

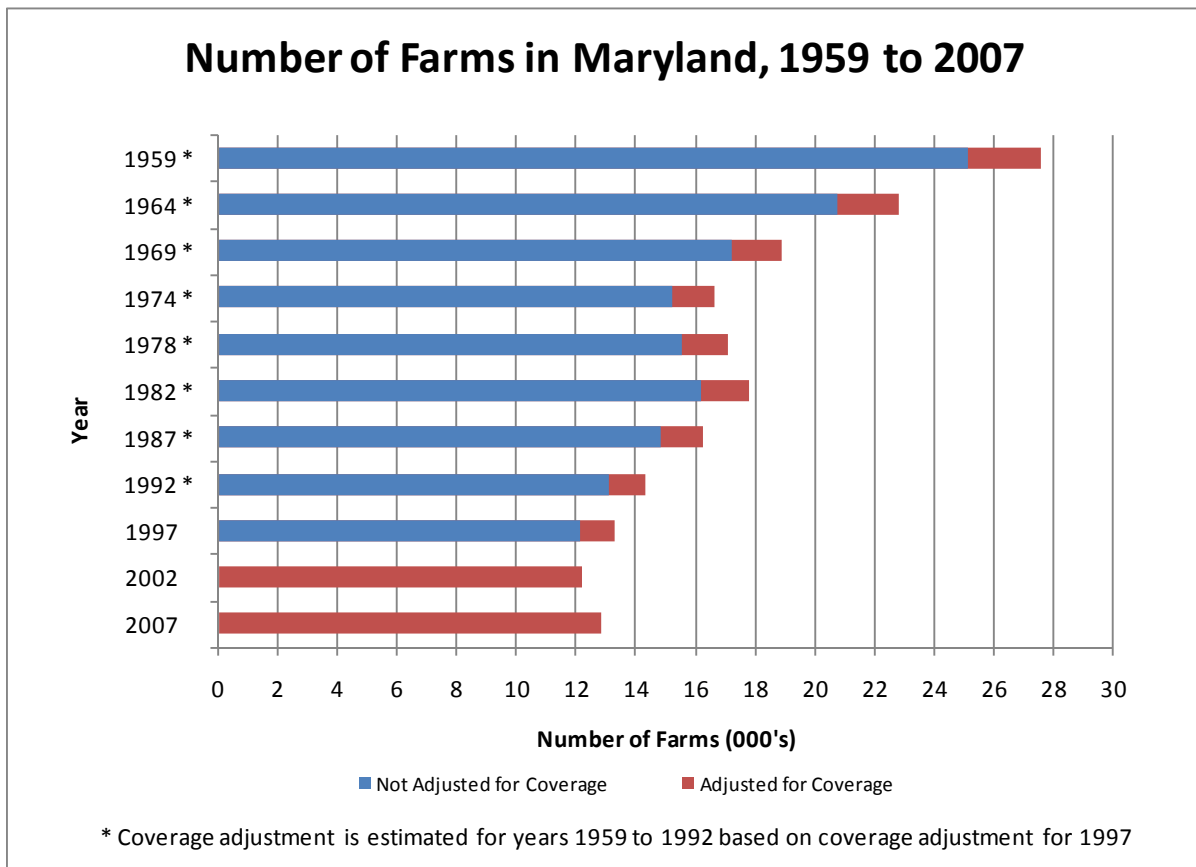
# The 2007 Census of Agriculture: Farms and Farmland in Maryland

## Introduction

The number of farms in Maryland increased while the amount of farmland decreased slightly between 2002 and 2007, according to the 2007 Census of Agriculture released by the USDA. Despite the increase in the number of farms, the state lost 25,874 acres of farmland over this five-year period. However, this was the smallest loss of farmland since 1978, representing only 1.2 percent of all existing farmland in 2002.

## Number of Farms

Maryland was home to 12,834 farms in 2007, an increase of 636 farms (5.2%) since the last Census of Agriculture in 2002, but an overall decrease of 14,720 farms (-53.4%) since the 1959 adjusted high of 27,554 farms.<sup>1,2</sup> (See [Table 1](#) for 1987-2007 data).



