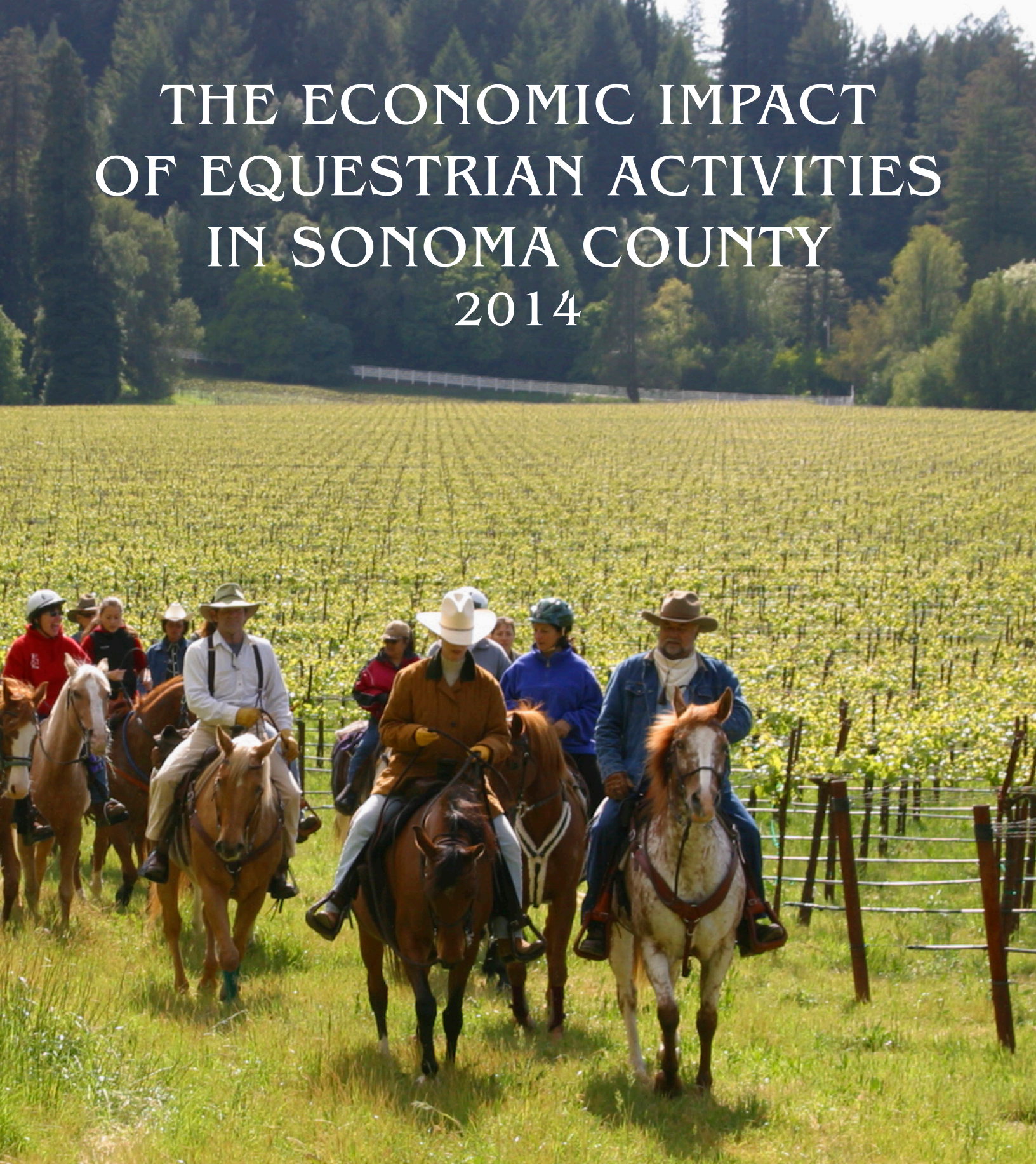
THE ECONOMIC IMPACT OF EQUESTRIAN ACTIVITIES IN SONOMA COUNTY 2014



Center for Regional Economic Analysis / School of Business and Economics
Sonoma State University

Funded by The Sonoma County Horse Council



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This study was sponsored by the Sonoma County Horse Council

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Executive Summary

The equine industry generates $613 million annually for Sonoma County businesses, supports over 7,700 jobs, and provides almost $12 million in annual local tax revenues for Sonoma County governments from direct spending on equine ownership totaling $464 million. There are ripple effects on Sonoma County that add to the equine industry's local economic footprint.

This report summarizes information from a recent study of the economic impact of the equine industry on Sonoma County's economy. Based on data from Sonoma County equine veterinarians, approximately 26,217 horses lived in Sonoma County in 2013. A survey conducted between November 2013 and March 2014 provided primary data on equine businesses and ownership. Additional information on spending by horse owners was also gathered from local businesses and equestrian operations. The resulting conglomerate data demonstrated that for every horse in Sonoma County, businesses earn $23,386 annually and for every 34 horses, 10 jobs are annually supported. Supporting a job means that the spending done by horse owners and allied businesses creates income for other businesses that allows them to retain their workers.

Sonoma County equine and related businesses support horse owners with local trade, without having to import their services and products from outside the county.

From an economic development standpoint, the Sonoma County equine industry is a mature enterprise due to the mix of local services, product providers and customer base. From local barns and stables to equine training and riding lessons, there are equine health providers, farriers, and maintenance workers that help support recreational riding and show activities throughout Sonoma County and the region. These connections also attract equine enthusiasts as tourists. The resulting economic impact creates local revenue from hotel stays, restaurant meals, and taxes paid locally.

Equine owners tend to be older, Caucasian, and practice a wide range of equine disciplines in rural areas throughout Sonoma County.

Equine owners participate in a variety of activities that complement and create demand for many of the county's equine businesses. Activities range from trail and pleasure riding to lessons and horse training, leading to costs of ownership and business revenues. Quarter Horses and Warmbloods are the dominant types of horses owned, but Morgans, Mustangs and miniature horses are also abundant. Owners tend to each own between one and two horses, and do not foresee a significant rise in buying and selling activity in the next five years. The largest concentration of owners and their equine animals are in Santa Rosa, Sebastopol, and Petaluma.

THE ECONOMIC IMPACT OF EQUESTRIAN ACTIVITIES IN SONOMA COUNTY – 2014

Introduction

This report is an update and extension of the 2004 Sonoma County Equine Industry study conducted by Sonoma State University (SSU). The Sonoma County Horse Council sponsored the 2004 as well as this 2014 study. This report provides estimates and information about Sonoma County's equine industries and owners, and how the existence of businesses focused on equine owners and enthusiasts as customers impact the Sonoma County economy, including revenues for local governments.

There are approximately 26,217 equine animals in Sonoma County[1]. Equines are defined as horses, mules, donkeys, and other equine-related animals. The focus of this study was on horses. The commercial interactions of Sonoma County's horse owners, riders, and businesses generates in excess of $613 million in business revenues, supports over 7,700 jobs, and contributes almost $12 million in local tax revenue annually from approximately $464 million in annual spending by horse owners and riders.

