

AGRICULTURE

The Agriculture Element of the Boone County Comprehensive Plan describes the significance of the number of farms, the amount of land devoted to farming activity and the average size of a farm in Boone County. The Agriculture Element traces the history of farm production in Boone County and offers conclusions on the significance of the data.

FARMLAND INVENTORY

A farm, as generally defined by the U.S. Department of Commerce, Bureau of the Census, is any place from which \$1,000 or more of agricultural products were sold, or normally would have been sold during the census year.

The Boone County Zoning Regulations contain two agriculturally oriented zoning districts: Both the Agriculture One (A-1) and Agricultural Estate (A-2) allow all agricultural uses, as well as sales of agricultural products. The Agriculture One (A-1) zoning district covers about 45,000 acres of the county. This zoning district lies primarily within the rural western half of the county. Agricultural Estate (A-2) covers about 37,700 acres of the county and lies mainly between the A-1 zoning areas and the developed eastern portion of the county. Both districts allow residential construction; the A-1 requires a five acre lot size and the A-2 requires a two acre lot size. Together the two districts cover approximately two-thirds of the county's 164,120 acres.

As **Table 8.1** shows, 59% of the population of Boone County lived on farms in 1940. Since then, the number and percentage of people living on farms in Boone County has decreased drastically. In 2002, only 1.1% of the 93,616 Boone County residents lived on farms. From 1940 to 2002 the county population increased by 82,796 people, while the population of those living on farms decreased by 5,351.

Table 8.1 - Percent Living on Farms

YEAR	COUNTY POPULATION	FARM POPULATION	% LIVING ON FARMS
1940	10,820	6,406	59.2%
1950	13,015	5,561	42.7%
1960	21,940	5,750	26.2%
1970	32,812	3,916	11.9%
1980	45,842	2,425	5.3%
1990	57,589	1,350	2.3%
2000	85,991	est. 1100	est. 1.3%
2002	93,616	1,055	1.1%

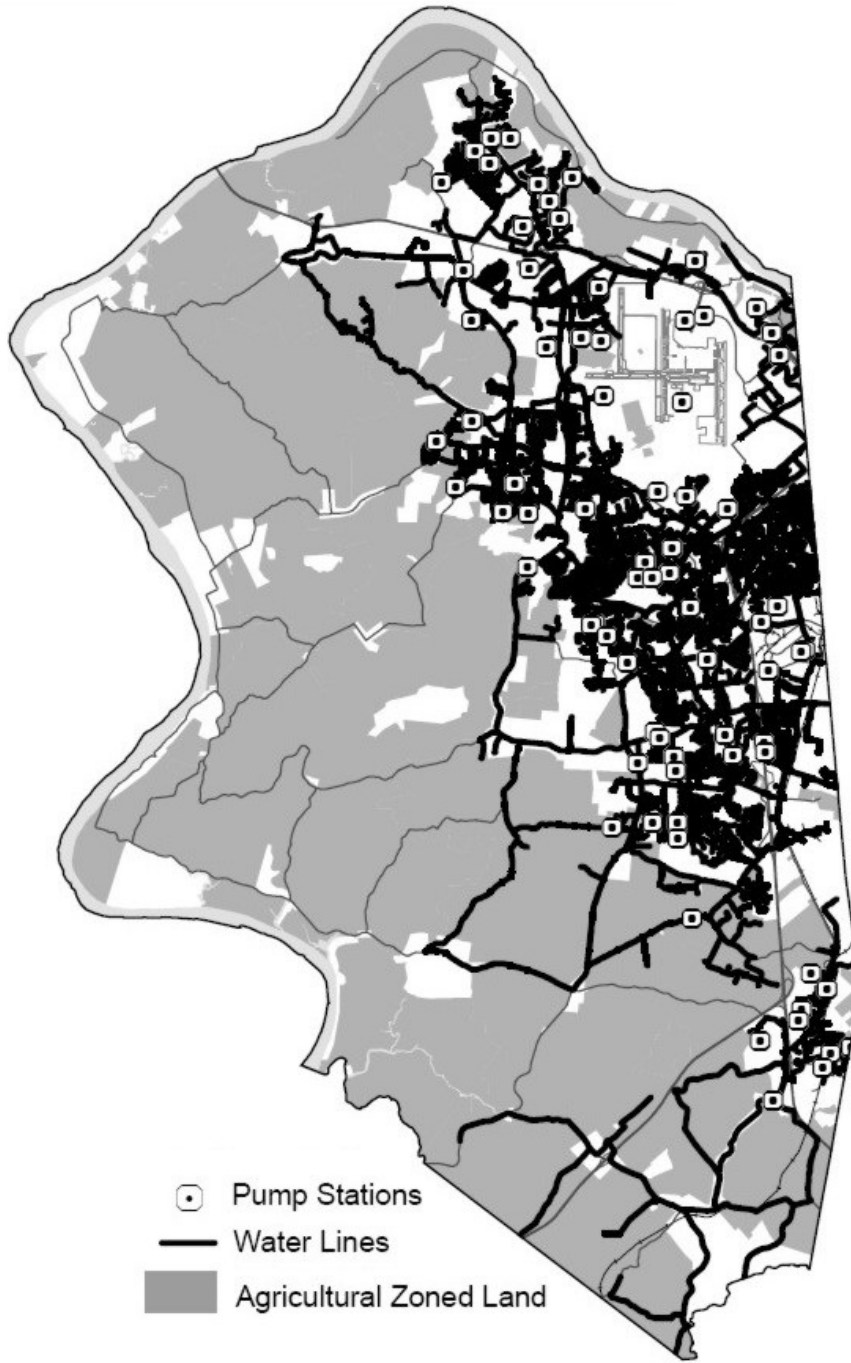
Source: Census of Agriculture & BCPC estimates