**Source:** Census of Agriculture, National Agricultural Statistics Service, USDA, 2007

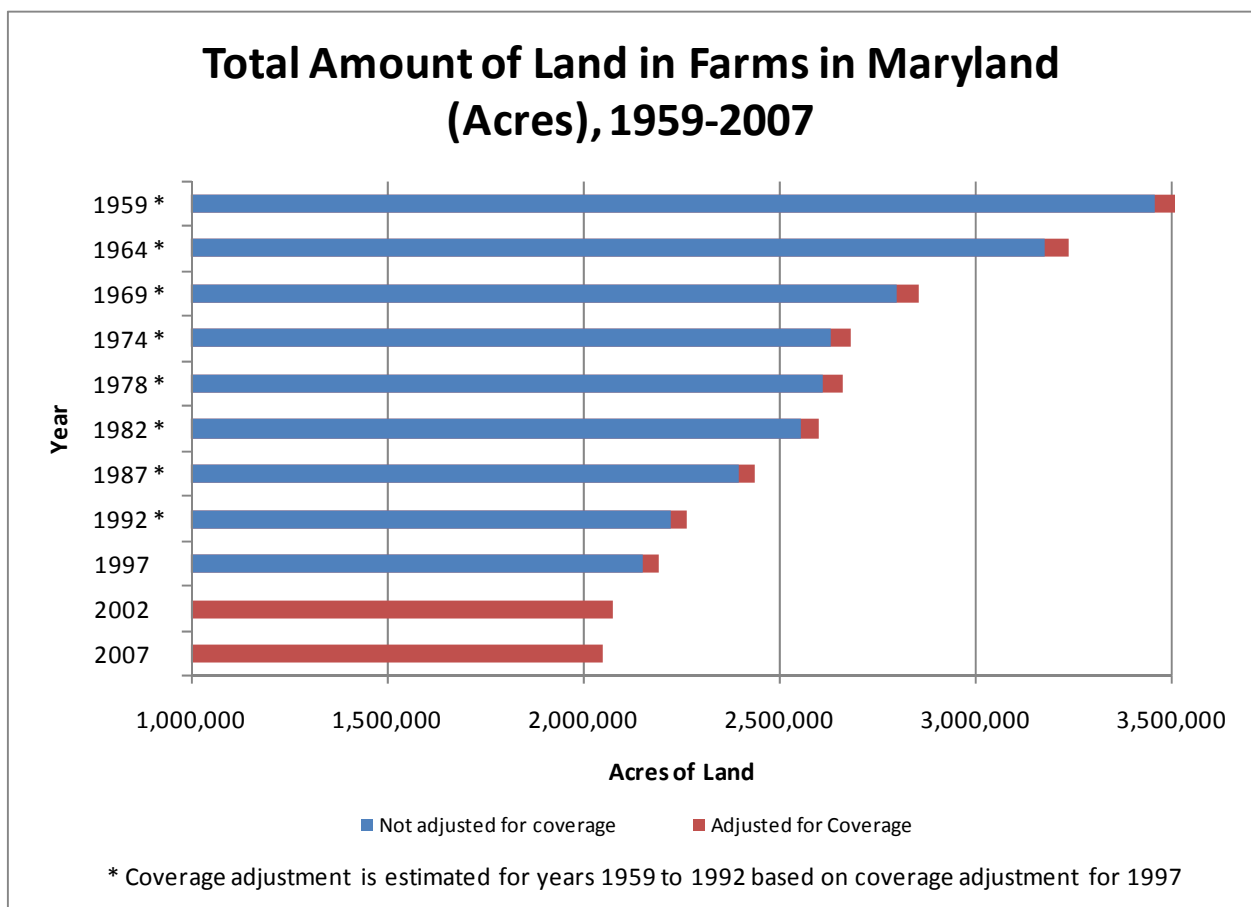
<sup>1</sup> Data from the Census of Agriculture prior to 1997 was adjusted by MDP in this report to account for missing data caused by potentially inadequate enumeration, or *coverage*, of farms. See the discussion on coverage on page 8 for more information.

<sup>2</sup> The number of farms per year is dependent on the definition of a farm. See the discussion on page 7 for more information.

Per capita, Maryland had fewer farms than most other states. Maryland contained 2.3 farms per 1,000 persons in 2007, ranking it 42<sup>nd</sup> out of the 50 states. North Dakota had the largest number of farms per capita (50.1 farms per 1,000 persons), while Alaska had the least (1.0 farms per 1,000 persons). Overall, the U.S. had 7.3 farms per 1,000 persons in 2007.

