

3-2017

The Economic Contribution of the Maine Harness Racing Industry

Maine Center for Business and Economic Research

Follow this and additional works at: http://digitalmaine.com/hrc_docs

Recommended Citation

Maine Center for Business and Economic Research, "The Economic Contribution of the Maine Harness Racing Industry" (2017).
Harness Racing Commission Documents. 12.
http://digitalmaine.com/hrc_docs/12

This Text is brought to you for free and open access by the Agriculture, Conservation and Forestry at Maine State Documents. It has been accepted for inclusion in Harness Racing Commission Documents by an authorized administrator of Maine State Documents. For more information, please contact statedocs@maine.gov.

The Economic Contribution of the Maine Harness Racing Industry



**A report presented to:
The Maine State Harness Racing Commission**

**Prepared by:
The Maine Center for Business and Economic Research
University of Southern Maine
34 Bedford Street
Portland, ME 04101**



**MAINE CENTER FOR BUSINESS
AND ECONOMIC RESEARCH**

University of Southern Maine

EXECUTIVE SUMMARY

The purpose of this study is to estimate the annual economic contribution of the harness racing industry to the Maine economy. The economic contribution can be considered the footprint of the industry on the state's economy and does not necessarily refer to the amount of economic activity that would be lost if the harness racing industry were to not exist (the economic impact). The analysis uses data collected from the Maine State Harness Racing Commission (MSHRC), surveys of industry participants and racing facilities, and other sources to estimate total revenues to the industry during the 2016 racing season. Revenue estimates are used to model the total direct, indirect, and induced economic contributions using an economic model of the Maine economy developed by Regional Economic Models Inc. (REMI).

Direct spending associated with the harness racing industry in Maine stems from revenues generated by live racing, simulcast, and off-track-betting racing facilities, spending on the maintenance of race horses, and tourism related spending by spectators of harness racing. Direct revenues (sales) are estimated to have totaled \$29.6 million in 2016. In turn, direct spending cycles through the economy in recurrent rounds of spending by businesses and employees resulting in additional economic activity referred to as indirect and induced spending. In sum, direct revenue (sales) associated with the harness racing industry is estimated to have supported a total of \$57.5 million in economic output, defined as the total value of goods and services produced in the Maine economy, in 2016. In addition, the industry is estimated to have supported a total of 1,026 full-time, part-time, and temporary jobs and \$27.046 million in personal income in the Maine economy in 2016.

In addition to the economic contributions, maintaining race horses associated with harness racing actively helps preserve open space in the form of land used for stabling, training, and pasturing, as well as indirectly through the consumption of hay grown on Maine fields. Horses associated with harness racing in Maine actively preserve approximately 4.22 acres of land per horse. This equates to approximately 7,174 acres (11.2 square miles) of preserved open space that might otherwise be used for development or alternative land use purpose.

1. Introduction and scope of study

The purpose of this analysis is to estimate the annual economic contribution of the Harness Racing industry to the Maine economy. This study uses data collected from the Maine State Harness Racing Commission (MSHRC), surveys of industry participants and racing facilities, and other relevant sources to estimate total revenues related to the industry during the 2016 racing season. These estimates are then used to model the total direct, indirect, and induced economic contributions using an economic model of the Maine economy developed by Regional Economic Models Inc. (REMI). In addition, this study also estimates the amount of open space preserved that supports the pasturing and hay production for Maine race horses.

The goal of this study is not to present an *assessment* of the industry, nor does it necessarily present the amount of economic activity that would be lost if the harness racing industry no longer existed. Rather, the study provides an estimate of the total economic contribution to the Maine economy associated with the harness racing industry. The economic impacts, or the net economic activity that would be completely lost if the harness racing industry were to no longer exist, is beyond the scope of this study and would require several additional assumptions regarding the substitutability of economic spending on harness racing with other activities and the extent to which harness racing revenues and expenditures represent “new” economic activity in the state, among others. The economic contribution can, however, be considered the footprint of the industry on the state’s economy.

A number of other US states have completed similar economic studies, both on the broader equine industry and specifically the horse racing industry. There have been two relevant studies of the harness racing industry’s role in Maine’s economy over the last 20 years. The first was conducted in 2000 by the University of Maine’s Department of Economics¹ and the second was a study of the broader equine industry in Maine conducted in 2007 by Planning Decisions, Inc.,² which included harness racing as part of the study. The latter study also produced estimates of open space preservation resulting from the equine industry in Maine. The analysis in this report can be viewed as comparable to the 2000 UMaine study in that its focus is limited to the economic contribution of the harness racing industry and does not focus on the more specific economic impacts

¹ Gabe, Todd. (2000). “The Contribution of the Harness Racing Industry to the Maine Economy.” Department of Resource Economics and Policy Staff Paper, REP 491, University of Maine.

² Planning Decisions, Inc. 2007. “The Economic Impact of the Equine Industry in Maine.” Technical report.

of the industry, nor does it address the contribution of the broader equine industry as is addressed in the 2007 Planning Decisions study.

The organization of this report is as follows. The next section discusses the role and integration of harness racing in the economy. Section 3 presents the total economic contribution of the Maine harness racing industry and the components that comprise industry related spending, as well as an estimate of the total number of horses affiliated with the industry. Section 4 presents the estimates of open space preservation and Section 5 discusses the methodology, including survey protocol and estimation procedure, used in this analysis. Survey instruments used for this study are contained in the Appendices.

2. Horse racing and the economy

The horse industry is a significant contributor to the national economy and serves as an important economic component of many rural regions and states. A 2006 study by the American Horse Council estimated the direct economic contribution of the horse industry to the United States' economy to be \$39 billion, providing an additional \$63 billion in indirect and induced economic activity. The study estimated there were approximately 9.2 million horses stabled in the US of which about 11% participated in racing activities.³ The popularity of harness racing and horse racing more generally, has been challenged by a slow but steady decline over the last several decades, and the experience in Maine has been no exception. However, the harness racing industry continues to make a significant overall contribution to state's economy.

