

The Economic Impact of the Equine Industry in Massachusetts 2016

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1. Executive Summary

The Economic Impacts of the Massachusetts Equine Industry

The purpose of this report is to examine and detail the economic impact of the equine industry in Massachusetts.

The equine industry is defined here as all activities involved in breeding, raising, selling and using horses for commercial and recreational purposes. This includes pleasure horse owners, racing horse owners, working horse owners, boarding facilities, rehabilitation facilities, therapeutic riding facilities, vets, farriers, racetracks, showing events and other horse shows as well as riders who do not own their own horses but are involved in the industry.

The Massachusetts Equine Industry consists of roughly 26,000 horses, located on about 2,300 farms located throughout the state. Supporting the equine industry are a number of related businesses, horse racing facilities, local and state fairs (for public horse shows) and colleges that provide equine related education.

The total economic impact is made up of three components: the direct effects, the indirect effects and the induced effects.

The direct effects are the sales, income and employment created by the equine related purchases in the state. The indirect effects are the purchases by businesses up and down the supply chain resulting from the direct impact businesses. For example indirect effects can include the purchase and installation of horseshoes by the farrier.

The induced effects are the purchases made by employees of both the direct impact business and indirect impact businesses. These can be purchases made by employees at grocery stores, restaurants, hardware stores, etc.

Total Economic Impact	\$386,659,418
Multiplier Effect	X 2.0
Potential Leakages	\$0.00
Fiscal benefits	\$0.00
Direct Spending	\$193,329,709

The fiscal impacts of the Massachusetts Equine Industry

The economic activity from the horse industry creates tax revenue for the state and local governments. These yearly taxes are reflected in the table below

Property Tax Sales Tax	\$14,987,126 \$ 2,865,263
Total Tax Revenue Impact	\$17,852,389

Jobs Provided by the Massachusetts Equine Industry

Massachusetts horse farms currently employ 7,149 people in a combination of full-time and part-time employment.

The Equine Industry's Impact on Land Use in Massachusetts

The equine industry uses about 8,638 acres of land for horse pastures and 4,836 acres in hay land. When including farmstead and woodland areas, it is estimated that the equine industry uses about 40,786 acres of agricultural land in Massachusetts.

2. Introduction

There are currently about 26,000 horses in Massachusetts. These animals are used for recreation, trail riding, rehabilitation and therapy, racing and as work horses. The public gets to see and enjoy horses at local horse shows, state fairs and at thoroughbred racing facility Suffolk Downs and harness racing facility Plainridge Racing.

There are an estimated 2,300 horse farms in the state, ranging from single stall personal use farms to farms with over 50 horses. Included in this total are more than 600 boarding stables and 60 thoroughbred breeding stables.

In Massachusetts, these horses graze on pastures, utilize hay and grain grown in Massachusetts (and elsewhere), and are treated by large animal vets, farriers, horse trainers and other equine specialists.

The purpose of this report is to examine and detail the economic impact of the equine industry in Massachusetts.

The equine industry is defined here as all activities involved in breeding, raising, selling and using horses for commercial and recreational purposes. This includes pleasure horse owners, racing horse owners, working horse owners, boarding facilities, rehabilitation facilities, therapeutic riding facilities, vets, farriers, racetracks, showing events and other horse shows as well as riders who do not own their own horses but are involved in the industry.

The economic impact in this report includes business sales, jobs, personal income and state and local tax revenues generated as a result of the equine industry.

The scope of this report goes beyond that of the study completed by Christiansen Capital Advisors LLC, dated October 22, 2013 for the Sterling Suffolk Racecourse, LLC entitled "The Economic Impact of the Massachusetts Thoroughbred Equine Industry" which looked only at the racing industry. This report looks at racing as well as other aspects of the Massachusetts Equine industry such as pleasure horses and boarding stables.

In addition to estimating the economic impact of the equine industry in Massachusetts this report also looks at patterns of land use. As open space in Massachusetts is increasingly pressured by development, the stewardship of land by the equine industry is becoming more important.

An article entitled "Strength in Numbers: How Economic Impact Studies Shape the Horse World", published in the January 2007 edition of Equus magazine explains how economic impact studies not only demonstrate the economic importance of the equine industry on a regional or state level, but also influence public policy. According to the article, economic impact studies "...may influence whether [horse owners] will be able to ride on ...public trails... and/or whether a horse park in [the horse owner's] area will receive government funds".

It is the hope that this study will play such a role in Massachusetts, both describing the industry and highlighting the public policy issues involved.

Layout of the Report

This report is laid out into the following sections:

Survey Methodology – Outlines how data was collected and interpreted, including an explanation of the survey of Massachusetts horse owners conducted for this study.

US Equine Industry Overview – Describes the breadth and scope of the US equine industry

Massachusetts Equine Industry Overview – Describes the breadth and scope of the Massachusetts equine industry.

Economic Impact of the Equine Industry – Displays the total economic impact of the equine industry in Massachusetts.

Tax Impact of the Equine Industry – Presents the tax impacts of the equine industry.

The Equine Industry's Impact on Land Use – Outlines how the equine industry affects land use in Massachusetts. The data in this section is based on the results of survey data.

Economic Impact of the Mass Horse Racing Industry – Discusses the racing history and future of Suffolk Downs and Plainridge Park. Also presents purses paid out to racing horse owners.

Issues in the Mass Equine Industry – Provides a discussion and listing of the issues and challenges facing Massachusetts horse owners and commercial equine operations.

Survey Results – Displays the total responses to each of the questions in the Equine Survey. The data presented in this section are not extrapolated to the entire horse population in Massachusetts.

3. Survey Methodology

This study is based upon data collected from three sources: 1) a survey administered to Massachusetts horse owners (see Appendix #1 for copy of the survey), 2) personal interviews with operators of equine facilities and equine related businesses, and 3) data from federal and state organizations, equine publications and internet research.

This study looks at the equine industry, ranging from personal use only to boarding, training, shows, lessons, recreation, racing, breeding, therapeutic riding and other aspects of the industry.

Surveys

The primary method for data gathering was through the administration of a mail- and web-based survey.

There is no statewide mailing list of horse owners, nor of equine business operations. Therefore, in order to find Massachusetts based horse owners and induce them to complete the survey a number of equine-related organizations were contacted, extensive internet research was conducted and \$1,000 in prizes (such as gift certificates to Smart Pak – A store that sells equine equipment like saddles, riding clothes, etc.) were offered.