### Land in Farms and Farm Size

Maryland contained 2,051,756 acres in its 12,834 farms in 2007, according to the Census of Agriculture, making the average farm size 160 acres. As the state contains 6.25 million acres of land<sup>3</sup>, this means that 32.8 percent of Maryland’s land area was in farms in 2007. This ranks Maryland 25<sup>th</sup> out of the 50 states in land area used for farming, with Nebraska ranked first (with 94% of all land area used for farming) and Alaska ranked last (with 0.2%). (See [Table 2](#) for 1987-2007 data for Maryland and [Table 3](#) for national comparison data).

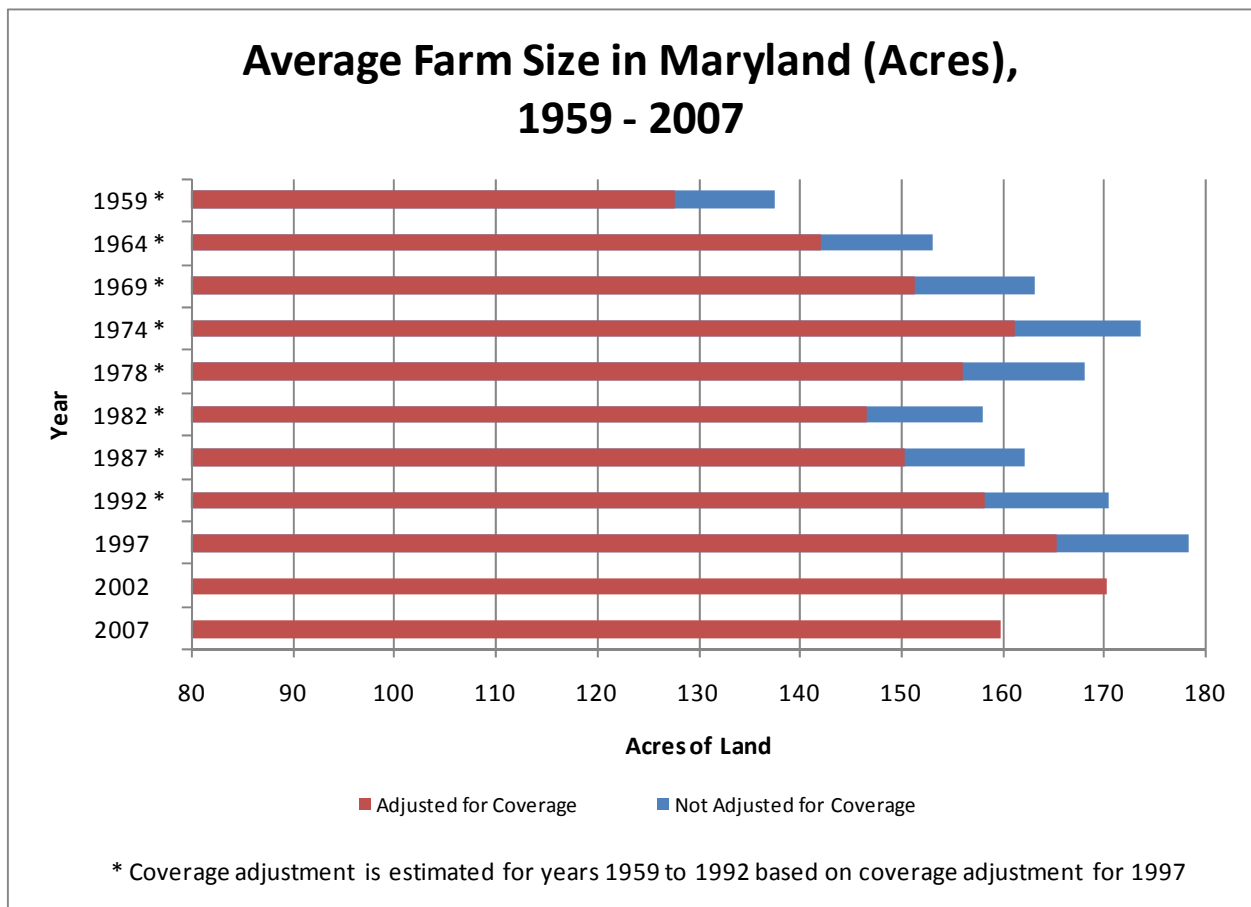


**Source:** Census of Agriculture, National Agricultural Statistics Service, USDA, 2007

<sup>3</sup> “Land area” is considered to be dry land or land temporarily or partially covered by water, such as marshland, swamps, etc.; streams and canals under one-eighth statute mile wide; and lakes, reservoirs, and ponds under 40 acres. This definition excludes permanent inland water bodies having an area of 40 acres or more; streams, and canals one-eighth statute mile or more in width; and coastal waters behind or sheltered by headlands or islands separated by less than 1 nautical mile of water, and islands under 40 acres in area. Maryland contains approximately 1.69 million acres of inland water according to the U.S. Bureau of the Census.