Local horse owners and businesses were surveyed between November and December 2013 resulting in 736 responses. Two of the conditions for inclusion in the data were that:

- Businesses have equine-related customers and also be located in Sonoma County; and
- Horse owners keep their horses in Sonoma County.

The survey was confidential and anonymous in order to reduce respondent bias. Answers from respondents were eliminated if they answered "no" to any of the three introductory questions (they did not represent an equine business, a partial equine business, or own a horse). One of the themes in this study is that while the equine industry is certainly about horses, it is more specifically about people. People ride horses, care for them, and are engaged in businesses that supply goods and services to the equine community. People come to Sonoma County as spectators and participants from around the world because of horses. The data obtained from this study makes significant progress in filling gaps in knowledge about equine businesses.

Data from Sonoma County and Beyond

Data about the Sonoma County equine industry from governmental sources are relatively sparse. The American Horse Council (www.horsecouncil.org) provided summary data for the United States and California in a 2005 study conducted by Deloitte.[2] A recent study of the Kentucky equine industry (2013) describes a methodology and data structure similar to that used for this report, but the Kentucky study provided no summary statistics about the national equine industry or data for other states. The 2005 study by Deloitte provided national data about equine industries when the American

[1] Sonoma County veterinarians who specialize in equine health were asked the number of horses they care for as "clients". The aggregate of these data is the basis of the 26,717 horses and other equine estimates for this study. No other data about the veterinarians' clients was requested by this study's authors or shared, and all results were provided in the aggregate. The authors want to thank CEPEC for its contributions to the primary data search in this report.

[2] See http://www.horsecouncil.org/national-economic-impact-us-horse-industry

population was approximately 295 million people (which is now approximately 317 million or a 7.26 percent increase). The highlights from the AHC study are summarized below:

- There were 4.6 million horse owners, equine business owners, service providers and volunteers for approximately 9.2 million horses in the United States, of which 2 million are horse owners;
- The total economic impact of the national horse industry was $102 billion, including all revenues made by businesses and all spending by horse owners, riders, and other participants;
- The equine industry supported over 460,000 jobs directly and over 1.4 million jobs through its total impacts; and
- There were over $1.9 billion in equine industry taxes paid to all levels of government.

The same study reported that in California:

- The total economic impact of equine industries was approximately $4.1 billion;
- There are spillovers from other states from shows and racing;
- Approximately 311,000 people were involved as horse owners, business owners, and employees;
- Over 54,200 jobs were supported by the equine industry, including horse racing and shows; and
- The horse population was estimated to be 698,000.

The federal government's 2007 Economic Census has some data for California and Sonoma County with respect to equine owners and businesses.[3] Below are some data from the 2007 census:

- In 2007, there were 6,372 head of horses and ponies (there were 4,632 in the 2002 economic census) for Sonoma County; and
- For California, the Economic Census 2007 identified only 180,723 horses versus the 698,000 estimated in the Deloitte study summarized above

While these data do exist and provide some insight, what is currently available data from governmental and consulting sources is limited and outdated. This report and survey results attempt to track the local equine economy and fill that gap. This report is divided into three major sections, followed by conclusions and considerations. The first section describes background information, data collection and analyses methodologies, and perspectives. The second section is a summary of the survey data and inputs for the economic impact results. The third section summarizes the economic impact results for Sonoma County.

Background

The equine industry is composed of a wide variety of businesses, recreational activities, and employers. In the case of equine boarding, health care providers, feed, maintenance, and other horse ranching needs, the equine business in Sonoma County resembles general animal husbandry.

[3] The 2012 version of the Economic Census will update the government's data on equine ownership, farms, and other agriculture in all counties of the United States. See https://www.census.gov/econ/census/ after May 2014.

Professional training, riding lessons, and shows are the other (recreational and educational) side of the equine businesses (versus boarding and maintaining herds).

Equines live longer than other types of agricultural livestock because their main use is not for consumption but for ranch work, recreational use, companionship, and competition. In Sonoma County, trail riding is one of the main recreational uses of equines (over 82 percent of the 2013 survey's respondents reported participation in trail riding as well as competitive riding and training for competitions). The economic effects of every horse residing in Sonoma County have longevity; even in retirement, horses continue to be a source of revenue for businesses from those who care for or stable horses.

An ecosystem exists in any industry between its businesses and customers. The equine industry is no different; businesses serve all riders as well as horse owners. The survey data summarized in this report describe attitudes, behavior, and knowledge about this industry, including the ways horse owners support equine animals, and a summary of the Sonoma County equine economic activity as of 2014. This estimated economic activity is the basis for an economic impact analysis, which connects equine business and consumer activities to the greater county economy.

The economic impact of an industry is based on its core business activities. An industry has ripple effects on a local economy and beyond based on the jobs it supports. Defining core businesses for the equine industry can be challenging because many businesses are directly and indirectly impacted. The following lists include many of these core business categories of the equine industry:

- Breeding
- Boarding/Stabling
- Riding Instruction
- Equine Training
- Equine Health
- Land/Barn Maintenance
- Trailer/Transportation
- Retail
- Farrier
- Shows/Competitions
- Horse Rental

There are also a number of associated industries, where a large part of their revenues are dependent upon equine owners and other businesses as revenue sources. They include:

- Feed
- Veterinary Services
- Professional Services (real estate, legal, accounting)
- Show-related Businesses
- Tourism-related Services

- Construction, Landscaping, and Building Maintenance
- Fencing and Ranch Maintenance
- Utilities (water, electricity, sewer, garbage)

The associated industries are similar to other agricultural industry support businesses. These businesses derive some or nearly all of their revenue from horse owners. The precise number of Sonoma County horse owners is unknown; however, with an estimated 26,217 horses, there may be as many residents who ride, profit from, and enjoy equine animals and related events in Sonoma County.

Study Methodology

The equine industry survey described in this report was developed in the summer and early Fall 2013, and distributed via an online survey throughout the equine owner and business communities in Fall 2013 and Winter 2014. The goal was to reach out to as many service providers, owners, and equine operations as possible to obtain a wide breadth of perspectives. The survey was open to respondents from November 1, 2013 until February 28, 2014.

Of the 736 respondents to the survey, there were 497 with data that were used in this study (some were eliminated due to not being an equine business owner, or an equine-related business owner, or a horse owner, or not answering all the questions). The usable data provides qualitative and quantitative information. Data on monthly expenditures by horse owners, along with the horse headcount, provides an initial estimate of the impacts of the equine industry on the county economy. The survey results suggest approximately $464 million of annual business revenue is generated because of horses that live in the county and demand for goods and services for their care and preparation for riding or other recreation.[4] After recognizing retail sales leakages reduce these estimates because of goods sold inside Sonoma County from businesses outside the county, the IMPLAN® model was used to calculate the broader economic impacts from this annual spending level.[5] The IMPLAN® model, which stands for IMpact analysis for PLANning, is used by municipalities worldwide to analyze employment, revenue, wage, and tax effects of industries. There are three impact classifications used in the IMPLAN model to describe the total effect of an industry: direct, indirect, and induced.