Potential respondents were solicited through the following sources:

- Web Search Internet research to develop a list of all horse boarding operations (approximately 600) in Massachusetts Using this list, request letters and the survey were sent out in December 2015 and again in January 2016. Follow up phone calls were made to over 300 of these operations that had not responded as of April 2016.
- MA Horse Magazine Center spread publication of a request letter and survey in the MA Horse equine magazine in both the Dec 2015/Jan 2016 and Feb 2016/March 2016. The survey was also featured on the MA Horse Magazine Facebook site with an appeal to fill out and return the survey.
- Request letter to 25 Massachusetts Equine Organizations (Appendix #2 for a list of these organizations) to solicit their members to complete the survey
- Request for assistance to the Equine Committee of Massachusetts Farm Bureau Federation Inc.
- Featured on several websites including MA Farm Bureau, the MA Department of Agricultural Resources and Farm Credit East.

In all, 85 surveys were mailed back and 209 participants completed the online survey for a total of 294 submitted surveys.

Interviews

Phone and in-person interviews were conducted with a wide range of direct and indirect participants of the equine industry, including boarding stable owners, equine publications editor, veterinarians, state and local officials, and others. The purpose of these interviews was twofold: 1) to get a better sense of the scope of the equine industry and 2) to estimate the amount of direct

employment at these establishments to be able to identify their sources of revenue and expenditures.

Other Data Use

Data were also taken from a wide variety of reports and publications, several of which are noted in Appendix #4.

IMPLAN

IMPLAN (IMpact Analysis for PLANning) is a computer program used to estimate the economic and fiscal impacts of the equine industry in Massachusetts. IMPLAN is a computer input-output modeling program originally developed by the US Department of Agriculture Forest Service for resource management planning. It contains a mathematical representation of the purchasing patterns that take place between sectors of an economy. A sector is a grouping of industries in an economy and is based on NAICS (North American Industry Classification System) codes as used by the US Federal Government. IMPLAN uses 509 sectors in its model.

Built into the IMPLAN data files are all of the industry sales, employment and income data for each sector of the Massachusetts economy. IMPLAN uses the state data along with national purchasing patterns (national input-output matrices) to create regional models.

Total Horse Population Estimates

In order to extrapolate the survey results in this report to the entire state, a base population of horses was estimated.

This estimate is initially based on the 2012 Agricultural Census from the USDA National Agricultural Statistics Service (NASS) which reported 1,804 farms containing 20,337 horses. From there we looked at state report which summarized data, selecting the latest figures provided within the last 4 years once for each potential location (within the state), but excluding the three largest gathering locations such as Suffolk Downs or Fairs that might result in double counting or the inclusion of animals from out of state. It is our best estimate that there are currently around 25,950 horses residing in Massachusetts.

As a caution, this is an estimate for discussion and evaluation purposes only and any planning based on these figures should be made judiciously and contain caveats that the above figure was taken over an extended period of time and may contain significant inaccuracies: at least a portion of intra-state transfers may be double counted or the animal involved may not be counted at all; no import/export figures or birth/mortality rates were considered, no closures of facilities were incorporated, animals temporarily housed elsewhere when a facility was examined were not included, and there may be other imperfections in the count. However, we believe that our estimate is a reasonable approximation of the horse population in Massachusetts.

This figure is not contextualized within long-term trends of equine population changes where it might be useful in contributing to those trend illustrations but rather is a snapshot of the current population.

4. US Equine Industry Overview

The United States Horse Industry is a large and economically diverse industry that is a key contributor to the overall fabric of the U.S. economy. Horse owners and industry suppliers, racetracks and off-track betting operations, horse shows and other industry segments all generate separate, and significant, economic activity contributing to the vibrancy of the overall industry. The spending generated within the equine industry, and the subsequent spending between related industries contributes thousands of jobs and billions of dollars to the economy on an annual basis.

A 2005 equine study commissioned by the American Horse Council Foundation found that the equine industry contributes roughly \$39 billion on an annual basis to the U.S. economy through direct spending. This refers to purchases made by individuals involved in the equine industry for goods and services linked specifically to the industry and day-to-day operations.

This contribution is only a small part to the overall economic value of the equine industry. When looking at an overall contribution to the US economy, including indirect expenses (purchases made by industry suppliers and their suppliers associated with the finished product, such as saddles, or services, such as veterinary clinics), and induced expenses (purchases made by individuals employed by the US horse industry or the corresponding suppliers) the equine industry generates approximately \$102 billion in economic activity across the country.

A comprehensive breakdown shows that \$32.0 billion comes from recreation, \$28.8 billion from horse shows, \$26.1 billion from horse racing, and approximately \$14.7 billion derived from other industry segments.

This 2005 study showed that there were over 9.2 million horses in the US, with 3.9 million involved in recreation and 2.7 million participating in horse shows.

Approximately 1.8 million people own horses, with another 2 million people involved as volunteers or through a family affiliation.

Employment is another key factor when assessing the economic impact on a national level. Overall, the horse industry provided 460,000 direct jobs and 960,000 indirectly associated jobs for a combined total of slightly over 1.4 million jobs.

The horse industry pays roughly \$1.9 billion in taxes on an annual basis to all levels of government.

5. Massachusetts Equine Industry Overview

There are currently about 26,000 horses in Massachusetts. These animals are used for recreation, trail riding, rehabilitation and therapy, racing and as work horses.

In the 2012 Agricultural Census, conducted by the USDA National Agricultural Statistics Service, Massachusetts ranked 42nd in the country based on the number of horses.

However, the equine industry in a metropolitan state like Massachusetts is very different than in a more rural state. This is based on the type and diversity of equine operations and the importance of maintaining open space and a rural landscape.

This is most evident as the residents of Massachusetts get to see and enjoy horses at a large number of private and public events including the following disciplines:

- Hunter Jumpers
- Trail Riding
- Dressage
- Western
- Saddle Seat
- Carriage Driving
- Polo
- Eventing

These disciplines can be seen at the following public events:

Eastern States Exposition/Big E — The Eastern States Exposition is located in West Springfield and hosts activities year round. It is the regional fair for New England. The highlight of the year is "The Big E" (Open September 16 — October 2nd 2016), which set an attendance record in 2014 with just under 1.5 million visitors in a 17 day period. Part of the public attraction of the Big E is the horse shows and exhibitions that are a daily part of the program.

On May 15, 2014 Eugene Cassidy, president and CEO of Eastern States Exposition stated that the Big E has a \$479 million impact and accounts for 3,000 Hampden County jobs.