While Maryland lost very little farmland from 2002 to 2007 (25,874 acres, or 1.2% of the 2002 acreage), since 1959 it has lost a total of 1,466,273 acres (41.7% of the 1959 total of 3.5 million acres), an amount greater than the total land area of the six jurisdictions that make up the Baltimore Region (Anne Arundel, Baltimore, Carroll, Harford, and Howard Counties and Baltimore City), or over 28 Baltimore cities, or the entire State of Delaware. While the Census of Agriculture does not record the land use of land that has ceased to be used for agriculture, the USDA estimates that the total number of acres of urban land in Maryland increased from 290,000 acres to 1,164,000 acres from 1960 to 2002 (an increase of 874,000 acres), implying that the majority of lost agricultural land is shifted into urban uses.<sup>4</sup>

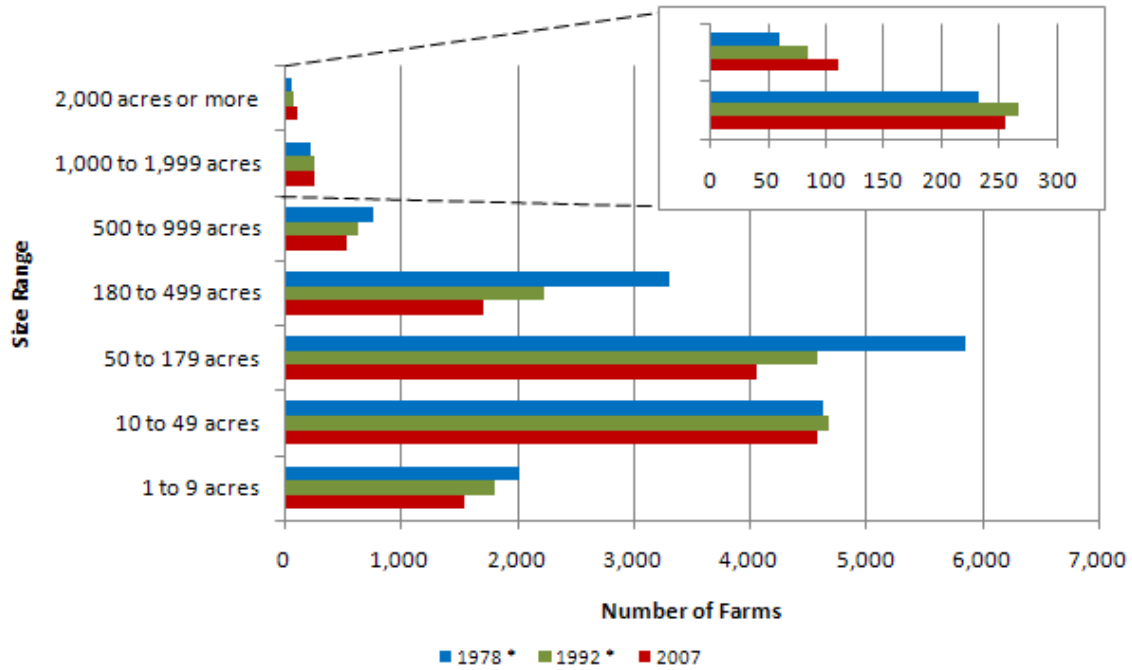
Farmland loss has slowed significantly in recent years in Maryland. Since 1959, Maryland had its largest loss of agricultural land between the 1964 and 1969 censuses, when 383,940 acres of farmland (11.9% of the 1964 base) changed to some other use. Maryland was still losing significant amounts of farmland up until five years ago, when it lost 115,433 acres of farmland between the 1997 and 2002 censuses (5.3% of the 1997 base). The current intercensal loss of farmland is the lowest since 1978, and averages to only 5,175 acres per year.