> **Direct** effects are those specific to an industry. This is what a horse owner spends to keep her horse or what an equine business spends to remain in business. For example, a new stable opening in Sonoma County that attracts new horses to live in the county would bring new business for feed stores, apparel, shows, and other businesses and events that utilize local equine owners and businesses as revenue sources.
>
> **Indirect** effects come from incomes earned by associated industries that spend a portion of their money on other businesses' goods and services, including the purchase of raw materials from local wholesalers and retailers. These revenues affect many other businesses and lead to

[4] See Table 2 (page 19) for a summary of equine expenditures from the survey data.
[5] See Table 4 (page 22) and www.implan.com for more information.

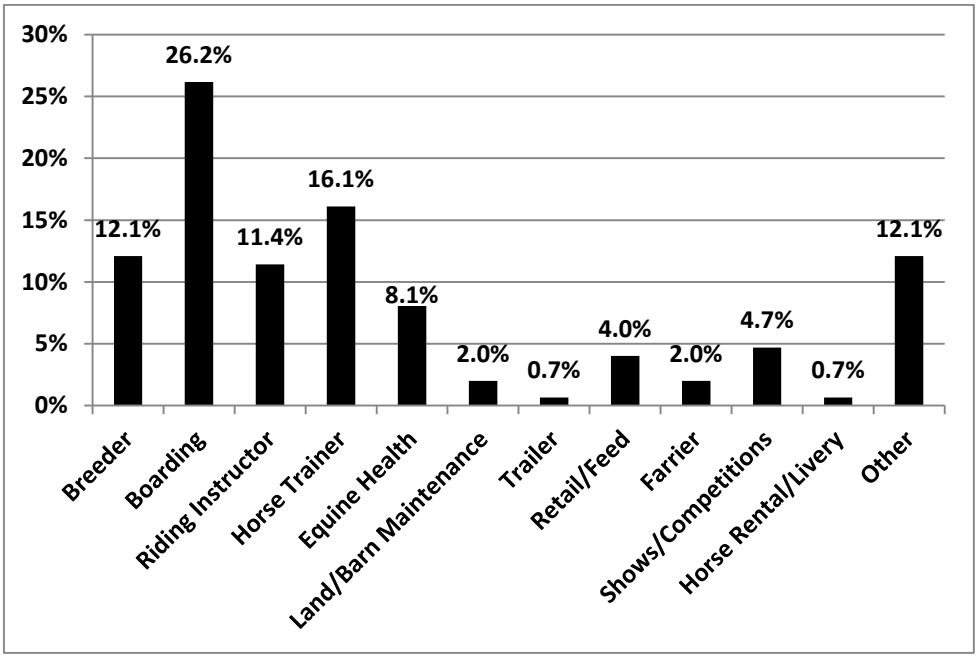
broader effects on employment, wages, revenue, and taxes throughout the county economy. For example, an equine veterinarian dining at a restaurant in Petaluma represents an indirect effect of the equine industry's existence in Sonoma County.

Induced effects are the results of the restaurant jobs, wages, revenues, and also tax receipts for local governments. The sum of these three types of effects is the total, or overall, economic impacts for an industry. The following sections summarize the survey results and demonstrate how the equine industry impacts Sonoma County's economy.

Equine and Related Businesses

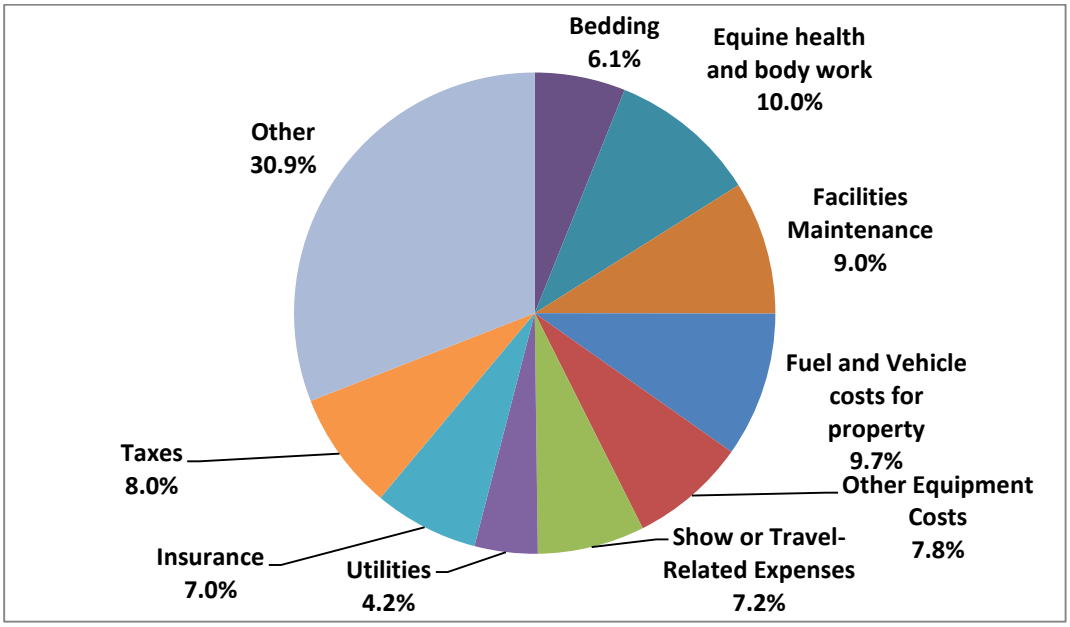
A total of 118 equine businesses responded to the survey. Figure 1 shows the proportions of business respondents that provided information about their businesses and the kinds of businesses the respondents operate.

Figure 1: Proportion of Equine Business Respondents



The "Other" category included a mix of breeders, boarders, and other businesses which are partially related to equine owners and businesses such as leather repair, manure management, coaching, and publishing. About 75 percent of business owners also owned the land upon which they operate. The median number of acres for an equine business was 15 acres. Figure 2 shows equine businesses reported and represent the costs of doing businesses. The difference between a riding instructor and horse trainer is that instructors are for riders and trainers are for the horses to prepare them for events and other types of recreational activities (general riding, jumping, etc.).

Figure 2: Typical Costs Proportions for Equine Businesses



The survey also asked equine businesses about their cost structure. The rationale for this question was to understand the costs that equine businesses face, and also what costs may be most important for them to monitor. For example, if feed costs are rising (say due to a drought forcing hay and silage prices to rise), this increase may push many equine businesses to the edge of not being able to operate anymore. Land costs, including rising interest rates on mortgages, may also be important.

