

Damascus 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-7, Damascus 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



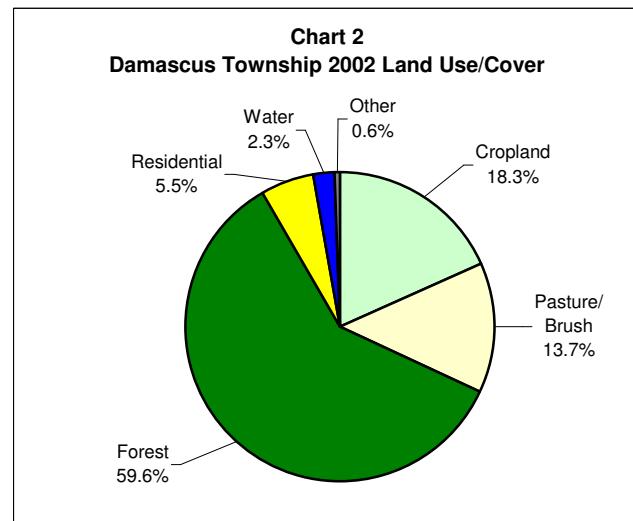
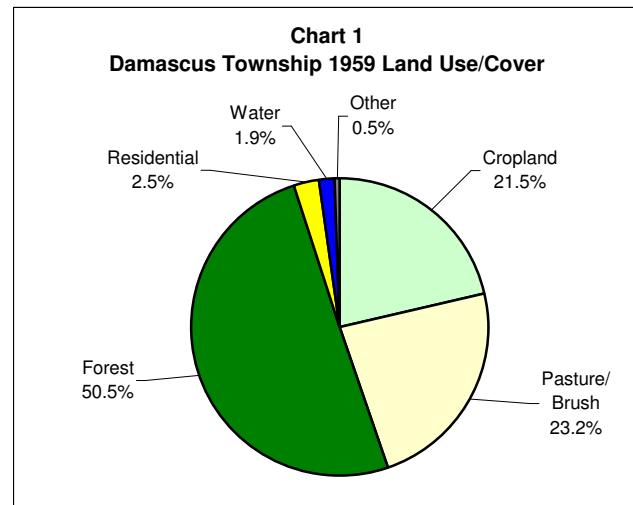
Damascus Township is located in northeastern Wayne County with the Delaware River forming its eastern border. It is the largest municipality in Wayne County covering approximately 51,382 acres, which is equal to over 80 square miles. Damascus Township alone makes up 10.7% of the entire land area of Wayne County. The Township had the third highest cropland retention rate in the County at 69.7%. Also, it ranked seventh in forestland retention with a rate of 94.6% between 1959 and 2002, amounting to 24,550 acres. As seen in Table 1 {below} and Charts 1 and 2 {right}, half of the Township was covered by forest in 1959 and increased to nearly 60% by 2002. Also, the acreage of cropland decreased over the 43-year study period. These land use/land cover topics will be discussed in greater detail in this report.

Table 1 - Damascus Township Land Use/Land Cover

Land Use/Land Cover	Damascus 1959 Acres	Category Percent of Total	Damascus 2002 Acres	Category Percent of Total
Residential	722.25	1.4%	2,634.65	5.1%
Commercial	196.90	0.4%	189.69	0.4%
Industrial	5.27	0.0%	9.90	0.0%
Transportation	-	0%	-	0%
Utilities	-	0%	5.69	0.0%
Religious	30.21	0.1%	29.34	0.1%
Government/Institution	5.70	0.0%	31.45	0.1%
Recreational	-	0%	4.10	0.0%
Cropland	11,041.18	21.5%	9,396.44	18.3%
Farmstead	573.35	1.1%	221.49	0.4%
Pasture/Brush	11,895.23	23.2%	7,026.70	13.7%
Forest	25,938.52	50.5%	30,611.79	59.6%
Water	952.96	1.9%	1,198.94	2.3%
Mining/Extraction	20.07	0.0%	21.45	0.0%
Total	51,381.64	100.0%	51,381.63	100.0%

The above table shows the acres and percent for each land category in Damascus Township for 1959 and 2002.

The charts below show the percent values for the land use/land cover categories in Damascus 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/cover categories that were too small to illustrate individually.