**Source:** Census of Agriculture, National Agricultural Statistics Service, USDA, 2007

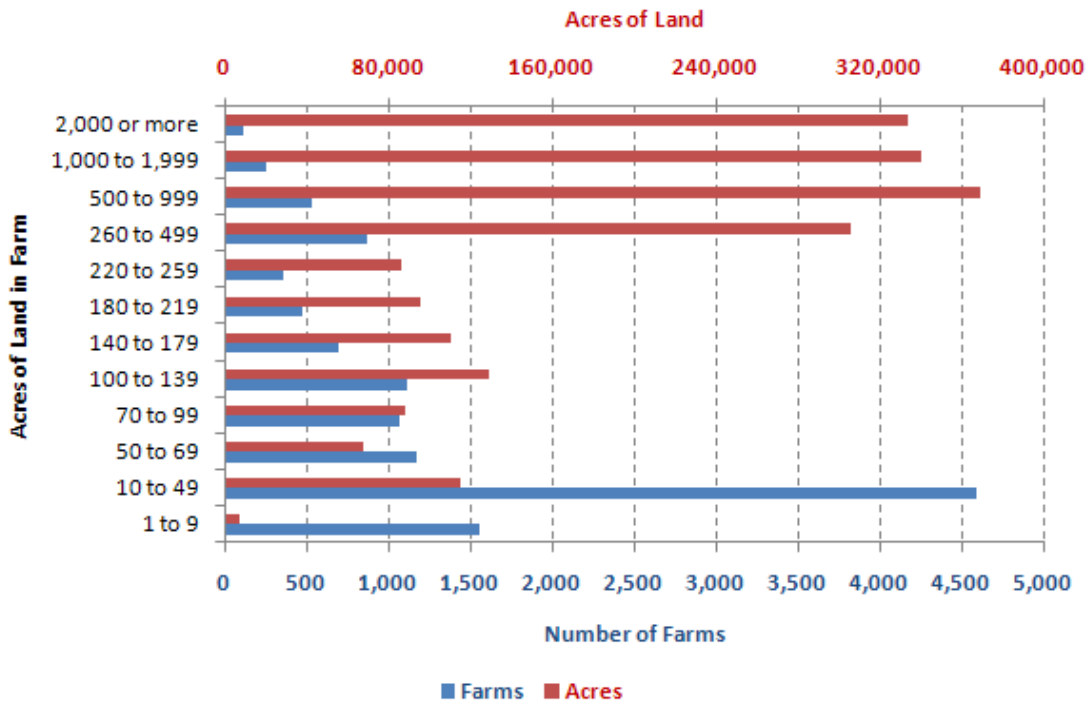
<sup>4</sup> <http://www.ers.usda.gov/Data/MajorLandUses/MLUsummarytables.pdf>

## Number of Farms by Size in Acres in Maryland, 1978, 1992, and 2007



\* Coverage adjustment is estimated for years 1978 to 1992 based on coverage adjustment for 1997

## Number of Farms and Total Acres in Farms by Size Category for Maryland, 2007



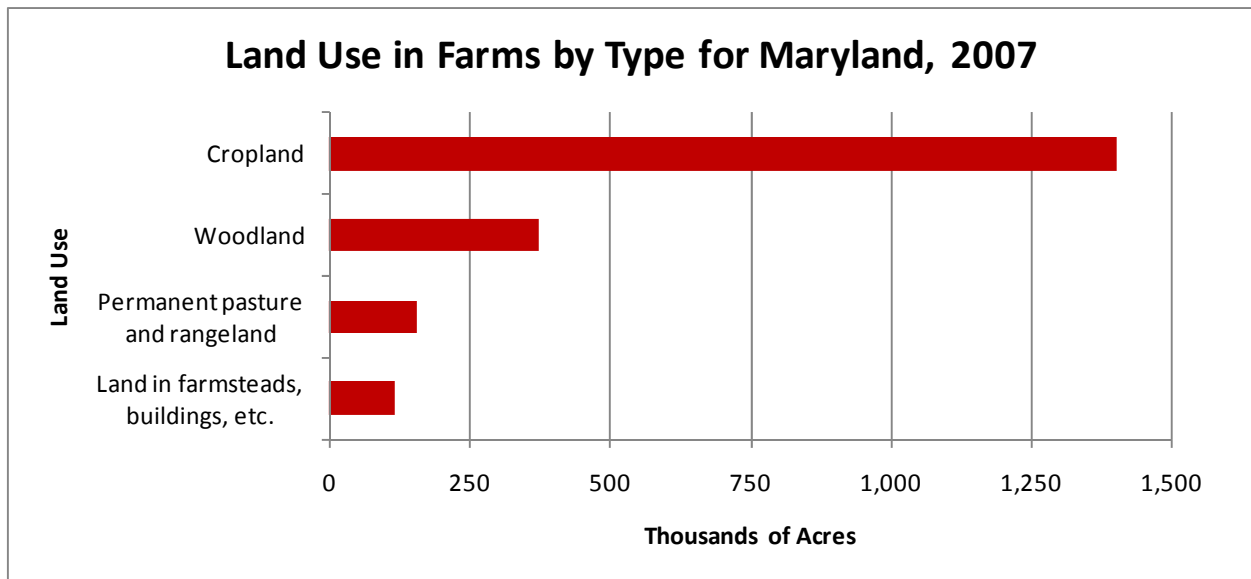
Source: Census of Agriculture, National Agricultural Statistics Service, USDA, 2007