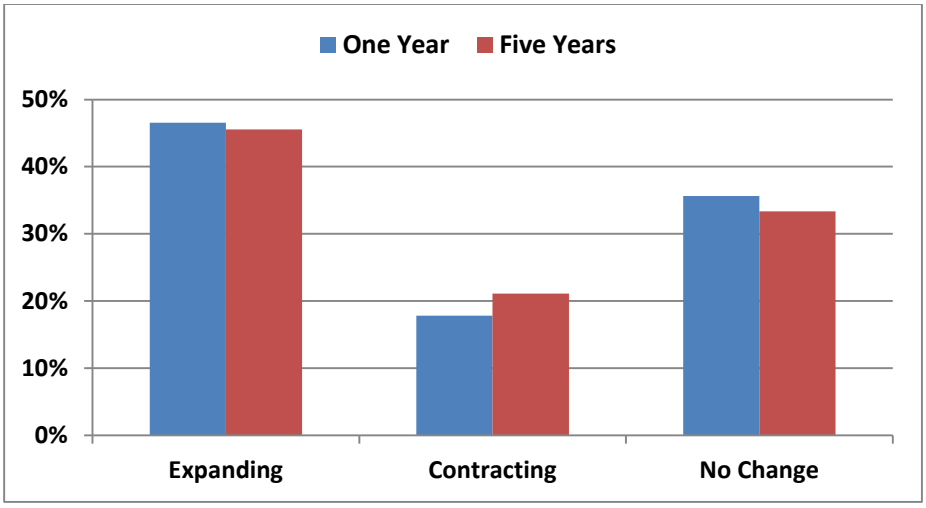
The survey data suggests that equine business costs are spread among many types of expenses and not centered on any one cost in particular. Labor, land and feed costs are the most important subset of costs. Many equine businesses, over 58 percent, have labor costs of at least 20 percent of their overall business costs. Because caring for horses, training horses and riders, and maintaining facilities are labor-intensive tasks, it is not surprising that many equine businesses have a large amount of their costs dedicated to labor. Land costs are smaller for equine businesses in comparison to labor; over 35 percent of equine businesses are paying at least 20 percent of their overall costs for their land (mortgage or rent). Feed costs are more important than land costs, as over 56 percent of equine businesses pay more than 20% of their costs to feed. Generally speaking, the average equine business has more than 50 percent if its costs dedicated to land, labor and feed.

Other expenses include boarding, breeding, riding lessons, horse training, and imply maintenance and health-related costs. Show-related expenses, travel and taxes paid are also cost categories that almost every equine business faces in Sonoma County. The inclusion of asking these businesses about taxes was purposeful, as many of these business (like other agricultural businesses) face taxes that include federal income, fuel, and employment taxes, as well as state and local taxes. Increasing the tax burden on these businesses, especially as rising feed or labor costs take place, may force some to go out of business and reduce the economic impact of this industry.

Equine-related businesses, firms that are not 100 percent focused on horse owners as customers, also require substantial capital costs for land, barns, stables, arenas, and pastures. Most operational spending is concentrated on feeding, health care, recreational use, showing, and training of horses. Over 32 percent of overall spending is on riding lessons, horse training or both. This educational component is similar to training for other sports or entertainment events. Boarding and health care comprises most of the revenues generated by local businesses. A missing component of this study is revenue from construction companies and hotels; the survey did not solicit these businesses for feedback.

Equine business respondents were also asked their opinions on future business growth over the next year and the following five years. These data provide an indication of growth expectations in equine businesses, income, and events in the near future. Figure 3 shows these opinions as percentages of the total respondents. A larger percentage of respondents reported an expected expansion of their businesses than those reporting their businesses contracting or not changing.

Figure 3: Business Confidence about the Sonoma County Equine Industry One and Five Years from 2013



Survey Results: Equine-Related Businesses

In contrast to businesses that are 100 percent equine, there are many businesses that have equine customers, but are not solely reliant on the equine market for their business. The survey asked respondents if they were 100 percent or a partial equine business. This section describes the data that came from the 35 partial equine businesses (out of the total 496 respondents) which are listed below:

Agriculture credit union	House sitting and taking care of horses
Arenas and horse paddock construction	Hunting and outdoors business
Building materials wholesale and retail	Insurance/ Legal services
Apparel and accessories	Marketing and event coordination
Custom embroidery equine and awards	Mortgages
Equine photography	Photographer/artist
Equine retirement facility	Real Estate Agent selling horse properties
Graphic design and marketing	Repairs and installations
Horse breeder	Water well drilling and pump sales
Horse rescue	Portable welding and heavy equipment company

Each of these businesses needs activities from other markets to generate revenue, though a percentage of their businesses are from equine-related markets. About 52 percent of these businesses own the space in which they operate. These businesses are not 100 percent reliant on the equine community for their livelihood, but 32.5 percent was the median proportion of business revenues that came to these firms from equine-related customers. Over 90 percent of these businesses see no change or expansion in 2014, and nor change or expansion in five years. For those that suggested their business is changing, here are some highlights from their comments (emphasis is as written in original comments):

- Business has been steady, but not increasing.
- The economy is improving.
- Entering retirement phase and will stay as is.
- General economic outlook good.
- Insurance agency has been stable for many years and no employee turnover.
- More demand for equine retirement options.
- My business plan is to expand slowly.
- My business is new, and as word of mouth and marketing campaigns get going, the business will expand.
- The markets for cowgirl and cowboy related clothing and accessories are expanding right now.
- Need for rehoming services and feed assistance for short-term emergencies.
- NORMAL GROWTH IN GOOD ECONOMIC CLIMATE.
- Not expanding. Happy with how we have it.
- The economy is not as robust as I would like to see it and it does not look to improve over the next five years.
- The equine industry in this county is at a standstill.

Respondents were also asked to state what they thought were threats to the equine industry in Sonoma County over the next few years. Below are some highlights (emphasis is as written in original comments):

- CHANGES IN SONOMA COUNTY AWAY FROM AG, CUTBACKS IN PARK FUNDING TO KEEP TRAILS OPEN TO THE PUBLIC.
- Concern of affordability keeping horses fed and boarded.
- Barns/feed are outrageously priced for horses
- Cost of hay, everything else takes care of itself. Good quality hay at a fair price means that barns can keep their costs down, which bring in boarders, which serves trainers, etc.
- Lack of veterinarian and farrier services, of riding facilities, and of horse shows in coastal Mendocino and Sonoma counties. Local codes don't always specifically allow the kinds of equine activities that people need or desire and jurisdictions cannot allow activities not already in their codes.
- Need more local workshops and seminars on equine issues - only Circle Oak provides that now
- There are not enough good local programs for horses and horse owners.
- Equine activities have been effectively priced out of the Sonoma County fairgrounds and fairgrounds management seems uninterested in providing a venue for horse shows
- There is a real shortage of horse show facilities in the County. It is difficult to get a permit from the County. The fairgrounds property is unworkable and too many Sonoma County horse shows are moving to Rancho Murietta and the South Point in Las Vegas. The Sonoma Horse Park is the only large venue in the county and it is limited to 7 hunter/jumper shows per year.
- There needs to be a good independent facility where people can work with their horses and get instruction if needed.
- More public information is needed.
- Overbreeding and the illegal slaughter industry taking our horses that could be rehomed.
- Owning and housing horses getting too expensive in this area.
- Parks to ride in without bike riders:
    - Bikes and horses don't mix;
    - They want to go fast and crazy and the horses are spooked by these bike riders whizzing by them too fast;
    - The use of the parks, horse people have to pay, the bike riders just walk in and don't pay; and
    - There must be some way for all to work together. The bikes need to pay, ride on their own trails and be good with that.
- Poor economy.
- Sonoma county supervisors and regulations make it hard to own horses and have them as your livelihood.
- The economy is dismal as long as the current Federal and State leadership is in power.
- There has been a trend of closing trails and parks to horses and horse camping.