Notice the slight decrease of cropland and the larger decrease of pasture/brush over this time period. However, the amount of forest increased by roughly 4,675 acres and now covers over 9% more of the Township's land area. There was an obvious increase in the amount of residential land use over this forty-three year period. Water coverage also increased by roughly 246 acres and now accounts for 2.3% of the Township.

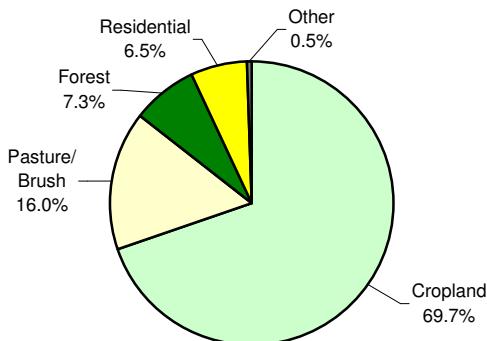
Cropland

Cropland was the third largest land use in Damascus Township in 1959 and became the second largest land use by 2002 due to the reduction of pasture/brush land. In 1959, cropland covered over one-fifth of the Township. As can be seen in Table 2 and Chart 3 {below}, a total of 7,698 acres equal to 69.7% remained as cropland by 2002. Also, 1,761 acres or 16% of the 1959 cropland became pasture/brush and 800 acres or 7.3% grew into forest during this time. Another 678 acres and 44 acres became utilized for residential land and farmstead use, respectively. These land uses combined to equal 6.5% of the 1959 cropland.

Table 2 – 1959 Cropland Use In 2002

Land Use/Land Cover	1959 Cropland Classification in 2002	
	Acres	Percent
Residential	678.04	6.1%
Commercial	11.24	0.1%
Industrial	6.67	0.1%
Transportation	-	0%
Utilities	3.75	0.0%
Religious	0.02	0.0%
Government/Institution	1.45	0.0%
Recreational	4.10	0.0%
Cropland	7,698.25	69.7%
Farmstead	43.63	0.4%
Pasture/Brush	1,761.14	16.0%
Forest	800.53	7.3%
Water	32.37	0.3%
Mining/Extraction	-	0%
Total	11,041.19	100.0%

Chart 3
1959 Cropland Use In 2002

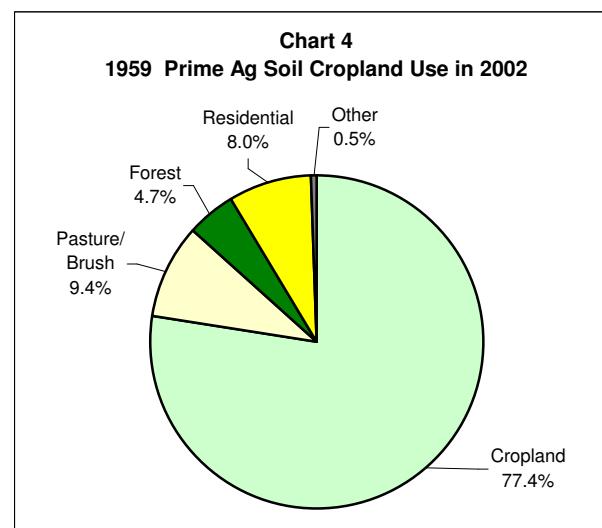


A total of 69.7% of the 1959 cropland was retained as cropland by 2002, which ranked third in the County.

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 versus non-prime perspective.

Prime Agricultural Soil

In 1959, approximately 3,057 acres equal to 27.7% of the cropland in Damascus Township was located on prime agricultural soil. By 2002, over three-quarters (77.4%) was still being used for cropland production, which was equivalent to approximately 2,365 acres. Almost 433 acres or 14.1% converted naturally to other land covers, either as pasture/brush (9.4%) or forest (4.7%). Approximately 245 acres, equal to 8%, had been converted to residential land, which includes the farmstead category. Chart 4 {below} illustrates what became of the 1959 cropland located on prime agricultural soil.