This rapid population growth has been gradually reducing the available farmland. It has also reduced the amount of land zoned primarily for agriculture use that is shown on **Figure 8.1**. This phenomenon of farmland reduction is an on-going process, and is assisted by the location of new sewer and water lines as they encroach into existing farming regions. The sewer and water lines increase pressure on the existing farmlands to develop for industrial and suburban residential developments (see **Figure 8.1**).

Table 8.2 compares the number of farms and farmland in Boone County since 1900. Between 1949 and 2002, the county lost 571 farms consisting of 59,190 acres. In the twenty year period from 1982 to 2002, 219 farms totaling 30,475 acres were replaced by suburban development. The average farm size had dropped to 101 acres after being up to 124 acres as recently as 1978. **Table 8.3** further describes farms by size in acres since 1909.

Table 8.2 and **Table 8.3** indicate the decrease of farms and farmlands as development of the county has occurred. The Boone County Extension Service expects the number of farms to reverse the trend and begin to increase in the county, although most of them likely won't increase in acreage due to land use changes from agriculture to other uses. Livestock numbers have also been decreasing. In 1982, the county had over 16,500 cattle, and by 2002 the number had dropped to 9,738. Hogs and pigs peaked at 13,100 in 1970, but have continually dropped since, with 2002 totals of just 206. Nationally, livestock production has risen, but this increase is attributed to larger, consolidated farms. Boone County, however, is distinctly an area of small farms, and is not sharing in this increased livestock production.

Figure 8.1 - Agricultural Zoned Land



**Table 8.2
Farm Number and Acreage**

YEAR	FARMS	TOTAL ACRES	AVG SIZE (ACRES)
1900	1,598	149,191	93
1909	1,540	145,693	95.0
1919	1,831	151,242	83
1929	1,563	149,159	95
1939	1,443	146,424	102
1949	1,314	134,105	102
1959	1,204	121,222	101
1969	1,245	126,706	102
1978	847	104,882	124
1982	962	105,390	110
1992	798	80,864	101
1997	783	83,258	106
2002	743	74,915	101

Source: U.S. Census of Ag. KY Crop and Livestock Reporting Service

Table 8.3 - Farm Size by Acres

SIZE (ACRES)	1909	1919	1929	1939	1949	1959	1969	1978	1982	1992	1997	2002
1-9	158	283	132	125	111	128	200	90	136	100	78	65
10-49	439	549	437	369	356	328	353	240	324	301	261	307
50-179	720	773	758	728	636	555	485	345	321	278	227	265
180-499	211	220	228	210	206	183	183	140	149	96	101	88
500-999	11	5	8	9	4	10	20	30	30	18	19	12
1,000-1,999	1	1	0	2	1	0	4	4	2	3	5	6
2,000 +	0	0	0	0	0	0	0	0	0	0	0	0
Total	1,540	1,831	1,563	1,443	1,314	1,204	1,245	849	932	798	691	743

Source: U.S. Census of Agriculture Kentucky Crop and Livestock Reporting Service

Even with the amount of development occurring in Boone County, the county is important in terms of agriculture. Through 2002, Boone County ranked within the top 76 counties or better out of the total 120 Kentucky counties in all the major crop and livestock categories, including corn, soybean, tobacco, hay, cattle, hogs, and milk production.