Economic contribution refers to the gross changes in the state economy that can be attributed to the harness racing industry. Economic contributions are reported in this study as **total output**,⁴ **employment**, and **personal income** which are comprised of the direct, indirect, and induced economic activity that result from initial and recurrent rounds of spending. *Direct contributions* refer to the initial revenue (or expenditures) earned by the harness racing industry from sources outside of the industry, most notably from spectators and tourists. Direct contributions are used by businesses to make purchases of goods and services from other supplier businesses, which are referred to as *indirect contributions*. Direct contributions as well as indirect contributions are used to pay employee wages. In turn, employees spend their wages elsewhere in the economy

³ The American Horse Council study is scheduled to be updated and released in 2017.

⁴ Total output is defined as the value of total goods and services produced in Maine.

generating revenue for other non-racing related businesses. This is referred to as the *induced contribution*. In total, the direct, indirect, and induced contribution provide an overall footprint of the industry as a component of the broader Maine economy.

In order to estimate the indirect and induced contributions, we first derive an estimate of the total direct contribution. The harness racing industry is comprised of a number of different components, including:

- Two commercial live racing facilities with simulcast operations (Scarborough Downs and Bangor Raceway),
- Nine agricultural fairs that host harness racing as part of their annual exhibition,
- Four off-track betting (OTB) facilities,
- Industry participants, such as horse owners, trainers, drivers, and breeders, among others,
- Suppliers and service providers that support industry activities and the maintenance of horses, and
- Spectators that attend and wager on racing events.

For the purposes of this study, we define three primary ways in which these components make direct contributions to the economy and form the framework for the analysis that follows.

Revenues from live racing, simulcast, and OTB facilities

Live racing, including the two commercial tracks and 9 agricultural fairs, and off-track-betting (OTB) facilities earn revenues through a take of the total wager (racing handle) and from commissions from wagering that runs through an OTB or Simulcast facility. All facilities also earn revenue from concessions, entrance and admissions fees, and other sources of non-racing or wagering related revenue. Facilities employ workers and make expenditures elsewhere in the economy to support business operations. Commercial tracks, fairs, and OTB facilities are also supported through revenue sharing mechanisms that include a share of the state's casino gambling revenues. These funds are allocated according to a formula defined by legislative statute and are intended to help support the industry.

Industry participant expenditures

Race horse owners earn revenue from purse winnings and other racing sources. However, racing horses is hardly a profit driven business for most horse owners. Winnings do not cover the full expense of maintaining and racing a horse. Therefore, on average race horse owners make expenditures above any winnings they may receive to maintain race horses. Total expenditures minus any winnings are considered another significant source of economic contribution from the industry.

Tourism dollars associated with harness racing

A share of harness racing spectators that attend harness racing events are from outside of Maine. They spend dollars both at facilities and outside of the race track at tourism related businesses on purchases such as accommodations, food, retail shopping, transportation, and other businesses. These expenditures support jobs at tourism related businesses and as well as purchases of supplies and services from other businesses.

Estimates of direct contributions discussed above are used to simulate spending patterns in the economy by using an economic model of the state's economy. The resulting simulations provide an estimate of total economic output, jobs, and personal income that results from the direct spending, as well as the indirect and induced contributions that result from recurrent rounds of spending in the economy. These are reported in the next section, while the estimation procedure is discussed in Section 5.

3. The economic contribution of the harness racing industry

3.1. Total economic contribution

In total, activity associated with the harness racing industry is estimated to have directly contributed \$29,605,247 in revenues and sales to the Maine economy in 2016. This spending is estimated to have supported \$57.5 million in total economic output and \$27 million in personal income in the Maine economy in 2016 (Table 1). An estimated 1,026 full-time, part-time, and temporary jobs were supported by this spending, of which about 780 were supported by direct spending and additional 240 jobs were supported from indirect and induced rounds of spending. Approximately, 35 percent of total output was supported by racing related activity at commercial, OTB, and fair racing facilities. Likewise, expenditures from horse owners above and beyond

purse winnings supported approximately 35% of total output. Tourism spending affiliated with harness racing is estimated to have supported about 30% of total output.

Table 1: The economic contributions of the harness racing industry to the Maine economy, 2016

	<u>Output</u>	<u>Personal Income</u>	<u>Total Jobs</u>	<u>Direct</u>	<u>Indirect & Induced</u>
Live and OTB facilities	\$20.849	\$9.941	537	445	93
Owner expenditures	\$20.163	\$11.392	314	226	88
Tourism spending	\$16.529	\$5.714	175	114	61
Total	\$57.541	\$27.046	1,026	784	242

Source: Maine Center for Business and Economic Research estimates from various sources discussed in this report; Regional Economic Modeling Inc. Output and personal income reported in 2016 dollars.

Differences in the share of jobs and personal income distribution relative to total output are a result of the differences in temporary and part-time employment associated with each component. In general, live racing and tourism related spending tends to be comprised of part-time and temporary workers at lower pay, while employment associated with horse maintenance expenditures is higher paying and of a more permanent nature. Estimates of total output, personal income, and employment were derived using the REMI economic model based on revenue and sales estimates discussed in the following sections.

3.2. Revenues from live racing and off-track-betting and simulcast facilities

Live racing, simulcast, and off-track betting facilities contributed an estimated \$7,933,915 in direct revenues to the Maine economy in 2016. This revenue is calculated as the share of wagering retained by live racing, simulcast, and OTB facilities (net wagering and commissions) in the amount of \$7,401,420 and revenue derived from non-wagering related sources (e.g. concessions) that totaled \$532,495. In addition, facilities receive revenue supplements collected from Racino and casino gaming revenues and dispersed by the state across several programs designed to provide support to harness racing.