It is impossible to accurately determine what percentage of these totals can be attributed to the equine industry. If a figure as low as 10 percent is used, this would amount to a \$48 million impact and 300 jobs for Hampden County.

<u>Massachusetts Agricultural Fairs</u> – In 2016 there will be 45 agricultural fairs held in Massachusetts (See Appendix #3 for listing of fairs and dates held).

In addition to Eastern States Exposition, both the Tri-County Fairgrounds in Northampton and the Topsfield Fairgrounds in Topsfield host many regional horse shows annually during the "offseason". These horse shows likely generate a great deal of hotel and restaurant business. No specific economic data was available on either fairground making an analysis of their actual impact impossible to accurately calculate.

Equine Businesses

There are several equine businesses based in Massachusetts. Here is some information on four of them:

<u>Smart Pak Equine LLC</u> – This privately held company was established in 1999 and is based in Plymouth MA. It currently employs 190 people and it had revenue of \$75.1 million in the most recently reported period.

<u>Kingston Trailers</u> – This company was established over 50 years ago and is based in Kingston, MA. It is a privately held company that sells primarily horse trailers through three dealerships in Massachusetts and 11 dealerships in other states.

EquiFit – This company was established 15 years ago and is based in Dedham, MA. It is a privately held company that specializes in a variety of products for top equestrian riders.

<u>Tack Shops</u> – In Massachusetts there are 22 tack shops listed online. They carry a significant level of inventory which generates millions of dollars of revenue annually.

Colleges with Equestrian Programs

There are a number of colleges in Massachusetts that have equestrian programs. Here are some of them:

- Becker College
- Cummings School of Veterinary Medicine at Tufts University
- Johnson and Wales
- Mount Holyoke College
- Stockbridge School of Agriculture
- Smith College
- University of Massachusetts, Amherst

<u>Financial Note:</u> The fairs and Massachusetts businesses detailed above are presented to illustrate the dynamic and public face of the equine industry. From a financial perspective the value of their financial impact is included as part of the "indirect" financial impact of the equine industry.

6. Economic Impact of the Massachusetts Equine Industry

The direct impact of Massachusetts's equine industry on the state's economy was measured based on gross business revenue, jobs and payroll created by the industry, and horse-farm related expenditures made within Massachusetts. This information was gathered from the equine industry survey outlined in Section 3 of this report. The results of this survey are summarized in Section 11 of this report.

According to Michael Gold, the Equine Director of the Massachusetts Department of Agricultural Resources, there are currently an estimated 25,950 horses in Massachusetts. This number was used to calculate the economic impact of the equine industry in Massachusetts.

The survey of the Massachusetts equine industry included 294 responses representing 2,487 horses or 9.6 percent of the state's total horse population of 25,950 horses. Of the 294 responses, 75, or 26 percent reported farm revenue. These respondents were considered to be commercial enterprises, and the remaining 219 respondents showing no revenue were considered to be personal horse owners with no commercial business activity.

These results were compared to statistics generated by a separate internet-based search of horse owners in the Commonwealth of Massachusetts that revealed 2,302 total horse farms, 600 of which (26 percent) marketed and/or offered commercial services. Both the equine survey results and the search of the entire equine industry in Massachusetts indicated that roughly 26 percent of the horse properties in Massachusetts are commercial enterprises (generating revenue) whereas the remaining 74 percent are personal use only with no revenue generated.

To summarize, the 294 respondents to the equine survey break down as follows between commercial enterprises and personal-use horse owners:

	Respondents	<u>Percent</u>	<u>Horses</u>	<u>Percent</u>
Commercial (with income)	75	26%	1,251	50%
Personal Use Only (no income)	219	74%	1,236	50%
Total Respondents	294	100%	2,487	100%

Revenue Generated by the Massachusetts Equine Industry

The commercial survey respondents reported the following totals for income relative to their equine enterprise:

2015 Revenue:	Survey Total	Per Horse*	Estimated MA
			<u>Total**</u>
Total Horses	2,487		25,950
Percent Commercial	50.31%		50.31%
Horses Generating	1,251		13,055
Revenue			
Boarding Income	\$4,260,236	\$3,405	\$44,461,344
Training Income	\$1,365,174	\$1,091	\$14,247,437
Show Income	\$961,359	\$768	\$10,033,088
Lesson Income	\$2,050,477	\$1,639	\$21,399,509
Recreational Income	\$175,600	\$140	\$1,832,624
Breeding Income	\$30,150	\$24	\$314,656
Riding Income	\$456,100	\$365	\$4,760,022
Other Income	\$1,321,113	\$1,056	\$13,787,609
TOTAL REVENUE	\$10,620,209	\$8,489	\$110,836,288

^{*}Per Horse - Survey respondents reported \$10,620,209 of revenue generated in 2015 from 1,251 horses or \$8,489 per year per horse. Based on the population of 25,950 horses in Massachusetts and applying the survey result of 50.31 percent located on commercial farms where they generate revenue, the total revenue generated by the equine industry in Massachusetts in 2015 is estimated to be \$110,836,288.

Note: Anecdotal discussions would indicate a higher average boarding revenue and higher average lesson but analysis was limited to actual survey result.

^{**} Estimate MA Total - 25,950 horses in Massachusetts is based on discussion on prior page.

Expenditures Generated by the Massachusetts Equine Industry

Of the respondents that were personal use (no income) some reported expenses and some did not. These broke down as follows:

	Respondents	<u>Percent</u>	<u>Horses</u>	<u>Percent</u>
Personal Use (with expenses reported)	99	33%	501	20%
Personal Use (with no expenses	120	41%	735	30%
reported)				

From this data, a "cost per horse" was calculated and used to apply to the entire horse population in Massachusetts. With the exception of labor costs, the cost per personal horse and cost per horse on a commercial farm were considered to be the same, and those costs were calculated based on the 174 total respondents that reported expenses. However, while personal use horse owners have comparable horse related expenses (for items like grain, hay, bedding, vet, supplies, insurance, tack, clothing, etc.) there was a significant differential observed for payroll cost. Personal horse owners tend to care for their own animals and do not incur a cost for payroll. There are some exceptions, where some do hire assistance in caring for their horses. By analyzing the commercial respondents versus the personal respondents the following differential was noted for payroll cost:

	Payroll Cost Per Horse	
Commercial Farms	\$1,737	
Personal Use Owners	\$172	

Of the 294 survey respondents, 174 or 59 percent reported expenditures. These respondents represented 1,752 or 70 percent of the horses represented in the survey results. The following is a summary of these expenditures with the above differential* factored in for payroll costs between the commercial and personal farms:

2015 Expenditures	Survey Total	Per Horse
Within 25 Miles	\$6,570,507	\$3,751
Within Massachusetts	\$8,719,824	\$4,978
Payroll (Commercial)	\$3,041,923	\$1,737
Real Estate Taxes	\$1,011,559	\$578
TOTAL EXPENSES	\$12,773,306	\$7,293
Capital Purchases	\$1,637,430	\$935
TOTAL OUTLAY	\$14,410,736	\$8,228
	·	
Labor (on personal horses)	\$86,102	\$172

The above per horse costs were applied to the Massachusetts horse population to arrive at the total direct economic impact of the equine industry in Massachusetts with the lower labor cost applied to the personal horses as compared to the commercially located horses. These calculations are summarized in the table below:

2015 Expenditures	On Commercial Farms	On Personal Farms	Estimated MA Total
Percent of Total	50.31%	49.69%	100%
Horses			
Estimated Total	13,055	12,895	25,950
Horses			
Expenditures within	\$64,998,569	\$64,193,231	\$129,191,800
MA			
Payroll* Cost	\$22,674,843	\$2,215,987	\$24,890,829
Real Estate Taxes	\$7,540,276	\$7,446,851	\$14,987,126
TOTAL EXPENSES	\$95,213,687	\$73,856,068	\$169,069,756
Capital Purchases	\$12,205,363	\$12,054,363	\$24,259,953
TOTAL OUTLAY	\$107,419,278	\$85,910,431	\$193,329,709

Jobs Provided by the Massachusetts Equine Industry

The total Massachusetts equine workforce was calculated using the survey results, which represented 9.6 percent of the horses in Massachusetts and projecting that out over the entire horse population in Massachusetts. The following table summarizes these results:

Workforce:	Survey Total	Per Farm	MA Total
Owners	229	0.78	2,390
Unpaid Family	147	0.50	1,534
Full Time Employees	94	0.32	981
Part Time Employees	143	0.49	1,492
Seasonal Employees	72	0.24	751
TOTAL WORKERS	685	2.33	7,149

Based on this analysis, the Massachusetts equine industry employs a total workforce of about 7,149 people including owners, family, and full-time, part-time, and seasonal employees.

<u>Note:</u> This total does not include indirect jobs in the equine industry as there was no way to accurately estimate this total.

Overview of Total Economic Impact

To arrive at the overall economic impact, the following rationale was followed:

<u>Direct Spending</u> - The starting point is the calculation of the direct spending of the equine industry in Massachusetts as extracted from the equine industry survey and presented in the above table.	\$193,329,709
• Fiscal benefits are then considered such as job creation and government revenues (taxes and or fees). With the exception of income taxes, all fees, sales, and property taxes, and jobs (wages) are assumed to be included in the amount calculated in #1 above. Commercial businesses are the sole source of income tax generation. The estimated gross income from the commercial horse farms in Massachusetts is estimated at \$110,836,288, with offsetting expenses of \$107,419,278 leaving a potential taxable income of \$3,417,010 or 3.1% of revenue. However, since the expenditures do not include any funds spent outside of Massachusetts it is considered reasonable to conclude that at least 3% additional was spent which would result in zero taxable income, therefore zero additional fiscal benefits (outside those already included in #1 above) are estimated.	\$0.00
 <u>Potential Leakages</u> – This includes any funds that exit the state such as outside taxes or spending outside of the state. Since the survey requested only expenditures paid within the state and no federal income taxes were included (some of which would exit the state), no "economic leakage" is considered to exist. 	\$0.00
 Multiplier Effect – Direct spending actually has a multiplier effect in its economic impact. This is because spending from one source results in re-spending within the region by employees and vendors that receive payment from the industry. Recognized multiplier factors for agriculture is typically in the range of 1.6 to 2.2. The multiplier is driven by the degree monies are re-spent locally. If for example, a business primary purchases a raw material that is imported from outside the region, this would drive the multiplier down. No exact multipliers exist for the equine industry but since most services and employees of small horse farms and personally owned pleasure horses are local in nature a multiplier of 2.0, at the higher end of this range, has been chosen. 	2.0 Multiplier Effect
Total Economic Impact	\$386,659,418

The current total direct and indirect economic impact of the Massachusetts equine industry is estimated at \$386,659,418 per year.

7. Fiscal (Tax) Impact of the Massachusetts Equine Industry

The fiscal impact of the equine industry is the tax revenue it generates for state and municipal government. This includes income, property, sales, fuel, licensing fees, etc.

<u>Income Taxes</u> – As discussed in the economic impact section of this report, it	\$0.00
is assumed there is no taxable income generated by the equine industry as	·
indicated by the income and expenses which suggest a breakeven industry at	
best.	
<u>Property Taxes</u> – as outlined in the economic impact section of this report,	\$14,987,126
the equine industry is estimated to contribute property taxes to local municipalities	
Sales Taxes - Massachusetts 6.25% sales tax applies to a portion of the	\$2,865,263
expenditures of horse farms. Some items are not taxable, such as feed, seed,	
and fertilizer used for agricultural production. Additional items are exempt if	
the farm obtains farm sales and use tax exemption certificate with the	
Massachusetts Department of Revenue (items including tools, fuel, farm	
machinery, etc.) Data is not available on how much sales tax is paid by the	
equine industry but has been estimated as follows:	
 Commercial farms likely holding a sales and use tax exemption are 	
estimated to pay sales tax on 10% of total expenditures:	
\$77,204160 X 10% taxable X 6.25% tax = \$482,526	
Personal horse owners typically would not hold an exemption and are	
estimated to pay sales tax on 50% of expenditures:	
\$76,247,594 X 50% taxable X 6.25% tax = \$2,382,737	
<u>Fuel and other taxes unable to estimate.</u>	
<u>Total Fiscal Impact</u>	\$17,852,389

Based on this analysis, the fiscal impact of the equine industry in Massachusetts is based on taxes paid to state and local municipalities totals at least \$17,852,389 per year.