Summary

Equine businesses include a wide breadth of goods and service providers. Their outlook on the future in Sonoma County is relatively good, as indicated by expected growth from equine businesses,

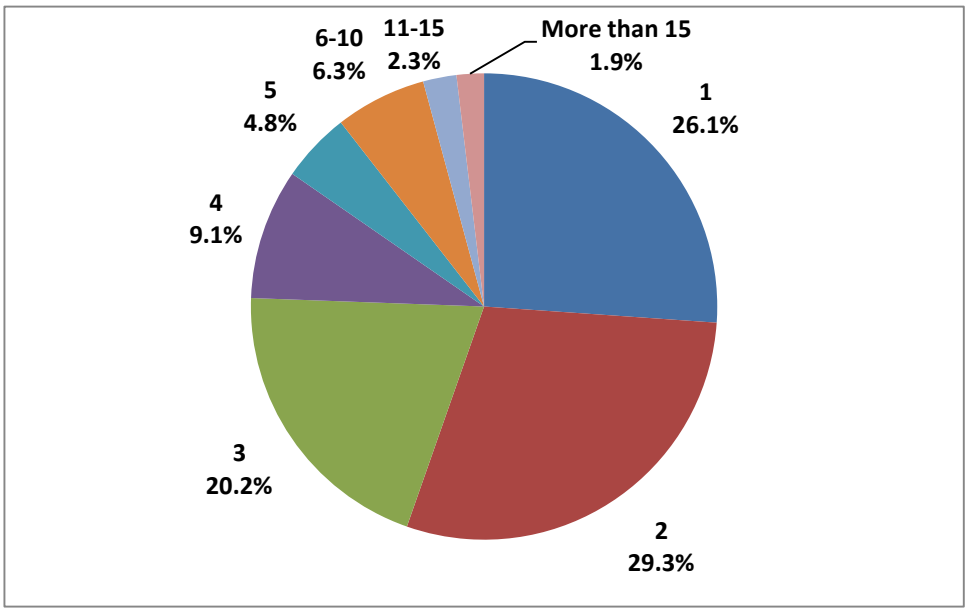
although some pessimism exists especially from businesses not solely dependent on the equine market. These vendors are one gauge of the equine industry's direction. The demand for their goods and services are driven by how horse owners, barn and stable owners, and riders react to larger economic trends or are affected by changes in local markets to new regulations, politics, or availability of recreational areas and events. Equine businesses pay costs that are related to caring and sheltering horses, training horses and riders, and maintaining equipment and buildings. These businesses derive their revenue from horse owners. When the number of horses and ridership grows in Sonoma County, these businesses grow as do the equine industry's direct spending and overall economic impacts. These businesses rely on personal use of horses and subsequent spending.

Personal Use of Equine Animals

The next survey section solicited responses regarding personal use of equines by self-identified horse owners. The critical aspect of this section is to link the economics of owning a horse to the primary industry data collected on business revenues. This survey did not include people in Sonoma County who ride horses without owning them. One question was asked about leasing versus owning a horse, but the survey did not ask about riding horses for free. The key point is that there are some obvious and regular expenses associated with engaging with an equine animal that lead to economic impacts on businesses throughout Sonoma County.

There were 477 respondents who said they own an equine animal; these included those who own or run an equine or related business. Figure 4 shows the responses in terms of number of horses owned and percent of total horse owners surveyed. Over 84 percent of respondents owned four or fewer horses; most respondents own two horses. Respondents were also asked the amount of land their horse(s) live on, which ranged from 1 acre to 2,000-acres.

Figure 4: Number of Horses Owned by Respondents (n = 477)



Horse owners engage in various activities. Figure 5 provides survey results on the most to least frequent equine-related activities. Figure 5 also shows the breadth of potential business opportunities in Sonoma County as related to equine ownership and servicing equine owner needs. The activity choices in the survey may not have been completely comprehensive as indicated by the numerous entries in the "Other" choice. Table 1 provides a summary of the "Other" responses (over 21 percent).