AGRICULTURAL LAND

Prime Farmland and Farmland of Statewide Importance

Estimates by the U.S.D.A. Natural Resources Conservation Service, formerly the U.S. Soil Conservation Service, indicate that 11,704 acres of the county land are considered "prime" farmland. Prime farmland is defined in the National Soils Handbook based on criteria of crop production potential, land availability, and climate. According to the Soil Conservation Service Soil Survey (1973 and 1989), historically, much of the best farm soils were located in the eastern half of Boone County, however, development has displaced many of these areas. The following soil series comprise the prime farmland in Boone County: Ashton, Avonburg, Boonesboro, Wheeling, Huntington, Egam, Lindside, Newark, Nolin, Captina, Chavies, Faywood, Jessup, Licking, Negley, Nicholson, and Rossmoyne. Low to moderate slope is an important factor in this classification as well. Soils of Statewide importance include the following soil series: Brashear, Captina, Chavies, Faywood, Jessup, Licking, Negley, Nicholson, Rossmoyne, Wheeling, and Woolper. This soil classification includes soils and slopes of less ideal conditions than the prime farmland areas.

Agricultural Districts

Agricultural Districts are administered by the Boone County Conservation District, under the Kentucky Division of Conservation, and allow farmers to form special areas where commercial agriculture is encouraged and protected. They are totally different and distinct from local zoning districts, and are designed to protect agriculture as a viable segment of the state's economy and the land as an important and valuable natural resource. The Agricultural District law, KRS 262.850, is aimed at protecting the best agricultural land for food and fiber production and discouraging its conversion to non-agricultural uses. The program was enacted in 1982 and amended in 1984 and 2000. Agricultural districts offer members the following protection under the law:

- the right to have their land assessed by the local property valuation administration at the land's agricultural use value;
- protection against involuntary annexation;
- deferred assessment of fees for water service extensions until the land is removed from the agricultural district and sold for non-agricultural purposes;
- the right to request that the local soil and water conservation district board hold a public hearing on the proposed taking of land under condemnation proceedings initiated by certain utilities.

Districts also benefit members by making them a higher priority for state cost share assistance, a higher ranking in Kentucky Purchase of Agriculture Conversion Easements (PACE), and eligibility for federal tax benefits for PACE applications.

To form an agricultural district, the land must be composed of 250 contiguous acres and may contain tracts, lots, or parcels that total not less than ten (10) acres, or less than five acres if in horticulture production. The land must meet a state definition of agricultural land as defined in KRS 132.010. The program is entirely voluntary, and landowners can withdraw from the district at any time. In 1995, Boone County had a total of five of these agricultural districts which totaled 3,343 acres. By 2004, there were thirteen districts comprising 6,770 acres.

As mentioned in the Environment Element, the Kentucky Agriculture Water Quality Act, passed in 1994, protects surface and ground water from potential pollutants as a result of agriculture and forestry operations. The act did not establish any new water quality laws other than requiring that all agriculture and forestry operations of ten or more acres develop and implement a water quality plan by 2001. The Boone County Conservation District is available to assist in developing individual water quality plans.

RECOMMENDATIONS

It is apparent that future development of the county's rural areas will occur in residential, industrial, and commercial terms. This plan calls for farmland to not be further fragmented through illogical urban expansion. In order to protect those who want to continue to farm, tax structures, planning efforts, Purchase of Development Rights (PDR), incentive programs, conservation easements, and utility expansions should be explored to enable those uses to continue. A combination of these tools should be used instead of concentrating on a single solution.