3.2.1. Live track, simulcast, and OTB wagering

Total live track wagering in 2016 was \$2,788,425, of which the net wagering share totaled \$2,136,118 (Table 2). The net wagering total includes the share of the total handle retained by the facility, the supplement that goes towards paying the horseman purses of live races, and the share that goes to the state to be allocated to various funds.

Table 2: Maine live track wagering in 2016

Live Track	Exotic	Straight	Total Wagering	Net Wagering
Scarborough Downs	\$668,518	\$330,091	\$998,609	\$765,378
Bangor Raceway	\$143,117	\$74,190	\$217,307	\$166,742
Cumberland Fair	\$90,953	\$47,076	\$138,029	\$105,908
Farmington Fair	\$79,166	\$36,295	\$115,461	\$88,345
Fryeburg Fair	\$329,386	\$168,917	\$498,303	\$382,258
Northern Maine Fair	\$40,128	\$26,035	\$66,163	\$51,043
Oxford Fair	\$38,557	\$21,746	\$60,303	\$46,364
Skowhegan Fair	\$102,625	\$39,748	\$142,373	\$108,536
Topsham Fair	\$31,972	\$15,535	\$47,507	\$36,398
Union Fair	\$41,092	\$18,574	\$59,666	\$45,639
Windsor Fair	\$314,362	\$130,342	\$444,704	\$339,508
Total	\$1,879,876	\$908,549	\$2,788,425	\$2,136,118

Source: Maine State Harness Racing Commission Annual Report 2016 and Annual Report on Use of Funds 2016

Wagering at off-track and simulcast facilities in 2016 totaled \$23,569,255 of which \$462,467 were wagered on intrastate races (Maine live racing) shown in Table 3 and the remaining \$23,106,988 was wagered on interstate races (races outside of Maine) shown in Table 4. The net wagering and commission total for all off-track and simulcast betting was \$5,265,302, which includes the share of the facilities' handle/commission and the share that goes to the state to be allocated to various funds. This number is calculated as the total net intrastate wagering (Table 3) and total commissions from collected from interstate wagering (Table 4).

Table 3: Maine off-track intrastate wagering in 2016

Live Track	Net Wagering	Total Wagering
Bangor Raceway	\$48,358	\$64,093
OTB-Facilitators-Sfrd	\$22,561	\$29,053
Pioneer Gam-Wtvll	\$93,353	\$123,552
Scarborough Downs	\$64,681	\$85,614
Winners Circle-LRI	\$91,361	\$120,514
Winners OTB	\$30,086	\$39,442
Total	\$350,400	\$462,267

Source: MSHRC Annual Report 2016 and MSHRC Annual Report on Use of Funds 2016

Table 4: Maine interstate wagering in 2016

Interstate Wagering	Exotic		Straight	
	Handle	Commission	Handle	Commission
Winners Circle-LRI	\$2,340,594	\$538,502	\$891,131	\$153,270
Pioneer Gam-Wtvll	\$2,530,754	\$578,114	\$343,347	\$59,250
Winners OTB	\$2,380,685	\$542,895	\$944,883	\$162,521
OTB-Facilitators-Sfrd	\$1,707,544	\$382,044	\$565,703	\$96,441
Total OTB	\$8,959,576	\$2,041,554	\$2,745,064	\$471,484
Scarborough Downs	\$6,645,927	\$1,499,406	\$2,488,470	\$424,205
Bangor Raceway	\$1,750,238	\$389,766	\$517,713	\$88,486
Total Commercial Track	\$8,396,165	\$1,889,172	\$3,006,183	\$512,691
Total Interstate Wagering	\$17,355,741	\$3,930,727	\$5,751,247	\$984,175

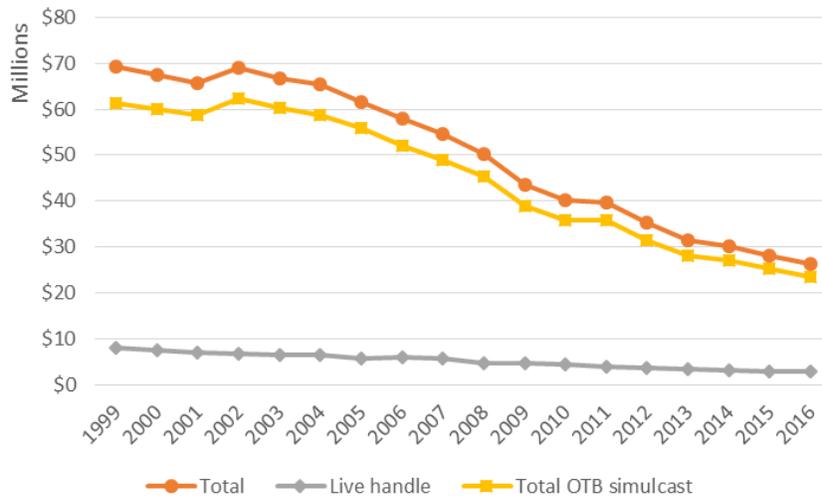
Source: MSHRC Annual Report 2016 and MSHRC Annual Report on Use of Funds 2016

Overall, wagering on harness racing has declined in recent years, while gambling at casinos and the state's Racino has risen. Figure 1 shows wagering trends in Maine since 1999. Aside from a slight uptick in 2002 and a brief leveling off in 2011, total wagering on harness racing has fallen from about \$70 million in 1999 to \$28 million in 2016 in total wagered amounts.⁵ Total wagering has declined by about 6.6% on average year over year since 2002. The vast majority of this drop stems from off-track-betting on interstate racing,

⁵ Dollars are in nominal value and are not inflation adjusted.

although live racing handles have declined over the period as well. This experience is not unique to Maine as horse race wagering has dipped nationally as the industry has faced competition from alternative forms of gambling, including casinos and on-line betting portals. While this data shows overall gambling, only the net wagering and commissions are estimated as revenues. Overall, wagering accounted for about 25% of total industry direct revenues estimated in 2016.