8. Massachusetts Equine Industries Impact on Land Use

The equine survey gathered information on land used by the survey participants. This represented 9.6 percent of the horses in the commonwealth so those results were used to project the overall impact of equine industries land use in the Massachusetts. These results are summarized in the following table:

Land Use	Survey	Percent	Acres Per	Acres Per	MA Total Acres
	<u>Acres</u>		<u>Farm</u>	<u>Horse</u>	
Farmstead	1,102	28%	3.7	0.44	11,499
Tillable	463	12%	1.6	0.19	4,836
(farmed)					
Pasture	828	21%	2.8	0.33	8,638
Woodland	1,515	39%	5.2	0.61	15,813
TOTAL OWNED	3,908	100%	13.3	1.57	40,786
Rented Land	890	21%	3.0	0.36	9,291

The Massachusetts equine industry utilizes an estimated 40,786 acres of owned land plus an additional 9,291 acres of rented land. This provides benefits to Massachusetts residents:

- Contributes to maintaining open space and scenic areas in the region that contributes to a higher quality of life and enhanced opportunity for tourism.
- Several studies have been done that support that residential homes generate an excess in service costs to the community compared to what they generate in tax revenues whereas agricultural and open space land costs local towns significantly less in services that they generate in property tax revenue. Therefore, this acreage being dedicated to the equine industry rather than being developed into residential home sites provides a fiscal benefit to towns in Massachusetts.

9. Economic Impact of the Mass Horse Racing Industry

Massachusetts currently has two horse race tracks operating: The Suffolk Downs Race course in East Boston is for thoroughbred racing and the Plainridge Park in Plainville is for harness (Standardbred) racing. Note: The Brockton Fairground has also applied to hold up to 30 days of live racing but as of this writing their application has not been approved.

Suffolk Downs Racecourse

The Suffolk Downs racecourse was built in 1935 for \$2 million. It has operated for 81 years since then and has seen its fortunes rise and then fall, especially in the last few years.

An October 22, 2013 report prepared by Christiansen Capital Advisors LLC to Sterling Suffolk Racecourse LLC detailed "*The Economic Impact of the Massachusetts Thoroughbred Equine Industry*". This report was prepared to highlight the importance of Thoroughbred racing at Suffolk Downs to Massachusetts and included projections through 2019 if the downward trend could be reversed.

This comprehensive 93 page report provided the following information as of 2013:

- There are 62 thoroughbred breeding farms and 71 additional farms affiliated with thoroughbreds in Massachusetts.
- These farms operate on 6,650 acres in Massachusetts.
- Direct, indirect and induced employment generated is 1,486 people with annual labor income of \$61.6 million.
- The net positive impact of the Massachusetts Thoroughbred equine industry is \$116.25 million.

In 2003 there were 148 days of live racings. That year the "live handle" (live handle is wagering on live races by patrons at Suffolk Downs) was \$21.7 million and the simulcast handle (simulcast wagering is wagering on races at other facilities by patrons at Suffolk Downs) was \$131.5 million for a total onsite handle of \$153.2 million. Purses paid to horse owners that year were \$16 million.

Unfortunately, in the next ten years those totals went in a nearly straight line downward to \$6.5 million live handle, \$59.6 million simulcast handle and \$9.4 million purses paid in 2012 for 80 live race days.

While the report projected (based on proposed legislation) a rebound to 125 live days racing by 2018 the reality was the opposite. There were 65 racing days in 2014, which then declined to only 3 racing dates in 2015 and 6 live racing dates scheduled in 2016. Note: The purse for 2016 is slated at \$2.4 million

Note: The anticipation for the rebound was that Mohegan Sun Casino, based in CT, would be successful in its bid to develop a casino at Suffolk Downs, which would have made this location more attractive for live horse racing. This did not happen as Wynn Resorts was selected as the casino operator in eastern Massachusetts with a new casino in Everett

scheduled to open in late 2017. This will likely limit live racing at Suffolk Downs to special events, as in 2015 and 2016.

Plainridge Park

Plainridge Park was opened in 1999 in Plainville. While it is generating more than \$200 million annually at its Casino the horse racing side has been more modest.

Live racing days has grown to 114 in 2016. However, live handle declined from \$2.4 million in 2007 to \$1.5 million in 2011. Purses also declined from \$3.1 million to \$2.5 million. No more recent information is available.

Net Result

Horse racing, while still important to Massachusetts is much more of a niche market compared to the information provided above. The net positive impact to Massachusetts in 2015 is well below the \$116.25 million reported in 2012, though the exact amount can't be calculated without significant additional information.

10. Issues in the Mass Equine Industry

Survey Question #15

As part of the survey we asked survey participants in question #15 (see Appendix #1) to "Please rank the following, in order of priority, in which they pose a problem or concern to you relative to the operation of your farm from the #1 most concern through #10 least concern.

Here are the rankings from the 294 survey participants:

Category	Ranking
• Liability	3.07
 Availability of feed 	3.57
 Neighbor complaints re farm operation 	4.21
Hiring help	5.11
 Regulations affecting farm operation 	5.12
 Trespassing/vandalism 	5.22
 Availability of machinery/parts 	5.31
 Availability of vet and farrier services 	5.37
 Marketing your farm operation 	6.07
 Availability of technical assistance 	6.50

Survey Question #16

The final question (#16) asked for your comments and thoughts. We stated "Please provide your thoughts about what's important to the equine industry in Massachusetts. If we receive a significant number of similar answers in a particular category they may be included in the study"

There were two items that stood out.

- Need more trail riding options available, especially on state land this was by far the most common comment.
- Land is too expensive and not easy to find due to residential pressure.

11. Survey Results

A summary of the results of the equine survey are attached in the following table. Several areas of the survey have been discussed in other sections of this report. The following topics addressed in the survey provide additional insights and understanding into the present and future impact of the equine industry in Massachusetts:

Size of Enterprise:

Average enterprise size is very small. The following table summarizes the enterprises by size:

<u>Size</u>	Percent of Enterprises
Under 25 horses	89.46%
25 to 49 horses	9.86%
50 to 99 horses	0.34%
Over 100 horses	0.34%

<u>Description of Massachusetts Equine Enterprises:</u>

Massachusetts equine enterprises are diverse in their offerings. 36 percent offer boarding, 29 percent offer recreational riding, 24 percent offer training, 23 percent offer lessons, and 18 percent offer horse show activities. Less than 10% of the enterprises offer racing, therapeutic riding, breeding and/or other services.

It is recognized that some double counting of horses may exist in the equine survey, as a personal horse owner may have reported on their horse that may also be counted by the boarding enterprise. However, it could be likely as well that some horses were missed in the survey. This is not considered to have a significant statistical impact on the survey.

While the primary type of enterprise was described as personal, the most common commercial activity on the equine enterprises in Massachusetts is boarding horses for horse owners that do not have the capacity or interest to house their animals. Recreational riding and lesson facilities are the 2nd and 3rd most common type of enterprise in Massachusetts.