Figure 5: Activities for Horse Owners in Sonoma County

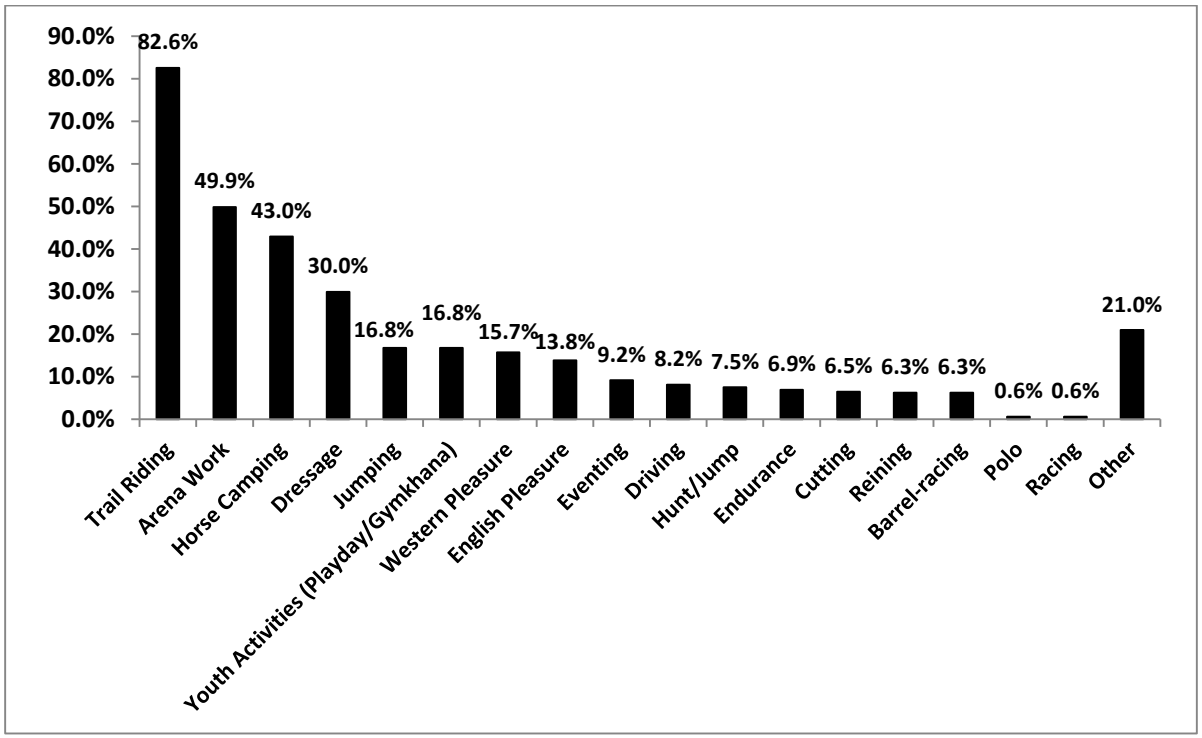


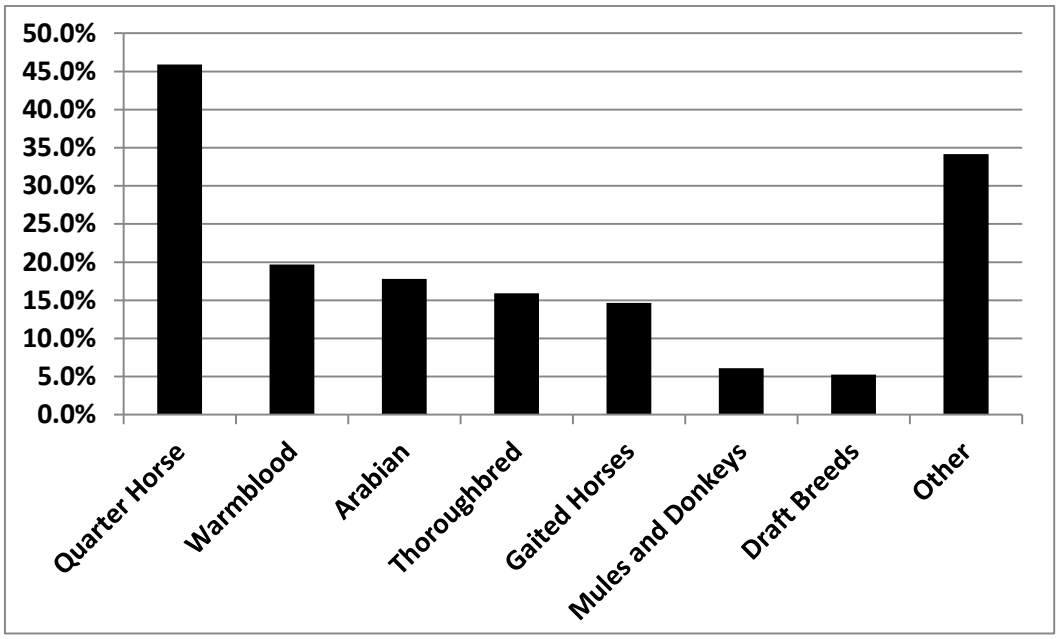
Table 1: Other Activities Identified by Survey Respondents

4H Horse Project	Pleasure Riding
Breed demonstration	Pony Club
Competitive trail riding	Ranch sorting, working with cattle
Drill team	Rescue and advocacy for wild horses and against slaughter
Equine therapy	Rodeo
Fox Hunting	Roping and branding
Ground play and casual riding	Saddleseat
Horse is simply a pet	Sorting and Trail Challenge
Human Therapy Horses	Team Penning/Roping
Jousting	Tours and shows
Jumper Equitation, Circus Tricks, Vaulting.	Trail Trials, Cattle sorting, Penning
Liberty work	Trick Riding
Natural horsemanship	Vaulting
Packing	Volunteer park patrol (state parks and regional parks)
Parades	Western or Cowboy Dressage

Another survey question asked about personal purchases of trucks or trailers used primarily for equine-related activities. Almost 51 percent of the respondents said that they had purchased a truck or a trailer in the last five years for equine-related activities. Additionally, there was a 1.03 ratio of trucks to trailers reported; for 103 trucks purchased, there were 100 trailers purchased. These data suggest that, for truck and trailer dealers, sales of trucks for equine use is correlated with a trailer purchase.

Figure 6 summarizes the percent of types of horses and other equine animals that live in Sonoma County and are owned by the 477 respondents.

Figure 6: Types of Horses Identified by Respondents



The main types identified in the "Other" category (in order of frequency) where the following:

- Mustang
- Morgan
- Miniature
- Friesian
- Appaloosa
- Welsh Pony

Figure 7: Horses Bought and Sold in 2013, Percent of Respondents

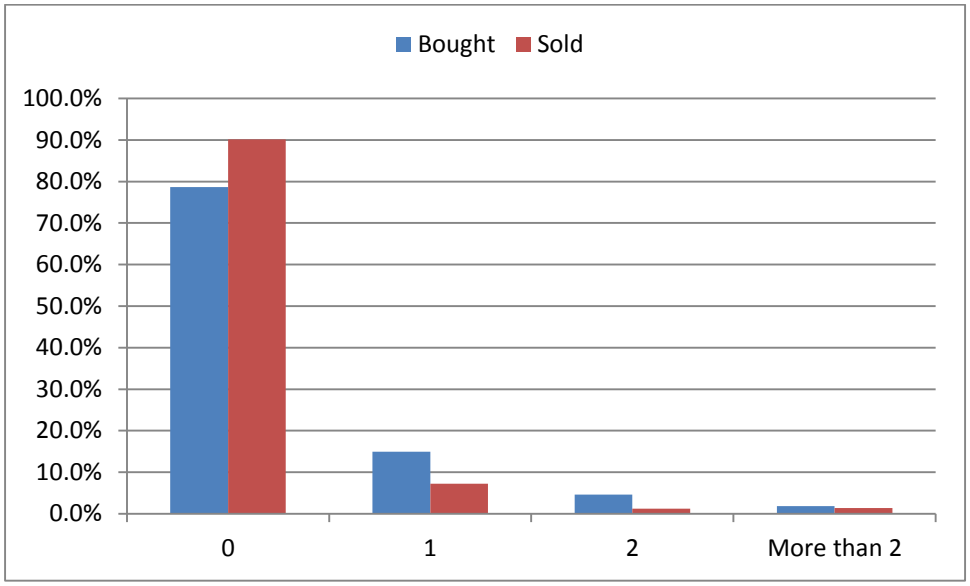
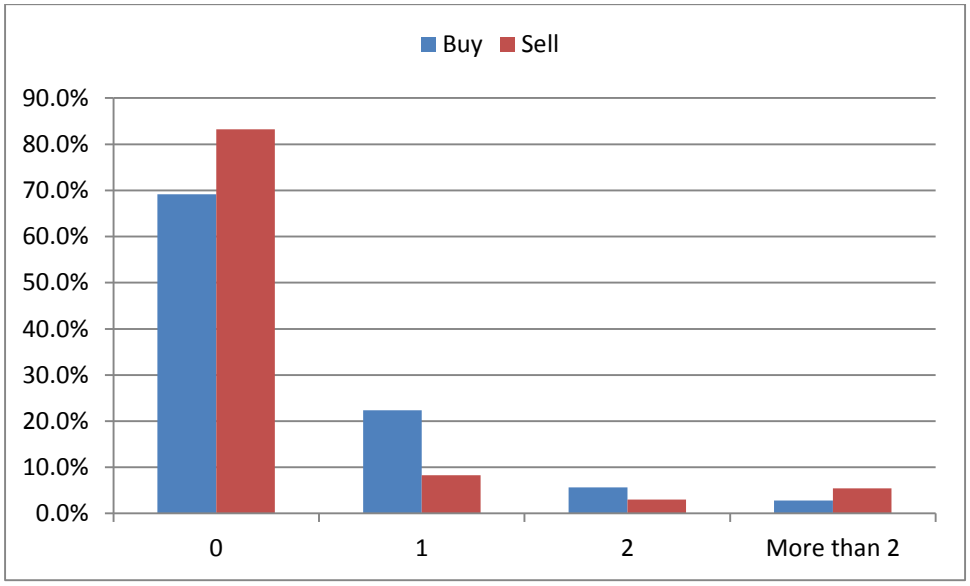