Figure 1: Wagering trends in Maine for live racing and off-track simulcast betting, 1999-2016



Source: MSHRC Annual Report 2016 and MSHRC Annual Report on Use of Funds 2016
Dollars are nominal and not inflation adjusted.

3.2.2. Non-wagering related revenues

Surveys were sent to each of the commercial tracks and off-track betting facilities in the state. Of the facilities responding, a total non-racing related revenue was reported in the amount of \$532,495 for 2016.⁶ These direct revenues account for any non-gambling related revenues that visitors and customers may have spent on concessions, admissions, or other items.

⁶ Non-wagering related income includes revenue reported by commercial facilities and does not include revenues reported by fair activities. Fairs did not report non-wagering revenue associated with harness racing. Given the nature of fairs, it is all but impossible to discern concession revenues collected from harness racing spectators from other fairgoers. However, we assume these revenues are included as spending by visitors and spectators reported in Sect. 3.4.

3.2.3. Racino and casino supplemental funding

Live racing facilities and OTBs also acquire operating revenue through allocations from a share of Racino and casino gaming revenues pursuant to Maine Revised Statute. Revenue distributed through these programs go towards supplementing the horseman's purse at live racing events, the sire stakes program, and funds to support the state's live racing facilities, fairs, and OTB facilities (Table 5). These funds have the effect of additional revenue to the industry and are included as direct revenues for the purposes of this study.

Table 5: Racino and Casino Supplemental Funding Revenue in 2016

Program name	Source of funds	
	Racino	Oxford Casino
Sire Stakes	\$1,086,822	\$648,565
Agricultural Stipend Purse	\$369,520	\$220,512
Purse Supplement	\$3,622,742	\$648,565
Stabilize O.T.B.	\$362,274	-
Funds to Encourage Racing	\$1,449,096	-
Total	\$6,890,454	\$1,517,642

Source: MSHRC Annual Report 2016 and MSHRC Annual Report on Use of Funds 2016

3.3. Spending by industry participants net of purse winnings

Industry participants contributed an estimated \$12,849,479 in direct net revenues to the Maine economy in 2016. This revenue is expressed as the net expenditures of horse owners calculated as gross expenditures to Maine businesses less race purse winnings to Maine horse owners. Net expenditures are weighted by the number of active race horses estimated in Maine in 2016.

3.3.1. Number of racing related horses in Maine

The number of horses associated with harness racing includes actively racing horses, as well as mares and stallions used for breeding, yearlings that will race in the future, retired race horses,⁷ and inactive horses that have raced in the past and may again in the future. A count of the total number of Maine stabled horses

⁷ Horses must retire at age 15, but can race past this age under special circumstances, per the US Trotting Association.

associated with the harness racing industry is not actively managed. The United States Trotting Association (USTA) maintains a count of all Standardbreds that are registered with the USTA, but rarely do they obtain information when a horse dies or leaves the state. Past studies involving harness racing have attempted to extrapolate the number of race horses based on the share of the total equine population nationally, or have used the only number of active race horses reported starting at least one race.⁸ The Maine State Harness Racing Commission reported the number of individual horses starting in at least one purse race in 2016 as 887, while another 37 started in at least one qualifying race in Maine for a total of 924. This represents the pool of racing horses that were active in 2016. It is possible that not all of these horses are stabled in Maine, although a vast majority likely are. In addition to actively racing horses, there were 93 yearlings nominated in the Sire Stakes Program along with 26 stallions and 127 mares.

We derive our total estimate of horses affiliated with harness racing from survey data reported by horse trainers, owners, and breeders and validated by other sources discussed above. Based on these data, we use an estimate of the total number of horses affiliated with harness racing that are stabled in Maine of 1,700 in 2016. This number includes the counted number of horses that started at least one race in 2016 and an estimate of the number of young horses that will race in future years and an estimate of retired horses that have raced in the past, but no longer do.

3.3.2. Average spending per horse

The average racing horse owner spent an estimated total of \$10,865 per horse in Maine to maintain a horse for the entire year (Table 6). Total expenditures are distributed across a variety of spending categories. Survey responses varied widely from respondent to respondent and therefore, this estimate represents the range of spending intensity that exists by horse owners in Maine. As a means of validating the total estimate, owners were separately asked to indicate the average total annual cost to maintain a race horse in Maine, of which the average response was \$12,553. We assume the small difference in average expenditures to be the share of costs

⁸ The study of the equine industry in 2006 extrapolated an estimate from a national study to estimate the number of race horses as 3,200. The UMaine study from 2000 does not directly identify an estimate of the number of race horses in Maine, but we derive from the study an estimate of approximately 1,500 race horses. Given the proportional size of the industry in 1999, this estimate is likely limited to the number of horses that actively raced in 1999 and may not include all horses affiliated with the industry, including retired, other inactive horses, or those that were bred or born in 1999.

spent outside of the Maine economy. It is clear from these differences and the nature of race horse care that maintaining a race horse is a highly localized economic activity, meaning a much higher share of spending is retained in the local and state economy relative to other industries.

It warrants acknowledging that average expenditures estimated here are higher than average equine expenditures reported in past studies. While part of the cost differential can be attributed to inflation, it is also likely that associated industry costs have risen as the industry has contracted over the past couple of decades. The average race horse estimates calculated here were verified with several outside industry experts and was found to be a solid representation across all horse owners. In addition, several of the survey respondents clearly articulated their estimate of average annual maintenance of a harness race horse in Maine outside of the survey. All of which indicated an average annual maintenance cost above the estimates reported here. Therefore, it is feasible that our average expenditures are *conservative* and may in fact be slightly below the full cost of maintaining a race horse in Maine on an annual basis.