The average age of owners of equine enterprises is 54 years with 22 percent reporting they have a next generation in place to carry on with the business. 22 percent of the industry reported planning to be in business for more than 20 more years and only 3 percent indicated they would likely be in business for less than 5 more years. 20 percent indicated that they have plans to expand or diversify.

The top 5 challenges or concerns of the equine owners were ranked as follows:

- 1. Liability
- 2. Availability of feed (primarily hay)
- 3. Neighbor complaints
- 4. Hiring help
- 5. Regulations affecting the business

2015 Massachusetts Equine Study Summary of Survey Results

<u>Lan</u>	d Use:	<u>Acres</u>	<u>Percent</u>	<u>Per Farm</u>	Per Horse	MA Total
	Farmstead	1102	28%	3.7	0.44	11499
	Tillable	463	12%	1.6	0.19	4836
	Pasture	828	21%	2.8	0.33	8638
	Wooded	1515	39%	5.2	0.61	15813
	TOTAL OWNED	3908	100%	13.3	1.57	40786
	RENTED ACRES	890	21%	3.0	0.36	9291
	TOTAL FARMED	4177		14.2	1.68	43589
Hor	se Ownership:	<u>Horses</u>	<u>Percent</u>	Per Farm		
	Personal	873	35%	3.0		
	Business	483	19%	1.6		
	Owned by Others	1131	45%	3.8	_	
	TOTAL	2487	100%	8.5		
	Total Horses in MA	25950	9.6%			
	Farms with:	<u>Number</u>	<u>Percent</u>			
	Under 25 horses	263	89.46%			
	25 to 49 horses	29	9.86%			
	50 to 99 horses	1	0.34%			
	100 or more horses	1	0.34%			
	Total	294	100.00%			

Services offered on Farm:

Personal	135	46%
Boarding	106	36%
Training	71	24%
Shows	52	18%
Lessons	69	23%
Recreation	85	29%
Racing	9	3%
Breeding	25	9%
Therapeutic Riding	11	4%
Other	25	9%
TOTAL	294	100%

Primary Type of Farm:

Personal	64	22%
Boarding	29	10%
Lessons	14	5%
Recreation	26	9%
Breeding	3	1%
Riding	9	3%
Other	12	4%
Not Stated	137	47%
TOTAL	294	100%

	Survey			F	Per Farm		Pe	r Horse
<u>2015 Revenue:</u>	<u>Total</u>	Ī	Per Farm	w	/revenue	MA Total	w/F	Revenue
Boarding	\$ 4,260,236	\$	14,491	\$	56,803	\$ 44,461,344	\$	3,405
Training	\$ 1,365,174	\$	4,643	\$	18,202	\$ 14,247,437	\$	1,091
Shows	\$ 961,359	\$	3,270	\$	12,818	\$ 10,033,088	\$	768
Lessons	\$ 2,050,477	\$	6,974	\$	27,340	\$ 21,399,509	\$	1,639
Recreation	\$ 175,600	\$	597	\$	2,341	\$ 1,832,624	\$	140
Breeding	\$ 30,150	\$	103	\$	402	\$ 314,656	\$	24
Riding	\$ 456,100	\$	1,551	\$	6,081	\$ 4,760,022	\$	365
Other	\$ 1,321,113	\$	4,494	\$	17,615	\$ 13,787,609	\$	1,056
TOTAL	\$ 10,620,209	\$	36,123	\$	141,603	\$ 110,836,288	\$	8,489

	<u>Number</u>	<u>Percent</u>
Farms with Revenue	75	25.51%
Horses w/Revenue	1,251	50.31%

	Survey			F	Per Farm		Pei	r Horse
<u>2015 Expenses:</u>	<u>Total</u>	<u>P</u>	er Farm	w	/Revenue	MA Total	w/E	xpenses
Within 25 miles	\$ 6,570,507	\$	22,349	\$	87,607	\$ 97,347,798	\$	3,751
Within Massachusetts	\$ 8,719,824	\$	29,659	\$	116,264	\$ 129,191,800	\$	4,978
Payroll	\$ 3,041,923	\$	10,347	\$	40,559	\$ 24,890,829	\$	1,737
Real Estate Taxes	\$ 1,011,559	\$	3,441	\$	13,487	\$ 14,987,126	\$	578
TOTAL EXPENSES	\$ 12,773,306	\$	43,447	\$	170,311	\$ 169,069,756	\$	7,293
Capital Purchases	\$ 1,637,430	\$	5,569	\$	21,832	\$ 24,259,953	\$	935
TOTAL OUTLAY	\$ 14,410,736	\$	49,016	\$	192,143	\$ 193,329,709	\$	8,228

Horses w/ No Expenses	735	30%
Horses w/ Expenses	1,752	70%
Total Horses in Survey	2,487	100.0%

2015 Expense Breakdown

	Commercial	Personal	Total
	<u>Farms</u>	<u>Farms</u>	MA Total
Percent of Total Horses	50.31%	49.69%	100%
Expenses Within MA	\$ 64,998,569	\$ 64,193,231	\$ 129,191,800
Payroll	\$ 22,674,843	\$ 2,215,987	\$ 24,890,829
Real Estate Taxes	\$ 7,540,276	\$ 7,446,851	\$ 14,987,126
TOTAL EXPENSES	\$ 95,213,687	\$ 73,856,068	\$ 169,069,756
Capital Purchases	\$ 12,205,591	\$ 12,054,363	\$ 24,259,953
TOTAL OUTLAY	\$ 107.419.278	\$ 85.910.431	\$ 193,329,709

Personal Horse Payroll Analysis:

Personal Horses Reporting Expenses	501
Payroll for personal horses	\$ 86,102
Payroll per Personal Horse	\$ 172

	Survey		
Workforce:	<u>Total</u>	<u>Per Farm</u>	MA Total
Owners	229	0.78	2390
Unpaid Family	147	0.50	1534
Full Time Employees	94	0.32	981
Part Time Employees	143	0.49	1492
Seasonal Employees	72	0.24	751
TOTAL	685	2.33	7149

	<u>Average</u>
Age of Primary Owner	54
Next Generation?	22%
How Long to Stay Farming?	
Don't Know	41%
Less than 5 years	3%
5 to 10 years	14%
10 to 20 years	20%
More than 20 years	22%
Plans to Diversify/Expand?	20%

Ranking of Concerns/Challenges:

1	Liability	3.07
2	Availability of Feed	3.57
3	Neighbor Complaints	4.21
4	Hiring Help	5.11
5	Regulations	5.12
6	Trespassing/Vandalism	5.22
7	Availability of Parts	5.31
8	Availability of Vet	5.37
9	Marketing	6.07
	Availability of Tech	
10	Assistance	6.50

Appendix #1 - Copy of Cover Letter and Equine Survey

Win a \$500 SmartPak gift certificate!