New residential developments in agricultural areas should be closely correlated to adequate infrastructure. The proposed rural water line improvements through the rural areas of the county may be seen by property owners and developers as an encouragement for low density residential development to occur in mostly agricultural areas. However, other infrastructure, including sewer, adequate roads, fire pressure, storm water management, fire and rescue, and law enforcement are necessary to support residential development in the long term. This adds to the cost

of providing community services. Agriculture, on the other hand, enables an economic use of the land, and requires relatively little infrastructure support or public expenditure. Boone County needs to be careful not to allow residential development in areas without adequate existing or planned infrastructure to fragment existing agricultural land uses. When this type of development does occur, compact efficient land use development patterns should be encouraged to assure the availability of lands in the county for agricultural use. New residential development is further addressed in the Housing Element.

The impacts of residential growth on existing agricultural land and agricultural operations have historically been overlooked, but are now well known. New residential development often means that nearby farmers have to deal with trespassing, vandalism, and complaints regarding agricultural odors and noises. Many farmers also lease land or cooperatively farm certain fields or share equipment that are distant from their main farm. It has become increasingly difficult and dangerous for farmers to drive or pull equipment to another location because of increased suburban traffic, and basic lack of understanding on the part of motorists on how to pass, and reluctance to wait for agricultural equipment.

The Boone County Farm Bureau was instrumental in implementing a county ordinance that offers some protection for farmers from neighbor complaints on agricultural odor and noise. The Bureau created a Grievance Board that helps mediate issues in order to lessen the need to go to court. So far the Board has been successful in its mission, and can also provide assistance to a farmer dealing with trespassing or vandalism. The Board will likely become more active as residential growth extends into agricultural areas. This comprehensive plan encourages farmers to list their property in an official agricultural district. Proposed residential development adjacent to existing agricultural operations should address this potential issue up front. Agricultural operators suggest that developers should install a fence designed to keep people from crossing into the farm from the residential area. A vegetated buffer may also be of benefit, but should be the responsibility of the developer, not the farmer. Any buffer areas should be designed so that it is clear who is accountable for trespassing, etc. Care would need to be taken in leaving existing vegetation as well, because older or leaning trees can damage any existing or new fence. The provision of a fence and buffer should be evaluated in ordinance form in the county.

Public improvements can also impact agricultural operations. Roadway improvements should be designed to accommodate wide farm machinery in the case of guard rails, storm water culverts, bridges, embankments, and sight distance at intersections.

Consistent with state law, large, concentrated agricultural production of livestock and similar operations, sometimes known as "mega-farms" should be treated in planning and land use regulations as an industrial use, not an agricultural use because of the potential noise, visual, traffic, and other impacts on surrounding land uses.

Agricultural land has value in addition to the actual production of goods and services, according to the Boone County Conservation District. It has benefits for storm water filtration, ground water recharge, flood reduction, soil retention, wildlife habitat, air purification, historic sites, scenic corridors, as well as the economic benefit of visual community character. Boone County should actively promote a Cost of Community Services Study and Agricultural Industry Profile to specifically determine the economic contributions of agriculture to the county. This study should examine current revenues and expenditures on a land use by land use basis, and the contribution of agriculturally related enterprises to the overall economy.

Diversification of crops would also preserve existing farmlands as the tobacco industry is threatened with an uncertain future. Farmers have been evaluating alternative crops as the tobacco market decreases. Such crops would include herbal crops, hay, timber (wood products), textile industry, aquaculture, vegetable and fruit produce, and medical industry crops.

A good farmers market network should supplement the successful Boone County Farmer's Market to link producers with grocers and customers. Participating in farmers markets may also help farmers get in contact with purchasers of alternative crops for such uses as medical, research, and others. The "demand" for a particular product would be put in contact with potential suppliers. This would also promote a more regional distribution of crops as local companies could contract out with local farmers for alternative crops to meet their needs. Furthermore, there may be a need for alternative livestock, such as bison and ostrich, that can be met by the local farmers instead of having items shipped into the area. A good farmers market network can help the sustainability of the region as local farming and agricultural needs are met by local suppliers. This Plan recommends that settlement money be used to create a "clearinghouse" type of organization that matches grocery markets and plant nursery operations with local growers of produce and horticultural products. In this way local growers may be stimulated to produce more of these goods to supply the steady and growing demand of these markets. As a result, the residential and commercial growth of Boone County can support a strong agricultural market in concert with urban land conversion.