Table 6: Average per equine and total expenditures of race horse owners in Maine, 2016

Expenditure category	Per equine	Total industry
Training	\$2,649	\$4,502,953
Employee Compensation	\$1,094	\$1,859,394
Investment in New Barns, Stables and Other Structures	\$1,003	\$1,704,400
Horse Purchases	\$976	\$1,658,854
Feed and Grain	\$668	\$1,136,132
Veterinarian Services	\$633	\$1,075,373
Hay and Bedding	\$611	\$1,038,352
Farrier Services	\$496	\$843,558
Horse Transport Using Own Trailer (including mileage)	\$305	\$518,254
Medicine and Medical Supplies	\$304	\$517,570
Travel and other expenses associated with attending and	\$280	\$475,784
Boarding at Track	\$268	\$455,467
Contracted Horse Transportation	\$211	\$357,876
Feed Supplements and Vitamins	\$184	\$313,620
Tack and Other Personal Equipment	\$157	\$266,450
Stud Fee	\$136	\$231,200
Insurance (mortality, medical, loss-use, liability)	\$132	\$224,028
Grooming and Other Horse Supplies	\$131	\$223,065
Boarding at Trainers	\$116	\$197,585
Casual Labor (not including compensation included in Employee	\$109	\$185,433
Investment in Carts and Other Racing Equipment	\$102	\$172,744
Taxes and Licenses	\$98	\$166,182
Entry Fees	\$79	\$133,666
Utilities	\$73	\$123,993
Other (Boarding at breeders)	\$26	\$44,798
Other Expense Items:	\$17	\$28,102
Other (vehicle maintenance/reg.)	\$8	\$14,274
Other (advertising)	\$1	\$1,571
Total	\$10,865	\$18,470,680

Source: Survey of licensed industry participants; Maine State Harness Racing Commission; author calculations. Per equine expenses rounded to nearest dollar.

3.3.3. Average racing revenue per horse

Total purses paid by Maine live race tracks was \$5,621,201 across 1,757 (overnight) races occurring on 207 total race days in the 2016 racing season (Table 7). Of the total purse, we estimate that \$5,125,973 were awarded to horses based in Maine. This is calculated based on the average purse winnings reported by industry participants in 2016 of \$5,779 per horse.

Table 7: Total purses paid at Maine live races in 2016

Racing Facilities	Total Days	Total Days	Dashes	Total PM	Overnight	Total Purses
	Awarded	Raced	Awarded	Raced	Races	
Scarborough	101	101	1,042	878	839	\$2,752,900
Bangor	49	49	518	432	412	\$1,263,901
Northern Maine	6	6	60	51	45	\$136,500
Topsham Fair	5	5	50	48	41	\$124,700
Skowhegan Fair	7	7	74	71	62	\$206,500
Union Fair	5	5	50	43	36	\$112,200
Windsor Fair	9	9	101	95	87	\$290,400
Oxford Fair	4	4	40	38	38	\$117,200
Farmington Fair	7	7	70	69	64	\$194,850
Cumberland Fair	8	8	80	79	75	\$232,350
Fryeburg Fair	6	6	60	60	58	\$189,700
Total	207	207	2,145	1,864	1,757	\$5,621,201

Source: MSHRC Annual Report 2016 and MSHRC Annual Report on Use of Funds 2016

It is well documented (and certainly recognized by most race horse owners) that racing a horse is not a money maker for most owners. The costs to maintain a race horse often exceeds any purse winnings accrued throughout the year. As discussed in a previous section, purse winnings are included in the direct contributions of the racing facilities, primarily through purse supplements from Racino and Casino funding. In order to avoid double counting, we calculate the net contribution of horse owners as the total of expenditures (Table 6) minus the estimated racing related winnings for Maine horses \$5,125,973. Therefore, the total net direct contribution of horse owners and participants is estimated to be \$12,849,479.

3.4. Tourism expenditures

An estimated \$8,821,853 in direct contributions are made through purchases to tourism based businesses by spectators attending harness racing events in Maine from out of state. Robust data on the number of tourists that visit Maine specifically for a harness racing event does not exist. However, we derive an estimate of the potential number of people that attended a harness racing event based off of attendance records, fair and racetrack surveys, and average tourist expenditure data from the Maine Office of Tourism’s Visitor Tracking Research 2015 Calendar Year Annual Report, the most recent data available.

Table 8 displays attendance to racetracks and fairs that offered harness racing in 2016 which total 496,978. This represents the total number of people that potentially attended a harness racing event in 2016. From this, we estimate a total of 97,600 visitors potentially attended a harness race in 2016 that were from outside of Maine. This is based on an estimate of 13% of attendees to commercial racetracks and an estimate of 20% of attendees to fairs came from outside the state.⁹ Using estimates of average visitor spending from the Maine Office of Tourism 2015 study,¹⁰ we estimate a total of \$8,821,853 in visitor spending for 2016 (Table 9).

Table 8: Total annual attendance at fairs and live race tracks

<u>Track</u>	<u>Attendance</u>	<u># race days</u>
Scarborough Downs	54,362	101
Bangor Raceway	41,383	49
Total Commercial	95,745	150
Cumberland	35,526	8
Farmington	23,512	7
Fryeburg	166,836	6
Northern Maine	17,923	6
Oxford	15,900	4
Skowhegan	50,500	7
Topsham	19,500	5
Union	23,404	5
Windsor	48,132	9
Total Fair	401,233	57
Grand Total	496,978	207

Source: Source: MSHRC Annual Report 2016 and MSHRC Annual Report on Use of Funds 2016. Commercial track attendance is estimated based on survey response data. Fair data is based on total paid attendance.

⁹ These percentages are drawn from survey data and from past study estimates, including the UMaine Harness Racing study from 2000 and a study on the economic impacts of the Fryeburg Fair completed by MCBER for the year 2015.

¹⁰ We use the most recent overnight visitor spending estimates from the Maine Office of Tourism Visitor Tracking Research 2015 Calendar Year Annual Report. We calculate the average overnight visitor spending based on the total party spending provided in the report, divided by average party size (2.9) and length of stay (3.5). The total estimate of visitor spending is calculated as \$95.17 per person per day of attendance.