The size of the average farm in Maryland has remained between 147 and 170 acres after adjusting for coverage since 1969, and was 160 acres in 2007, a much lower average size than the national average of 418 acres. Maryland ranked 40<sup>th</sup> in average farm size in 2007, with Wyoming ranked first (2,726 acres per farm) and Rhode Island ranked last (56 acres per farm). Median farm sizes in all states are much lower than average farm sizes. In 2007, the median farm size in Maryland was 56 acres, as compared to 550 acres for North Dakota (the highest median size) and just 4 acres for Arizona (the lowest median). (See [Table 3](#) for national comparisons).

While the average farm in Maryland is small, there are large farms in the State. The Census of Agriculture counted 111 farms of 2,000 acres or higher, their largest farm size category, in 2007, an increase of 51 farms (86 percent) over 1978<sup>5</sup>. The number of farms sized 1,000 to 1,999 acres also increased slightly in that time period from 232 to 255 (by 23 farms, or 10%). These changes contrast with a substantial decrease of farms sized 180 to 499 acres (1,601 farms, 48%) and of farms sized 50 to 179 acres (1,783 farms, 30%) over that same time period. It is important to note that, while there are only 1,780 farms with 260 acres or more in Maryland (14% of all farms), they contain 66 percent (1.35 million acres) of all of Maryland’s farmland (See [Table 4](#)).

### Land Use in Farms

Not all farmland is used for crop or livestock production. Some is held in reserve or laid fallow to allow them to recover after use, some in conservation status, and some is wooded and not used for crops or livestock grazing. Land in farms is separated into four basic categories: cropland, used for raising crops; pasture, used for grazing livestock; woodland, used for harvesting tree products; and buildings and other uses, which includes roads, structures, ponds, and wasteland.



**Source:** Census of Agriculture, National Agricultural Statistics Service, USDA, 2007

<sup>5</sup> All farm numbers prior to 1997 are adjusted for coverage.

Cropland,<sup>6</sup> or land used to grow crops, was the largest category of land use on Maryland farms in 2007, covering 1.4 million acres (68.5%) of all land in farms. The second largest land use was woodlands,<sup>7</sup> covering 373,000 acres (18.2%) of farmland. The smallest categories of land use were permanent pasture and rangeland<sup>8</sup> (156,375 acres, 7.6%) and land in farmsteads, building, or other uses<sup>9</sup> (116,937 acres, 5.7%). Frederick County had both the highest number of acres of land in farms and the largest amount of cropland and permanent pastureland. Queen Anne's County had the largest percentage of farmland in cropland (81.9%), while Somerset had the highest percentage in buildings and other uses (14.3%), which reflects its dominant position in poultry production, an activity which requires large poultry houses (See [Table 5](#)).

Not all land classified as "cropland" is used to grow crops at all times. Some is used for pastureland (in addition to lands kept in permanent pasture status), and some is in "other uses" such as being "idle or used for cover crops or soil improvement, but not harvested and not pastured,"<sup>10</sup> "cropland on which all crops failed," and "cropland in cultivated summer fallow."<sup>11</sup> In Maryland in 2007, the vast majority (88.7%) of cropland was harvested cropland used to grow crops, while 4.9 percent (68,205 acres) was used only for pastureland, and 6.4 percent (90,634 acres) was used for other purposes. Talbot County had the largest percentage of cropland in active production (92.5%), while Calvert County had the lowest (75.6%) (See [Table 6](#)).

