

Horse Population in Mississippi

By the Numbers

The horse industry is important to Mississippi's economy. In the past, most of the horses were in rural areas of the state. Over the last few years, the horse population has grown in urban centers like Biloxi, Gulfport, Hattiesburg, Jackson, and Desoto County. There is about one horse for every 24 people in Mississippi.

Compared to many states, Mississippi has more modern facilities to support the horse industry. There are 72 public agriculture arenas in the state that support rodeos, horse shows, training classes, and non-equestrian events.

There are more than 26 major breed associations in the state, with the American Quarter Horse Association accounting for almost 46 percent of all members in the state in 2006. The diversity of breeds shows the interest in and growth of the horse industry in Mississippi. Also in 2006, there were about 7,931 unregistered horse owners in the state. Many of these owners enjoy riding horses, while others use them for work-related purposes.

Purpose

The purpose of this study is threefold. First, it gives an estimate of the size of the horse population in Mississippi counties; second, it gauges the size, scope, and economic contribution of the horse industry Mississippi; and third, it discusses the investments made in the state's horse industry.

Mississippi's Horse Population

Different sources give different estimates of the horse population for Mississippi. For example, the 2002 Census of Agriculture for Mississippi counted 66,814 horses. Little and Hamill's study of the horse industry in 2003 estimated 75,000. We approximated 105,132 to 110,000. The American Horse Council Foundation (AHCF) 2005 annual report listed 113,063. The Mississippi

Department of Agriculture and Commerce (MDAC) estimated 125,000 in the state. The last estimate is an increase of more than 58,000 animals since 1997. While the horse industry in Mississippi is growing, we could not confirm this rapid pace of growth.

Reconciling the Numbers

To deal with the wide variety of reported horse populations, we used several methods to determine the estimate used in this publication.

First, we referred to a report published by the Department of Agricultural Economics at Mississippi State University. Little and Hamill claimed in this report that the state horse population was 75,000 in 2003. Second, we consulted with equine experts, horse owners, and agriculture arena managers to determine a reasonable estimate of the horse population in the state. Based on their experience, they placed Mississippi's horse population between 105,000 and 110,000 in 2006.

Third, we examined an economic impact study on the horse industry in the United States conducted by the American Horse Council foundation (AHCF). This report provides estimates of the horse population in each state. The council estimated there were 113,063 horses in Mississippi in 2005. This number is consistent with the middle estimates of the horse population in the state.

We dropped the two lowest numbers of the horse population counts (68,814 and 75,000) and averaged the remaining four estimates to smooth the range. This resulted in an estimate of 113,299 horses in Mississippi. This average is only one fifth of a percentage point higher than the estimate developed by the AHCF in 2005. Therefore, we adopted the AHCF estimate of 113,063 horses in Mississippi in 2006.

Methodology

In this publication, we use county shares of horse population from the 2002 Census of Agriculture for Mississippi and a growth equation to apportion the statewide estimate of 113,063 horses. We assume the individual county shares derived from the 2002 Census of Agriculture were accurate but not the total horse population in Mississippi. Horse shares are the result of the county horse population divided by the total horse population in Mississippi in 2002. Here is the equation for this expression:

$$CGR_t = CHP_t \div SHP_t$$

CGR_t = county growth factor in horse population

CHP_t = county horse population

SHP_t = state horse population

t = the year (in this case, 2002)

These shares helped to apportion the statewide estimate of horses to get county-level estimates of horses in 2006. These shares also could serve as a basis to project future growth in county horse population in the state. Note that these equations assume the growth rate will not change over the period of study, which is not always true.

Given the 2002 county growth rate for horses, you can estimate how much this population will increase over time. To determine the increase, you would multiply $CGR_t=2002$ by the size of the county horse population in 2006 and add it to the county share of horses in 2006. This tells you how much the horse population would increase in 2007. Since the period of increase is one year, you could figure out the new population using the following equation:

$$CHP_{t+1} = CHP_{06} \times [1 + CGR_t]^1$$

To determine how much a county's horse population would increase over several years (n), you would simply place an exponent around the $[1 + CGR_t]$ term:

$$CHP_{t+n} = SHP_{06} \times [1 + CGR_t]^n$$

The above equation represents the basic growth function and has several uses. First, this equation allows you to calculate future estimates of county horse population based on 2006 projections. Second, the exponent term in the equation helps to calculate future growth rates. These growth rates are then used to project county-level horse population in Mississippi for a specific year or several years. Adding county projections will produce statewide estimates of the horse population for the year in question.