Table 9: Estimated total expenditures of out of state visitors attending harness racing events

Category	Per person
Lodging	\$41.08
Food	\$21.58
Retail Goods	\$13.79
Transportation	\$12.61
Recreation	\$6.11
Total Net Spending	\$95.17

Source: Source: Maine Office of Tourism Visitor Tracking Research 2015 Calendar Year Annual Report. Maine State Harness Racing Commission Annual Report on Use of Funds 2016.

4. Open space preservation

In addition to direct economic contributions, race horses use land and open space to stable, train, feed, and pasture. This is not only important to the industry but also in terms of land conservation and preservation. Land use patterns in Maine have been undergoing significant change during the last several decades. Between 1982 and 2012, an estimated 336,000 acres of agricultural, forested, and other rural lands have been converted to developed land.¹¹ This does not necessarily include a full estimate of converted land in urban and suburban areas of the state that are more prone to development pressures. These estimates are more difficult to derive and are beyond the scope of this study. However, residential development in the state has been concentrated in York and Cumberland counties, where approximately 36,400 housing unit building permits were issued between 2000 and 2015 comprising 42% of the statewide total over the same period.

Horses associated with harness racing in Maine actively preserve about 4.22 acres of land per horse. This equates to approximately 7,174 acres (11.2 square miles) of preserved open space that might otherwise be used for development. In conjunction with the broader equine industry in the state, the total amount of land preserved by equines is significantly large.

The average acreage per horse is calculated in two parts. First, the amount of land used for pasturing reported by horse owners and other industry participants is 2.13 acres per horse. Second, the amount of land

¹¹ USDA, Natural Resources Inventory

used to produce hay is based on expenditures on hay reported by horse owners (\$1,038,352) and economic data from the US Department of Agriculture National Agricultural Statistics Service (NSS). The NSS reports the average cost per ton of hay (\$146 per ton) and the average tons of hay produced per acre of land (2 tons per acre) in 2015, the most recent year of available data. These figures calculate to an estimated 3,556 acres, or about 2.09 acres per horse used for hay production. These estimates are in line with those from other studies conducted on equine industries.

It is important to consider not only the amount of open space preserved, but the location and potential land use if the land was not preserved as open space. While there is no exhaustive count of the number and acreage of horse farms that house racing horses in Maine nor the location of all farms, a number of large farms are located in more dense municipalities of the state, such as Gorham, Scarborough, and Saco where development pressures tend to be stronger than other more rural parts of the state. For instance, Dupuis Farm in Saco is upwards of several hundreds of acres, while several others including Lindon Farm in Hollis, Three Crow Farm in Gorham, and Race Me Stables in Westbrook, all preserve several hundred acres collectively. As development pressures increase, land used to support horse racing and other equine activities will become even more important to open space preservation.

5. Methodology, estimation procedure, and study limitations

5.1. Survey Protocol

Data used in this analysis was collected through surveys of live racing facilities, including fairs offering harness racing as part of their annual exhibition, off-track-betting and simulcast facilities, and horse owners, breeders, and other licensed industry participants between December 13, 2016 and January 13, 2017. Electronic surveys were sent to all live and off-track-betting facilities, with follow up reminders sent in successive weeks. We received responses from both commercial track facilities and 1 out of 4 OTB facilities. Mail based surveys were sent to a list of licensed industry participants provided by the Maine Harness Racing Commission.¹² All surveys were anonymous and no personally identifiable information was included in responses. Survey instruments can be found in the Appendices to this report.

¹² Owners (including breeders), grooms, trainers, drivers, and other industry participants must be licensed accordingly to participate in harness racing activities in the state.

A total of 788 surveys were mailed and a total of 136 were returned, for a response rate of approximately 17%. The analysis focuses primarily on spending patterns of horse owners and calculations included here are based on responses from the subset of responses that were from owners. There were 418 records of licensed owners or as an owner in addition to another license type (ie. driver, trainer, and groom). A total of 94 owners responded for a total owner response rate of 22.4%. Data reported by trainers, breeders, and other participants were used to help validate industry and ownership data, as well as to help derive an estimate of the total number of horses affiliated with the harness racing industry. Data collected in these surveys were used to characterize the spending and horse ownership patterns of industry participants and calculate the direct contributions that were then used to derive estimates of indirect and induced economic contributions.

5.2. Estimation procedure

Total contributions, inclusive of direct, indirect, and induced, are estimated using economic models developed by Regional Economic Models Inc. (REMI) and maintained by the Maine Center for Business and Economic Research (MCBER) at the University of Southern Maine (USM).¹³ These economic models allow users to simulate changes in the economy and compare to a standard forecast called a ‘control’. The differences between the control forecast and the simulation are determined to be the ‘contributions’ attributable to the event simulated, in this case the presence of the harness racing industry in Maine. Since the economic activity of the industry is considered to already be factored into the regional forecast, direct contributions (revenues/sales) are entered as negative values in the model, which is akin to removing the industry from the economy. Direct contributions are modeled in REMI as industry sales (exogenous production) in the following industry sectors:

RACING FACILITIES - WAGERING REVENUES

- Spectator sports

¹³ For more information on the REMI model visit www.remi.com.

INDUSTRY PARTICIPANT SPENDING

- Accommodation
- Administrative and support services
- Agriculture and forestry support activities (*modeled as additional total employee compensation)
- Insurance agencies, brokerages, and related activities
- Medicinal and botanical manufacturing
- Nonresidential maintenance and repair
- Other animal food manufacturing
- Sporting and athletic goods manufacturing
- Support activities for agriculture and forestry
- Transit and ground passenger transportation
- Utilities
- Veterinary services

SPECTATOR TOURISM SPENDING

- Accommodation
- Amusement, gambling, and recreation
- Food services and drinking places
- Retail trade
- Transit and ground passenger transportation

Like any study of economic contributions or impacts of an industry, the results of this analysis are subject to certain limitations that rest on the reliability and validity of data collected through the survey protocol and assumptions made by the researcher. This study rests on the assumptions that data samples collected through survey instruments are representative of the broader population of horse ownership patterns and economic behavior associated with the industry.