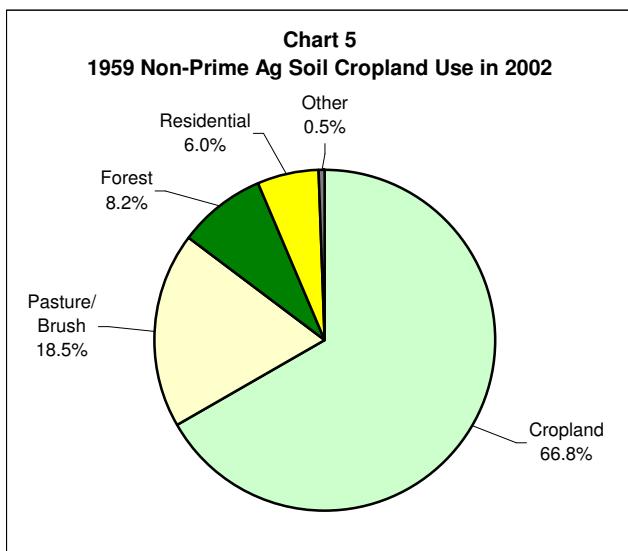


Over three-quarters (77.4%) of the 1959 prime agricultural cropland soil remained as cropland by 2002.

Non-Prime Agricultural Soil

In 1959, approximately 7,984 acres equal to 72.3% of the cropland was located on non-prime agricultural soil. By 2002, over two-thirds (66.8%) was still being used for cropland production, which was equivalent to roughly 5,333 acres. Over one-quarter (26.7%) converted naturally to other land covers, namely pasture/brush (18.5%) and forest (8.2%),

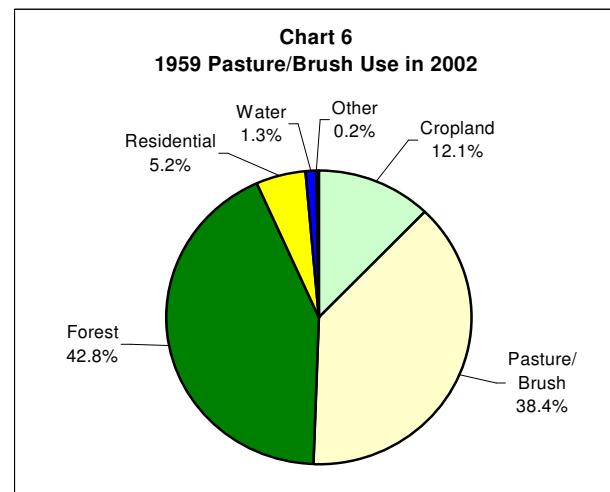
respectively. Combined, these two land conversions totaled approximately 1,233 acres. Another 544 acres became utilized as residential land over this forty-three year period, which includes the farmstead category. Combined, this was equal to 6% of the 1959 cropland located on non-prime agricultural soil. The remaining one-half of a percent became utilized for commercial, recreation and water coverage, which has been represented in the "other" category as shown in Chart 5 {below}.



Over two-thirds (66.8%) of the 1959 non-prime agricultural cropland soil remained as cropland by 2002.

Pasture/Brush

In 1959, a total of roughly 11,895 acres, equal to 23.2% of the Township was pasture/brush land. By 2002, approximately 5,085 acres of this 1959 pasture/brush had matured into forest, which was equivalent to 42.8%. A total of roughly 4,565 acres or 38.4% remained as pasture/brush land forty-three years later. Cropland gained from former pasture/brush land totaled 1,445 acres, which equaled 12.1% of the total. Almost 620 acres, equal to 5.2%, was converted into residential land by 2002, which includes the farmstead category. The majority of the remaining 1.5% became water cover (1.3%) over this time span. Approximately 160 acres was classified as water in 2002 and less than 20 acres became used as commercial land. Chart 6 {upper right} will show what became of the 1959 pasture/brush land in 2002, by percentage.



Of the roughly 11,895 acres of 1959 pasture/brush land, a total of 94.6% remained as open space by 2002, which includes cropland, pasture/brush, forest and water cover.

Forest

Forest was the largest land cover in the Township both in 1959 and 2002. In 1959, over half of the Township was covered by forest. By 2002, the amount of forest totaled 30,612 acres and now covered nearly 60% of the entire Township. A total of 94.6% of the 1959 forest remained, which ranked seventh in the County for the percentage retained {see Table 3 below}.