Simply participate in the MFBF's Survey and you'll be entered to win!

EQUINE

One grand prize \$500 SmartPak gift certificate! Five \$100 SmartPak gift certificates!

To enter, complete the survey on the next page or visit www.farmcrediteast.com/equinestudy to complete the online survey.

Surveys are due March 1, 2016. Prize drawing will be held April 1, 2016

Dear Horse Owner/Equestrian Facility Operator,

The Equine Committee of the Massachusetts Farm Bureau Federation is undertaking a study to assess the impact of the equine industry in the state of Massachusetts, to be conducted by Farm Credit East. Funding has been raised by the Massachusetts Farm Bureau, and comes from the generous support of such organizations as the Bay State Trail Riders Association, the Hanover Hunt and Riding Club, *Massachusetts Horse* magazine, the Massachusetts Horsemen's Council, the Massachusetts Morgan Horse Association, the Western New England Professional Horseman's Association, and UPHA Chapter 14, along with a variety of private donors. No public funds are being used to pay for the study.

A questionnaire that requests some financial information is part of the study. It's important for everyone to complete the questionnaire as accurately as possible. Farm

Credit East will summarize the data obtained from it for the Equine Committee so that its members can produce informational brochures for the Massachusetts equestrian community that will help in lobbying state government on behalf of horse owners and stable operators. We would like to emphasize that the financial information will be kept confidential and will be retained by Farm Credit East. It will not be available to anyone else, including state or local officials, the Farm Bureau, Farm Credit East, or the Equine Committee.

The purpose of this study is to help the equestrian community understand the value of the Massachusetts equine industry, and gather important data to help in lobbying on your behalf. We need your help and participation!

If you have any questions, please call me at (508) 481-4766 or email doug@mfbf.net.

Sincerely,

Douglas B. Cillagou

Douglas P. Gillespie Executive Director

249 Lakeside Ave., Marlborough, MA 01752 • (508) 481-4766 • mfbf.net

Massachusetts

Massachusetts Equestrian Economic Impact and Land-Use Study

Name:		Farm Name:			
Street:		Town:		Zip Code:	
County:	Phone:		_ Email:		
	ational Horse Owner O Commorm Landlord (*Name of tenant: _ rm Tenant/Operator (*Name of la	ndlord:)	
	you own? Tillable Acres Pastu _ (should equal combined acreage above)	ire Acres Woode	ed Acres	counting both landlord and tenant	
Personal use only	(Please check all that apply and put #1 ne Boarding Training ing) Racing Breedin	Shows Lessons (
4. Number of horses:	Personally Owned Business	Owned Owned	by Others		
Boarding \$ Train	equine operation in 2015: ning \$ Shows \$ rapeutic Riding \$ Other_	Lessons \$ Recr	reation \$ _ Total Revenu	Training \$ ue \$	
6. How much of your Within 25 miles of your	total expenditures in 2015 wer operation \$ Within the	e spent: ne state of Massachuset	tts \$	_	
Owners Unpaid f Part-time employees (yea	number of workers on your fai amily help Full-time emplo ar round) Seasonal employ spayroll expense in 2015? \$	yees (including paid family rees (e.g., summertime only)	Total N		
	in real-estate taxes on your fa				
11. What is the age of	the primary operator of your	farm?			
12. Do you have a "ne	xt generation" interested in o	perating the farm?	Yes O No	0	
	and/or your family plan to con 5 to 10 years O 10 to 20 year				
14. Do you have plans	to expand or diversify your fa	arm? O Yes O No			
to the operation of youHiring helpTresAvailability of machin	concerning farming operations operationAvailability of te	tern through #11 leas Availability of quali erinary and Farrier Servi Regulations affect	it concern: ity feed (circle dices ting farm opera		
	d thoughts: Please provide your thou ber similar answers in a particular categor		s study.	ustry in Massachusetts.	

Thank you for your assistance! Please mail to: Farm Credit East, P.O. Box 720, Middleboro, MA 02346-0720