Likewise, the economic components addressed in this study are of course one consideration when evaluating the total ‘impact’ of an industry, activity, or policy, whether positive or negative. There may be additional social and environmental benefits or costs associated with the harness racing industry that are not addressed here and are beyond the scope of this study.

APPENDICES

SURVEY FOR MAINE HARNESS RACEHORSE OWNERS, BREEDERS, AND TRAINERS

The Maine State Harness Racing Commission has asked the Maine Center for Business and Economic Research at the University of Southern Maine to assess the economic contribution of the harness racing industry to Maine's economy. The success of this study rests on the ability to collect accurate data from industry participants, such as owners, breeders, trainers, and racing facilities. We ask that you complete the following questionnaire to the best of your ability to assist with this effort. Please kindly return in the included self-addressed envelope by **January 13, 2016**. *Please complete one survey per household or business.*

All responses are voluntary and will remain anonymous. Data collected during this study will be reported in aggregate. If you have questions or concerns regarding this survey and study, please contact Ryan Wallace at mainecber@maine.edu or 207-780-5859. Thank you very much for your participation.

1. In 2016, how were you primarily associated with the harness racing industry in Maine? (please select all that apply):

Breeder Groom Owner Trainer
 Not involved Other (please describe): _____

If you checked Not Involved, you do not need to complete the remainder of the survey. However, please kindly return your answer in the self-addressed envelope.

2. If you **owned** a horse(s) in 2016, please indicate the total number of horse(s) that:

Participated in fewer than 5 harness racing events: _____
Participated in 5 or more harness racing events: _____
Did not race or breed in 2016, but will race in future years: _____
Did not race or breed in 2016, but raced in previous years: _____
Were used for pleasure: _____
Other (please describe): _____
Did not own

3. If you **trained** a horse(s) in 2016, please indicate the total number of horse(s) that:

Participated in fewer than 5 harness racing events: _____
Participated in 5 or more harness racing events: _____
Did not race or breed in 2016, but will race in future years: _____

Did not race or breed in 2016, but raced in previous years: _____

Were used for pleasure: _____

Other (please describe): _____

Did not train

4. Please indicate the frequency that best describes your industry participation in 2016 (check one):

A full-time, year-long activity

A full-time, seasonal activity

A part-time, year-long activity

A part-time, seasonal activity

5. Please estimate the total amount of **money paid to Maine businesses or individuals** (including the full-time and part-time workers that you employed) for the following applicable items during 2016 that relate to the number of horses identified above.

Category	Expense (in \$)
a. Employee Compensation (includes salaries, wages and benefits paid to you, drivers, trainers and others that you employed)	\$
b. Casual Labor (not including compensation included in Employee Compensation)	\$
c. Entry Fees	\$
d. Stud Fees	\$
e. Horse Purchases	\$
f. Training	\$
g. Boarding at Track	\$
h. Boarding at Trainers	\$
i. Feed and Grain	\$
j. Feed Supplements and Vitamins	\$
k. Hay and Bedding	\$
l. Medicine and Medical Supplies	\$
m. Veterinarian Services	\$
n. Farrier Services	\$
o. Grooming and Other Horse Supplies	\$
p. Tack and Other Personal Equipment	\$
q. Investment in Carts and Other Racing Equipment	\$
r. Horse Transport Using Own Trailer (including mileage)	\$
s. Contracted Horse Transportation	\$
t. Travel and other expenses associated with attending and participating in Maine racing events	\$
u. Investment in New Barns, Stables and Other Structures	\$
v. Insurance (mortality, medical, loss-use, liability)	\$
w. Utilities	\$

x. Taxes and Licenses	\$
y. Other Expense Items: _____	\$
_____	\$

6. Drawing from the categories above, please estimate the total **average** cost of maintaining a **single harness racing** horse in Maine for an entire year? \$ _____ per horse.

7. Please estimate the total amount of **money you will have received** from the following sources associated with your **harness racing activities only** during **2016**. Please enter the dollar amount for each of the following income sources that are applicable to you:

- a. Purses and prizes: \$ _____
- b. Sale of Horses: \$ _____
- c. Stud Fees: \$ _____
- d. Training: \$ _____
- e. Boarding / Lay-ups: \$ _____
- f. Other Income Sources: \$ _____

8. Other than racing, did you earn additional money in 2016 off the horse(s) that you own? Please estimate amount as applicable:

- a. Horse shows: \$ _____
- b. Recreational riding: \$ _____
- c. Not involved in other "horse-related" activities: \$ _____
- d. Other (please describe):
 - i. _____ \$ _____
 - ii. _____ \$ _____

9. **For trainers and breeders only.** Please indicate the total number of people that you employed for your harness racing activities during 2016, including yourself and family members:

- a. Full-time, year-long workers: _____
- b. Part-time, year-long workers: _____
- c. Full-time, seasonal workers: _____
- d. Part-time, seasonal workers: _____

10. Did any events occur during 2016 that were not representative of a typical year and affected your harness racing income or expenses? If yes, please briefly describe:

11. Part of this study will determine the contribution of harness racing activities to open space preservation in the state. Approximately, how many acres of land, owned or leased, do you use for your race horse(s) activities per horse?