Figure 8: Horses to be Bought or Sold, 2014-2018, Percent of Respondents



In terms of buying and selling horses as an economic activity, Figure 7 shows the percent of respondents who bought and sold specific numbers of equines in 2013. Figure 8 shows the same type of data planned through 2018. The data show that very few horse owners bought or sold equines in 2013, and, in most cases there was only one animal in the transaction; only a few more respondents stated they expected to buy or sell horses in the next five years.

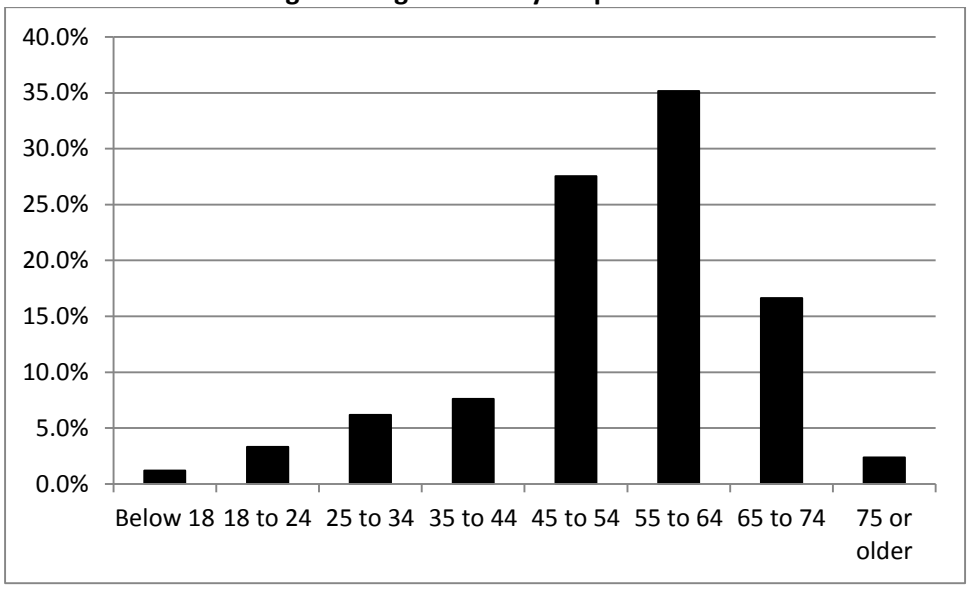
The median purchase and sales price reported by respondents was approximately $5,000 per equine transaction. When asked how respondents acquired their equine animal(s), over 82 percent said

they purchased their horse. Respondents may have acquired more than one horse, and each through different means. Horses were also gifted or leased; rescue, private adoption, and Bureau of Land Management "adoption" were predominant entries for "Other" types of acquisitions when detail was provided.

Demography of Respondents

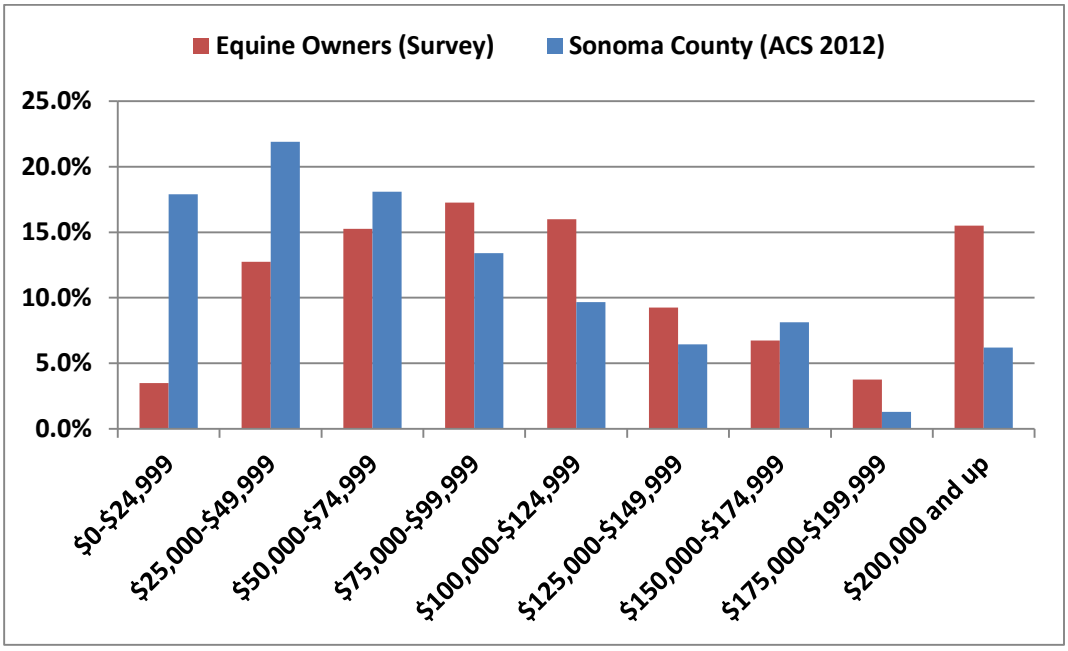
The survey also asked questions about the respondent's demography to obtain attributes of horse and equine business owners. Over 96 percent of respondents provided their ethnicity and self-reported themselves "White" or Caucasian. In 2013, the Census Bureau's American Community Survey reported Sonoma County's population composed of 65 percent Caucasian.[6] Figure 9 shows the proportion of respondents by age categories; Figure 10 shows income levels by categories.

Figure 9: Age of Survey Respondents



[6] See factfinder2.census.gov for more information.

Figure 10: Income Levels Reported By Respondents



The age and income data suggest that Sonoma County horse owners tend to be above 45 years of age and are somewhat bimodal in terms of income. Sonoma County's median age in 2012 was 40.3 years old. Sonoma County's median income level in 2012, according to the American Community Survey of the Census Bureau, was $59,941. A total of 68 percent of survey respondents reported annual incomes above $75,000.