A large percentage of land in farms is considered "woodland," which is defined by the USDA as "natural or planted woodlots or timber tracts, cutover and deforested land with young growth which has or will have value for wood products" and woodland pastured. Woodlands do include "land in tapped maple trees" but do not include "land planted for Christmas tree production and short rotation woody crops", which was reported as cropland.<sup>12</sup> (See [Table 6](#)). The vast majority of woodlands in Maryland are not pastured (92.1%), though this ranges from an estimated low of 76.2 percent in Garret County<sup>13</sup> to a high of 99.4 percent in Caroline County. Overall, Wicomico County has the largest number of acres in woodland

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<sup>6</sup> Total cropland includes five components: cropland harvested, crop failure, cultivated summer fallow, cropland used only for pasture, and idle cropland. Three of the cropland acreage components—cropland harvested, crop failure, and cultivated summer fallow—are collectively termed cropland used for crops, or the land input to crop production.

<sup>7</sup> Woodland includes land at least 10 percent of which is stocked by trees of any size, or land formerly having had such tree cover that will be naturally or artificially regenerated. Large acreages of woodland held for nonagricultural purposes were deleted from the Census by the USDA during their data edit process.

<sup>8</sup> Permanent pasture and rangeland consists of all open land used primarily for pasture and grazing of livestock.

<sup>9</sup> This category includes land in house lots, barn lots, ponds, roads, ditches, wasteland, etc. It includes those acres in the farm operation not classified as cropland, pastureland, or woodland. Large acreages of wasteland held for nonagricultural purposes were deleted from the Census by the USDA during their edit process.

<sup>10</sup> Idle cropland includes land in cover and soil improvement crops and completely idle cropland. Some cropland is idle each year for various physical and economic reasons. Acreage diverted from crops to soil-conserving uses under Federal farm programs is included in this component. Cropland enrolled in the Federal Conservation Reserve Program (CRP) is included in idle cropland. (<http://www.ers.usda.gov/Data/MajorLandUses/glossary.htm>)

<sup>11</sup> Cultivated summer fallow refers to cropland cultivated for a season or more to control weeds and accumulate moisture before small grains are planted. Other types of fallow are not included in cultivated summer fallow. (<http://www.ers.usda.gov/Data/MajorLandUses/glossary.htm>)

<sup>12</sup> 2007 Census of Agriculture, United States Summary and State Data, Volume 1, Geographic Area Series, Part 51, pp B-25 – B-26.

<sup>13</sup> Some land uses in 2007 for Garret County were suppressed, therefore 2002 data was used to estimate 2007 land uses.

use (33,125, or 8.9 percent of all woodland on farmland in Maryland) while Howard County has the least (3,838 acres, or 1 percent).<sup>14</sup>

Pastureland was a more complex land use to tally, as some land is in “permanent” pasture or rangeland status, meaning that farm operators do not use it for other purposes, while other pastureland is also counted as cropland or woodland. Croplands or woodlands also used for pastureland could conceivably be used at another time for other uses. (See [Table 6](#)). When counting all types of pastureland, Maryland contained 253,903 acres, or 12.4 percent of all farmland. Frederick County had the most pastureland of all types (36,375 acres, or 14% of all pastureland), while Dorchester County had the least (2,362 acres, or 0.9%).

### **Value of Land and Buildings in Farms**

The monetary value of farms has risen strongly since 2002 in all parts of Maryland, increasing 42 percent (\$285,142 per farm) by 2007 (See [Table 7](#) and [Table 8](#)). This is a significant departure from past Censuses, and is a pattern seen across all regions of the State. Farms in the Upper and Lower Eastern Shore regions have consistently been the most expensive in Maryland, though this is partly due to the more capital-intensive farming operations that they run (poultry farms). However, farms in the Western Maryland region had the greatest percentage increase in value from 2002 to 2007 (\$308,643, or 72%), followed by the Southern Maryland region (\$274,095, or 64.5%).

The average value of an acre of farmland (including improvements) has also risen significantly since 2002 (See [Table 9](#) and [Table 10](#)). Statewide, the average value increased 51.5 percent, from \$3,944 to \$5,976 per acre. Compare this to the value of an acre in 1987, which was \$3,187 in constant dollars. The Southern Maryland region saw the largest numeric and percentage increase in average value per acre (\$3,104, or 99%) over that five year period. While farmland in the Baltimore region gained value at a lower rate than the state average (40%), by 2007 it had the highest average value per acre of any region in Maryland (\$8,027 per acre), with Howard County having the highest average value of all counties in that region or in the State (\$11,226 per acre).

