount of 2002 residential land accounted for about 7% of the total Dyberry Township land area {See Table 1}.

Commercial

Relative to the other land use/cover types, the area of commercial land was minimal in both 1959 and 2002. Although the amount of commercial land nearly tripled over the course of the study period, the amount of commercial land in 2002 accounted for less than 1% of the total Dyberry Township land area {See Table 1}.

Protected Agricultural Land

Dyberry Township had approximately 3,423 acres enrolled in the Agricultural Security Area Program by 2002. There were no farms enrolled in the Agricultural Conservation Easement Purchase Program in Dyberry Township at the end of the study period. There were also approximately 2,534 acres of land accepted into the Act 319 Program (Clean & Green), which accounts for 19.2% of the taxable acreage in the Township. This tax designation reduces the assessed value of the Township by \$5,056,800 or 4.2%.

Summary

The most prominent change that occurred during the study period was the conversion of agricultural land use/cover to forest. In 1959, agricultural land use/cover, namely cropland, pasture/brush and farmstead comprised more than half of the Township land area. However, by 2002, the agricultural land use/cover accounted for slightly more than 30% of the entire municipal land area. Conversely, the amount of forest cover increased greatly over the 43-year time span. Forest cover in Dyberry Township increased by more than 1,898 acres between 1959 and 2002. The increase in forest is likely attributed to a high forest retention rate during the period, coupled with an evolution and maturation of the pasture/brush into forest. Over 50% of the 1959 pasture/brush in the Township converted to forest by 2002. Also, residential land use/cover increased from almost 1% to roughly 7% of the total land area of the Township between 1959 and 2002.

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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