Appendix #2 - List of Massachusetts Equine Organizations

Barre Riding and Driving Club. www.barreridinganddrivingclub.com

Bay State Trail Riders Association. www.bstra.org

Charles River Dressage Association. www.crdressage.org

Belchertown Equine Organization. www.belchertownequineorg.com

Colonial Carriage and Driving Society. www.colonialcarriage.org

Cape Cod Dressage Association. www.capecoddressage.org

Connecticut River Valley Arabian

Association. www.orgsites.com/ct/connecticutriverarabian

Granby Regional Horse Council. www.granbyregionalhorse.org

Hampshire County Riding Club. www.hampshirecountyridingclub.org

Hanover Hunt and Riding Club. www.briggsstable.com

Hanson Riding Club . www.hansonridingclub.org

Massachusetts Horse Council. www.mahorsecouncil.com

Massachusetts Morgan Horse Association. www.massmorgan.com

Massachusetts Quarter Horse Association. www.massqha.com

Myopia Hunt. www.myopiahunt.org

Nashoba Valley Hunt. www.nashobavalleyhunt.org

Myopia Driving Club. www.themyopiadrivingclub.com

New England Equestrian Center of Athol. www.neeca.org

North Atlantic Buckskin Association

North Shore Horsemen's Association. www.northshorehorsemens.org

Old North Bridge Hounds. www.oldnorthbridgehounds.org

 $Pepperell\ Horse\ Owners\ Association\ \ .\ \ \underline{www.phoa.info}$

South County Riders

Southeast Hunter Association, www.southeasthunter.com

South Shore Horsemen's Council. www.sshconline.com

Western Massachusetts Appaloosa Association. www.westernmaaap.homestead.com

Western New England Professional Horsemen's Association. www.wnepha.com

Westfield Riding Club. www.westfieldridingclub.org

West Newbury Riding and Driving Club. www.wnrdc.com

Appendix #3 - List of 2016 Massachusetts State Agricultural Fairs

2016 Massachusetts Agricultural Fairs

5:10		NOT TOWNS OF	W.L. #-
Fair Name Williamsburg Grange Fair	Dates September 10	Location 10 Main St., Williamsburg	Website
Northeastern Poultry Congress	january 16-17	Big E Fairgrounds	www.nepoultrycongresshomestead.com
Massachusetts Sheep & Woolcraft Fair		97 Fairgrounds Rd., Cummington	www.masheepwool.org
Franklin County 4-H	June 25	Heath Fairgrounds	www.heathfair.org
Brockton Fair	june 30 - july 10	433 Forest Ave., Brockton.	www.Brocktonfair.com
Middleborough Fair	TBD	433 Forest Avenue, Brockton	
Westport Fair, Inc.	July 13-17	200 Pine Hill Rd., Westport.	www.Westportfair.com
Barnstable Co. Fair	July 18-24	1220 Nathan S. Ellis Highway, East Falmouth.	www.Barnstablecountyfair.org
Oakham Youth Fair	TBD	Ball Park, Ware Corner Rd., Oakham Center.	
Hampden Co. 4-H Fair	July 23	Mallary Complex & Outdoor Horse Ring, Eastern States Exposition, West Springfield	
Massachusetts 4-H Dairy Show	August 5-7	Franklin Co.Fairgrounds, Greenfield.	
Adams Fair	August 5-7	Bowe Field, off Rte. 8, Old Columbia St., Adams.	www.adamsagriculturalfair.com
Littleville Fair	August 5-7	15 Kinnebrook Rd., Chester	www.littlevillefair.com
Hampshire Co. 4-H Fair	August 8.	Cummington Fairgrounds, 97 Fairgrounds Rd.	
Middlefield Fair	August 12-14	7 Bell Rd., Middlefield	www.middlefieldfair.com
Bolton Fair	August 11-14	The Fairgrounds at Lancaster. Rte. 117, Lancaster	www.boltonfair.org
Rochester Grange Fair	August 20	205 Hartley Rd. Rochester.	www.rochesterma.com/
Dunstable Grange Fair	August 20	511 Main St., Dunstable.	
Berkshire Co. 4-H Fair	August 13.	Berkshire Co. 4-H Fairgrounds, Utility Dr. (off of Holmes Rd.), Pittsfield.	
Martha's Vineyard Fair	August 18-21	35 Panhandle Rd. , West Tisbury.	
Westfield Fair	August 19-21	Russellville Rd., Westfield	www.westfieldfair.com
Ware Grange Fair	August 26-27	Ware Grange Hall, 297 Belchertown Rd. Rt. 9, Ware,	
Marshfield Fair	August 19-28	Rte. 3A. 140 Main St., Marshfield.	www.Marshfieldfair.org
Heath Fair	August 19-21	Heath	www.heathfair.org
Hardwick Community Fair	August 19-20	Rte. 32A, On the Common, Hardwick.	www.hardwickfair.com
Western Mass. Gladiolus Society	TBD	Southwick Congregational Church, Southwick	
South Middleboro Grange Fair	August 27	570 Wareham St., Middleboro.	
Cummington Fair	August 25-28	97 Fairgrounds Rd., Cummington.	www.cummingtonfair.com

Fair Name	Dates	Location	Website
Middlesex Co. 4-H Fair, Inc.	August 26-28	So. Chelmsford Rd., Westford.	www.4-hmiddlesexfair.org
Worcester Co. 4-H Fair	August 27-28	92 McCormick Rd., Spencer.	www.worcestercounty4h.org
Shelburne Grange Fair	August 27	Little Mohawk Rd. Shelburne.	
East Middleboro 4-H Fair	September 3 - 4	185 Thompson St., Middleboro	www.eastmiddleboro4h.org
Three County Fair	September 2-5	54 Fair St., Northampton	www.3CountyFair.com
Spencer Fair	September 2-5	48 Smithville Rd., Spencer.	www.SpencerFair.org
Blandford Fair	September 2-5	North St., Blandford.	www.TheBlandfordFair.com
Truro Agricultural Fair	September 4	Rt. 6A & South Pamet Road, Truro	www.TruroAgFair.com
Franklin County Fair	September 8-11	Wisdom Way, Greenfield.	www.fcas.com
Sterling Fair	September 9-11	Sterling Airport, 121 Greenland Rd., Sterling.	www.sterlingfair.com
Dartmouth Grange Fair	September 9-10	Grange Hall, Dartmouth.	
Sheffield Fair	September 10	Sheffield Town Park, Miller Avenue, Sheffield	
Eastern States Exposition	September 16- Oct. 2.	1305 Memorial Ave., West Springfield.	www.thebige.com
Belchertown Fair	September 23 - 25.	Town Common, Main St., Belchertown.	www.belchertownfair.com
Topsfield Fair	September 30- October 10.	Rte. 1., Topsfield.	www.topsfieldfair.org
Bristol Co. Agricultural School Fall Show	TBD.	135 Center St., Dighton	www.bcahs.com
Boston Poultry Expo	November 5-6	31 Ennis Rd., North Oxford.	www.bostonpoultryexpo.com/

Appendix #4 - List of Key References Used

- The Economic Impact of the Equine Industry in Maine, September 20, 2007, prepared by Planning Decisions Inc. for The Maine Harness Racing Promotion Board and the Maine Farm Bureau Horse Council.
- Tennessee's Equine Industry: Overview and Estimated Economic Impacts dated April, 2010, prepared by the Institute of Agriculture, Department of Agricultural Economics.
- The Economic Impact of the Massachusetts Thoroughbred Equine Industry, dated October 22, 2013, prepared by Christiansen Capital Advisors, LLC for the Sterling Suffolk Racecourse, LLC.
- Most Comprehensive Horse Study Ever Reveals a Nearly \$40 Billion Impact on the US Economy, dated June 28, 2015 by the American Horse Council.
- 2016 Massachusetts Agricultural Fairs directory
- 2012 NASS Equine Statistics taken from the NASS website.
- MA Horse Magazine, its editor, Stephanie Sanders, plus its website and Facebook site.
- Country Folks "Mane Stream" publication.
- The Equestrian Channel Website US Horse Industry Statistics
- Suffolk Downs Website
- PlainRidge Park Website
- Michael Gold, Equine Program Coordinator in the Massachusetts Energy and Environmental Affairs.
- Doug Gillespie, Executive Director, Massachusetts Farm Bureau Federation, Inc.
- Multiple other website sources for specific equine industry specific information.
- Interviews with numerous horse farm owners, tax shop owners, vets and others involved in the equine industry.

Prepared by: Jon Jaffe and Richard Hermonot, Farm Credit East. June 2016