Data on total infrastructure investments, economic activity, and employment are apportioned based on the county's share of total state population in 2006. (Population estimates for 2006 are projections taken from Woods and Poole data services.) Here is the equation that expresses this procedure:

$$CPS_t = CP_t \div SP_t$$

CPS_t = county share of state population

CP_t = county population

SP_t = state population

t = the year (2006)

Economic Importance

The equine industry has grown over the years, and its importance to the state deserves attention. Economic developers and public officials should know about this upward trend and understand the benefits of horses to the state. As the number of horses and horse operations continues to increase, county and state officials also need to increase public assistance to the owners of these operations. Examples of assistance include facility development and expansion, soil conservation, pasture management, and nutrient management.

Horses have a major economic impact on the state. We conducted a study in 2006 to determine the economic contributions of the horse industry in Mississippi. We used the depreciated investments (annual and fixed costs) in horses and horse operations from that study to get a value of \$877.45 million for 2006. These investments contributed about \$1.02 billion to the state's economy and produced about 38,900 jobs during the same period. County and state officials can use this information to develop policies that will ensure a vibrant future for the horse industry.

Results

Supporting the approximately 113,063 horses in 2006 were investments in infrastructure such as in agricultural arenas, private barns, trucks, fencing, veterinary services, and other expenses in the state. These investments produced significant economic activity in the form of sales, labor income, and employment for residents in the state.

These equations give estimates of the number of horses, the amount of infrastructure investments, and the amount of economic impact for each county in Mississippi in 2006. The distribution was based on each county's share of horses and population.

The results of the above process are in the table that follows. The table shows which counties had more horses and made larger investments in the equine industry. It is not surprising that several of the most-populated counties also had the highest number of horses, horse investments, and economic activity in the state.

There are several anomalies, however, in the statistics. For example, Pearl River County had the second highest number of horses in the state but ranked twelfth in infrastructure investments, economic contributions, and jobs created in the state. Similarly, Desoto and Harrison counties ranked third and fourth respectively in the number of horses in the state but ranked second and third in infrastructure investments, economic contributions, and jobs created in the state in 2006. The impact these counties had on the variables studied was in most cases three times larger than the impact Pearl River County had on the same variables. The 20 largest counties in the industry accounted for 38 percent of the total horse population but 58 percent of the infrastructure investments, economic activity, and employment in Mississippi's horse industry in 2006.

In terms of geographic locations, 13 of the top 20 counties in the state's horse industry are in central and

south Mississippi; 3 are in northwest Mississippi; 4 are in northeast Mississippi; and 1 is in east central Mississippi. These numbers suggest these areas experienced growth in the horse industry and deserve the attention of local and state decision makers.

Potential Use

This publication may be used to do the following:

- Help local and state officials identify cluster areas of growth and development in the Mississippi horse industry.
- Help local officials understand the number of horses in their county and the amount of land they require.
- Help local officials better manage green and open spaces to protect the natural resources.
- Give county and state officials a descriptive picture of the average horse owner and property in the state.
- Justify further investments in horse-related facilities and expansions in the state.

As the horse industry continues to grow, so too will public concern about urban infringement, protection of the environment (including water and natural resources), manure waste disposal, and other issues. To protect the horse industry, which is a major contributor to the state's economy, policy makers need information about the economic size and scope of the industry. These figures will help them develop policies that will protect both the environment and the horse industry.

Summary

Based on the experience of those in the equine industry, the number of horses probably will continue to increase in Mississippi. However, the rate of growth of horse operations may slow as land in some counties is developed for commercial and community interests. The information in this publication may help local decision makers meet the needs of the horse industry with effective land management plans.