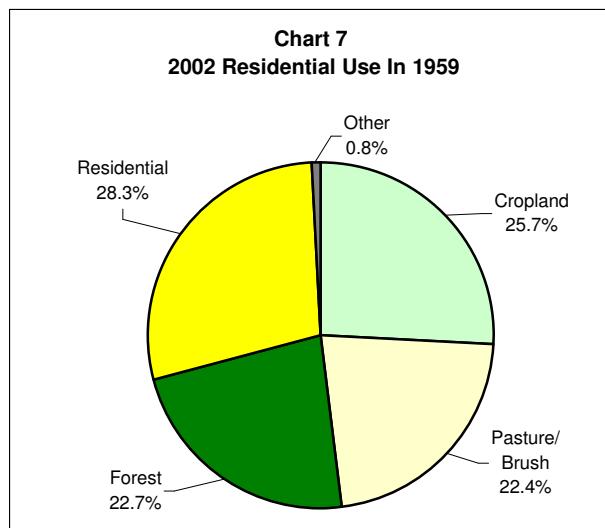
Table 3 – 1959 Forestland Use In 2002

Land Use/Land Cover	1959 Forestland Classification in 2002	
	Acres	Percent
Residential	599.10	2.3%
Commercial	15.56	0.1%
Industrial	1.99	0.0%
Transportation	-	0%
Utilities	1.33	0.0%
Religious	0.36	0.0%
Government/Institution	14.24	0.1%
Recreational	-	0%
Cropland	145.12	0.6%
Farmstead	8.72	0.0%
Pasture/Brush	487.72	1.9%
Forest	24,549.87	94.6%
Water	109.32	0.4%
Mining/Extraction	5.19	0.0%
Total	25,938.52	100.0%

Nearly 600 acres was used as residential, 488 acres became pasture/brush, 145 acres was changed to cropland and 109 acres was water.

Residential

In 1959, Damascus Township had 722 acres of land being used for residential purposes, which was equivalent to 1.4% of the Township's total land area. By 2002, the amount of acres being utilized for residential purposes increased to approximately 2,635 acres, which equaled 5.1% of the entire Township. Of the 2002 residential acres, a total of approximately 491 acres equal to 18.6% were already being used for residential purposes in 1959. Prior farmsteads that were now being used for only residential purposes equaled 9.6%, which totaled 254 acres. Forestland and pasture/brush contributed nearly the same amount to the increase in the overall 2002 residential acreage {see Chart 7 below}. Almost 600 acres equal to 22.7% of 1959 forest was converted to residential use and 590 acres of 1959 pasture/brush was utilized as residential land in 2002, which was equal to 22.4% of the 2002 residential total. Cropland conversion to residential during this time period accounted for over one-quarter (25.7%) or 678 acres of the 2002 residential land use.



Notice the fairly equal distribution of prior 1959 land use/ covers that account for the 2002 residential land total.

Water

In 1959, there was over 950 acres of water coverage in the Township. By 2002, the area of water had increased by an additional 246 acres to nearly 1,200 acres, and now accounted for 2.3% of the Township's total land area. This can be attributed to the fact that there are many

more lakes and ponds located throughout the Township in 2002 than in 1959. Over the forty-three year study period there were many more small private ponds created, which accounts for the nearly 250-acre increase.

Protected Agricultural Land

Damascus Township had a total of approximately 15,144 acres enrolled in the Agricultural Security Area Program by 2002, which is equal to nearly 30% of the Township's total land area. This program protects farmers from local "nuisance ordinances". Additionally, there were 140 acres of farmland enrolled in the Agricultural Conservation Easement Purchase Program. Another 66 acres were added to the Program after the end of the study period in 2002. There were also approximately 12,870 acres of land accepted into the Act 319 (Clean & Green) Program, which accounts for over 25% of the taxable acreage within Damascus Township. These acres reduce the assessed value of the Township by \$17,204,200 or 4.8%.

Summary

By 2002, cropland covered 3% less of the Township than it did 43-years prior. Despite this decrease it became the second largest land use in the Township in 2002. Forestland covered more than 9% more of the Township in 2002 than it did in 1959. Pasture/Brush land covered nearly 10% less at the end of the study period than the beginning. Residential land use also increased by an additional 1,900-plus acres and now accounts for over 5% of the Township's total 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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