- a. Acres owned, used for race horse(s) activities: _____ acres per horse
- b. Acres leased, used for race horse(s) activities: _____ acres per horse

12. If you board your horses at your home property, how had your harness racing related land been used before you got involved with racing? (please check all that apply)

- Woodland/Open Space
- Horses
- Agricultural use (other than horses)
- Residential
- Not sure/don't know
- Not applicable

13. Approximately, what, if any, percentage of your property is used for the following:

- a. "Open pasture" (open space needed to house horses): _____%
- b. "Hay fields" (used as food and/or for other use): _____%
- c. "Crops" (Agricultural land where hay etc. is grown): _____%
- d. N/A _____

**Thank you very much for your participation in this survey.
The information you provided will be crucial to the future of our industry.**

SURVEY FOR RACING FACILITY OPERATORS

The Maine State Harness Racing Commission has asked the Maine Center for Business and Economic Research at the University of Southern Maine to assess the economic contribution of the harness racing industry to Maine's economy. The success of this study rests on the ability to collect accurate data from industry participants, such as owners, breeders, trainers, and racing facilities. We are requesting you complete the attached survey. All responses will remain completely anonymous and will be destroyed upon completion of the study. The data collected will be aggregated to estimate average visitor spending, share of visitors from out of state, and non-racing related revenues generated by the industry. If you have questions or concerns about this survey, please contact the University of Southern Maine at mainecber@maine.edu or 207-780-5859.

Thank you very much for your participation.

1. How is your facility associated with the harness racing industry? (Please select one)

- | | |
|---|------|
| a. Live harness racing facility | NEXT |
| b. Simulcast facility/Off-track betting | NEXT |
| c. Both live and simulcast/off-track betting facility | NEXT |

2. In 2016, approximately how many live race days and simulcast events did your facility hold? Please enter the total number of days below.

- a. Live races:
b. Simulcast/off-track:

3. On a typical race day, please estimate the average number of people who attended a live racing event at your facility, in 2016:

4. Of the people that attended live racing events at your facility in 2016, approximately what percentage were from outside the state of Maine?

5. In 2016, approximately what *percentage* of your live racing facility's total revenue was received from the following?

- a. Wagering
b. Non-wagering activity (Concessions, etc.)
c. Other

(Please calculate the facilities revenue from sources unrelated to wagering as the total revenue from live racing events minus the track's share of handle from live racing events and minus the Horsemen's purse retained from the track.)

6. If possible, please indicate the revenue in 2016 at your live racing facility from the following sources:
- a. Concessions:
 - b. Restaurant
 - c. Bar area
 - d. Race entry fees:
 - e. Other:
 - f. Total dollars:
7. What was the total amount of money paid in purses for live racing events held at your facility in 2016?

SURVEY FOR FAIR OPERATORS

The Maine State Harness Racing Commission has asked the Maine Center for Business and Economic Research at the University of Southern Maine to assess the economic contribution of the harness racing industry to Maine's economy. The success of this study rests on the ability to collect accurate data from industry participants, such as owners, breeders, trainers, and racing facilities. We are requesting you complete the attached survey. All responses will remain completely anonymous and will be destroyed upon completion of the study. If you have questions or concerns about this survey, please contact the University of Southern Maine at mainecber@maine.edu or 207-780-5859.

Thank you very much for your participation.

1. How many days did your fair hold harness racing events in 2016? _____
2. What was the total attendance at your fair in 2016? _____
3. In a typical day, please **estimate the percentage of** people that attended a harness racing event at your fair in 2016: _____
4. Of the people that attended harness racing events at your fair in 2016, approximately what percentage was from **outside the state** of Maine? _____
5. Of the people that you estimate attended harness racing events at your fair, what percentage came primarily for the racing? _____
6. In 2015, approximately what amount of your fair's total racing related revenue came from sources that were unrelated to wagering? _____

(Please calculate the fair's revenue from sources unrelated to wagering as the fair's total revenue minus the track's share of handle from racing events and minus the Horsemen's purse retained by the track.)

7. Approximately, how many people did your fair employ in 2016 dedicated to harness racing activities? Please indicate the total number of workers that were:
 - a. Full-time, year-long: _____
 - b. Part-time, year-long: _____
 - c. Full-time, seasonal: _____
 - d. Part-time, seasonal: _____
8. What was the total amount of money paid in purses for harness racing events held at your fair in 2016?

SURVEY FOR OTB/SIMULCAST FACILITY OPERATORS

The Maine State Harness Racing Commission has asked the Maine Center for Business and Economic Research at the University of Southern Maine to assess the economic contribution of the harness racing industry to Maine's economy. The success of this study rests on the ability to collect accurate data from industry participants, such as owners, breeders, trainers, and racing facilities. We are requesting you complete the attached survey. All responses will remain completely anonymous and will be destroyed upon completion of the study. The data collected will be aggregated to estimate average visitor spending, share of visitors from out of state, and non-racing related revenues generated by the industry. If you have questions or concerns about this survey, please contact the University of Southern Maine at mainecber@maine.edu or 207-780-5859.

Thank you very much for your participation.

1. How is your facility associated with the harness racing industry? (Please select one)
 - a. Live harness racing facility NEXT
 - b. Off-track betting/simulcast facility NEXT
 - c. Both live and simulcast/off-track betting facility NEXT

-
2. In 2016, how many days of the year did your facility offer simulcast events?
 3. In a typical day, approximately how many people visited your simulcast betting facility in 2016?
 4. Of the people that visited your simulcast betting facility in 2016, approximately what percentage was from outside the state of Maine?
 5. In 2016, approximately what *percentage* of your facility's total revenue was received from the following?
 - a. Wagering
 - b. Non-wagering activity (Concessions, etc.)
 - c. Other

(Please calculate the facility's revenue from sources unrelated to wagering as the total revenue associated with the facility's operations minus the facility's share of the commission from simulcast/off-track betting)

6. If possible, please indicate the revenue in 2016 at your facility from the following sources:
 - g. Concessions:
 - h. Restaurant
 - i. Bar area
 - j. Race entry fees:
 - k. Other:
 - l. Total dollars:

7. What was the total amount of money paid in purses for simulcast racing events held at your facility in 2016?

8. How many people did your facility employ in 2016? Please indicate the total number of workers that were:
 - a. Full-time, year-long:
 - b. Part-time, year-long:
 - c. Full-time, seasonal:
 - d. Part-time, seasonal:

9. Please indicate the total amount of wages paid in 2016 to workers at your facility.