Estimated Population and Economic Contributions of the Mississippi Horse Industry, 2006

County	Horse Population	Infrastructure Investments	Economic Impact	Employment
Adams	822	9,689,189	12,533,843	430
Alcorn	1,696	10,517,590	13,605,454	466
Amite	1,423	4,004,676	5,180,411	178
Attala	1,315	5,851,670	7,569,665	259
Benton	824	2,307,119	2,984,467	102
Bolivar	193	11,329,452	14,655,672	502
Calhoun	1,119	4,387,128	5,675,147	194
Carrroll	946	3,114,551	4,028,953	138
Chickasaw	1,575	5,724,383	7,405,007	254
Choctaw	777	2,886,261	3,733,640	128
Claiborne	621	3,460,382	4,476,318	153
Clarke	897	5,270,165	6,817,436	234
Clay	917	6,459,164	8,355,513	286
Coahoma	256	8,528,542	11,032,441	378
Copiah	2,785	8,644,606	11,182,581	383
Covington	1,141	6,087,343	7,874,530	270
De Soto	3,175	41,880,757	54,176,550	1,857
Forrest	1,550	22,308,643	28,858,249	989
Franklin	807	2,456,260	3,177,395	109
George	848	6,369,384	8,239,374	282
Greene	430	3,976,915	5,144,499	176
Grenada	628	6,829,508	8,834,587	303
Hancock	1,161	14,210,397	18,382,435	630
Harrison	2,562	58,484,804	75,655,388	2,593
Hinds	5,417	74,226,783	96,019,062	3,291
Holmes	1,179	6,255,977	8,092,672	277
Humphreys	NA	3,086,790	3,993,042	137
Issaquena	63	592,727	766,747	26
Itawamba	729	7,059,275	9,131,811	313
Jackson	1,894	40,933,929	52,951,742	1,815
Jasper	1,477	5,452,088	7,052,770	242
Jefferson	870	2,813,905	3,640,041	125
Jefferson Davis	675	3,977,801	5,145,645	176
Jones	1,878	19,354,456	25,036,741	858
Kemper	1,059	3,094,173	4,002,593	137
Lafayette	1,729	12,748,218	16,490,974	565
Lamar	2,024	13,462,031	17,414,355	597
Lauderdale	1,949	23,097,469	29,878,667	1,024
Lawrence	914	4,041,887	5,228,547	179
Leake	2,410	6,615,984	8,558,374	293
Lee	2,120	24,158,000	31,250,559	1,071
Leflore	298	10,609,142	13,723,886	470
Lincoln	1,718	10,154,629	13,135,932	450
Lowndes	1,262	18,212,119	23,559,025	807

Madison	2,520	25,896,017	33,498,842	1,148
Marion	1,179	7,484,845	9,682,325	332
Marshall	2,401	10,916,285	14,121,203	484
Monroe	1,870	11,230,221	14,527,308	498
Montgomery	580	3,499,071	4,526,365	155
Neshoba	1,960	9,015,541	11,662,418	400
Newton	2,217	6,589,700	8,524,373	292
Noxubee	1,014	3,622,519	4,686,056	161
Oktibbeha	2,271	13,174,970	17,043,016	584
Panola	1,425	10,802,288	13,973,737	479
Pearl River	3,939	15,630,639	20,219,647	693
Perry	609	3,696,056	4,781,183	164
Pike	1,430	11,624,782	15,037,708	515
Pontotoc	2,357	8,472,429	10,959,854	376
Prentiss	951	7,832,744	10,132,363	347
Quitman	37	2,841,961	3,676,334	126
Rankin	3,430	40,207,122	52,011,551	1,783
Scott	2,005	8,595,582	11,119,163	381
Sharkey	110	1,785,270	2,309,409	79
Simpson	1,892	8,464,455	10,949,539	375
Smith	2,137	4,709,629	6,092,331	209
Stone	1,806	4,363,206	5,644,202	193
Sunflower	159	9,949,375	12,870,417	441
Tallahatchie	723	4,139,642	5,355,001	184
Tate	2,804	7,906,281	10,227,490	351
Tippah	1,773	6,225,263	8,052,941	276
Tishomingo	1,044	5,700,756	7,374,444	253
Tunica	73	3,085,904	3,991,896	137
Union	2,186	8,019,983	10,374,574	356
Walthall	1,234	4,546,016	5,880,683	202
Warren	892	14,563,907	18,839,732	646
Washington	479	17,422,997	22,538,224	772
Wayne	819	6,373,518	8,244,723	283
Webster	630	2,990,217	3,868,116	133
Wilkinson	388	3,035,107	3,926,186	135
Winston	1,521	5,965,667	7,717,131	264
Yalobusha	843	3,983,117	5,152,522	177
Yazoo	1,225	8,345,732	10,795,960	370
Mississippi	113,063	\$ 877,435,087	\$1,135,041,700	38,900

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