### **About the Census of Agriculture**

The Census of Agriculture is conducted every five years by the National Agricultural Statistics Service (NASS), a branch of the United States Department of Agriculture (USDA). NASS has conducted the Census since 1997. Previously, the Census was conducted by the U.S. Bureau of the Census. In one form or another, there has been an agricultural census conducted periodically in the U.S. since 1840.

According to NASS, the Census of Agriculture “is a complete count of U.S. farms and ranches and the people who operate them. The Census looks at land use and ownership, operator characteristics, production practices, income and expenditures and many other areas.”<sup>15</sup> Data is published for the nation, states, certain territories, and all U.S. counties.

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<sup>14</sup> Note that woodland uses on farms are not intended to measure the total amount of land used for woodland in a region. In 2006, according to the U.S. Forest Service, 39 percent of Maryland’s land area was covered in forests.

<sup>15</sup> [http://www.agcensus.usda.gov/Help/FAQs/General\\_FAQs/index1.asp](http://www.agcensus.usda.gov/Help/FAQs/General_FAQs/index1.asp)

## Farm Definitions

The USDA defines a farm as any place from which \$1,000 or more of agricultural products were produced and sold, or normally would have been sold, during the relevant census year.<sup>16</sup> This definition has changed nine times since 1840. From 1959 to 1974, the definition included both farm size and sales volume, with two different sales volume thresholds based on two farm size classifications (farms of 10 acres or more and farms of less than 10 acres). The current definition was adopted after 1974 and has no farm size requirement. Inflation has changed the definition over time, as the table below shows.

Year	Current Dollars			Constant Dollars (\$2000) *		
	10 Acres+	Less than 10 Acres	All Acres	10 Acres+	Less than 10 Acres	All Acres
2007			\$1,000			\$850
2002			\$1,000			\$966
1997			\$1,000			\$1,051
1992			\$1,000			\$1,165
1987			\$1,000			\$1,410
1982			\$1,000			\$1,671
1978			\$1,000			\$2,312
1974	\$50	\$250		\$151	\$753	
1969	\$50	\$250		\$198	\$990	
1964	\$50	\$250		\$230	\$1,148	
1959	\$50	\$250		\$245	\$1,224	

\* Dollar values adjusted using the Personal Consumption Expenditure (PCE) index from the Bureau of Economic Analysis' National Income and Products Accounts System (NIPA)

**Source:** 2002 Census of Agriculture: History, Appendix B

## About Coverage Adjustment in the 1997 and later Censuses

In 1997 NASS changed how data was collected for the Census of Agriculture to ensure that farms were properly counted, a process known as *coverage adjustment*. These changes relate to how farm operations that did not show up on the USDA's official list of farms and ranches were treated. NASS used this list as the initial Census Mailing List (CML) and sent census forms to all addresses on the list. To ensure that the list was complete, NASS used a sampling scheme where selected aerial photography from the June Agricultural Survey (JAS) was used to sample segments of land to search for farmland. These sample segments were then "personally enumerated" to find every operating farm in each land segment. This process was supplemented with the Agricultural Coverage Evaluation Survey (ACES), another sampling scheme that was designed to "provide measures of small and minority owned farms."<sup>17</sup>

The farms found in these processes were compared to the farms on the CML, and farms that were missing from the CML were placed on a separate list, called the "Not on the Mail List" or NML. Farms on

<sup>16</sup> [http://www.agcensus.usda.gov/Publications/2007/Full\\_Report/usv1.pdf](http://www.agcensus.usda.gov/Publications/2007/Full_Report/usv1.pdf)

<sup>17</sup> A-2 Appendix A

the NML were sent a different form than the CML so that those forms could be identified when they were returned. Since the CML farms were intended to be the entire population of farms while the NML farms were a sample of all missing farms, the total undercoverage of farms was estimated on the state level, and weighted estimates were generated for the county level. These estimates also include estimates that adjust the data for errors caused by non-responsive farms.

To estimate the difference that coverage adjustments make to the data, all data prior to 1997 in this report has been adjusted in the same proportion that data from 1997 was adjusted. Unlike later years, data for 1997 was reported in both its unadjusted and adjusted forms, which allows an adjustment factor to be calculated for each type of data. Where possible, figures in this report illustrate both unadjusted and adjusted data.