Figure 11: Where Equine Business Are in Sonoma County

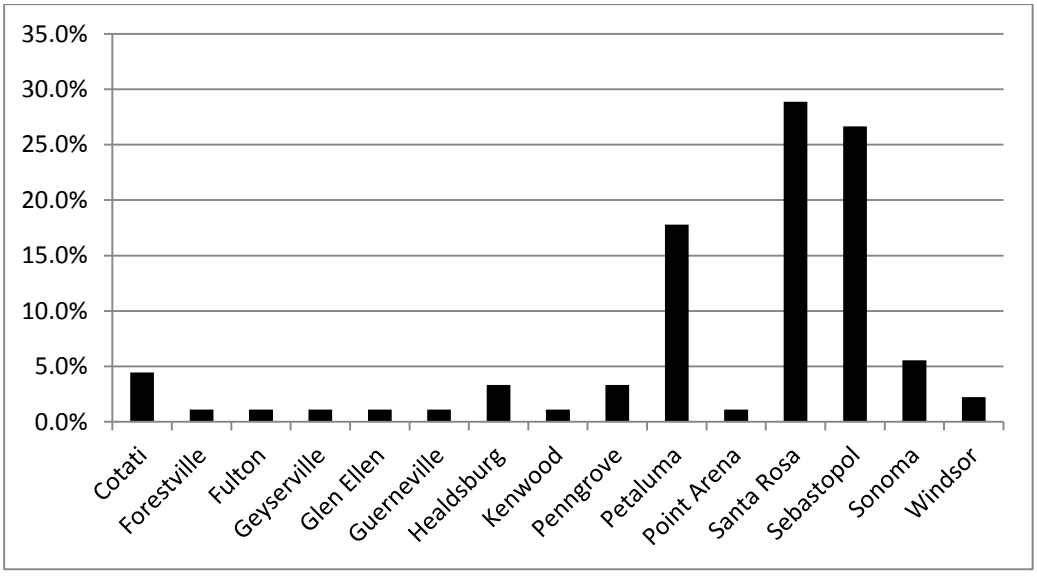


Figure 11 shows the location distribution of equine-related business across Sonoma County. These data suggest that Santa Rosa, Sebastopol, and Petaluma are where most of the business activity for equines takes place. Many equine businesses involve land; those that require a lot of land are in more rural parts of Sonoma County. Santa Rosa and Petaluma are the largest population areas. Sebastopol is a hub for commercial activity for west Sonoma County from Valley Ford to Forestville. Approximately 72 percent of the 497 respondents reported living in the same zip code as their horse(s).

Figure 12 shows the residential location for owners; Figure 13 shows residential locations for the horses.

Figure 12: Horse Owners' Residence Locations

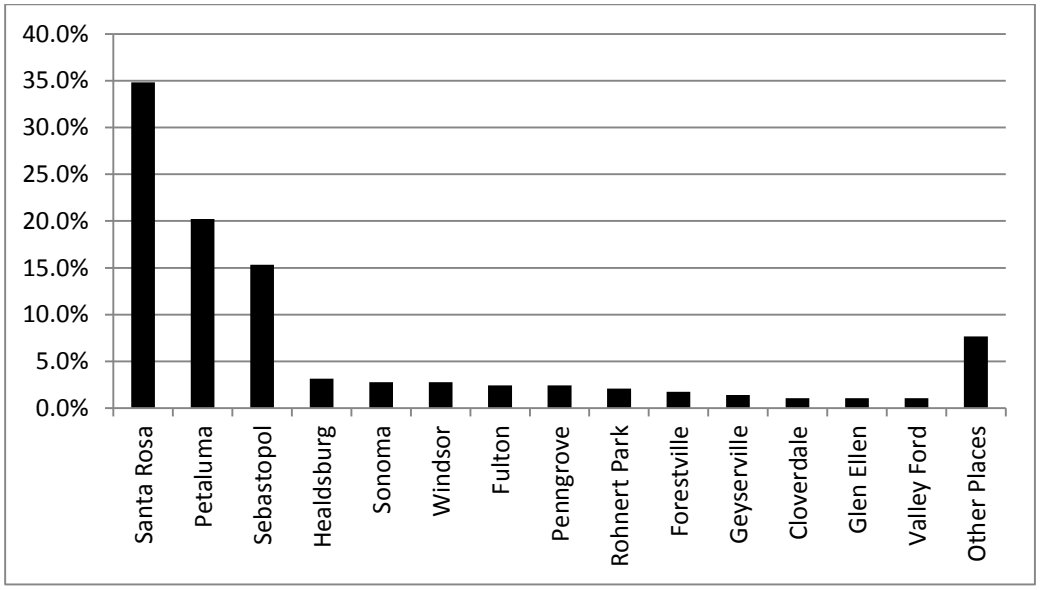
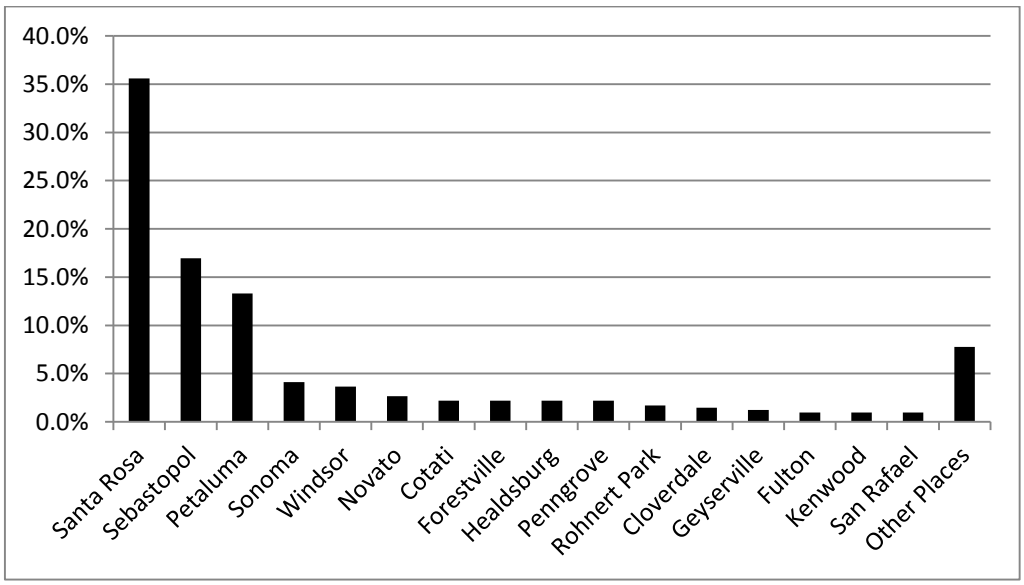


Figure 13: Equine Residence Locations



There is a high correlation between where owners live and where their horses live. There is also a high correlation between the residences of horse owners and the locations of commercial operations that support them. The ecosystem that supports equine animals and their owners has evolved in Sonoma County. The next section describes how horse owners and horses interact to impact the entire county economy.

Economic Impacts Data and Estimates

Data collected by the California Equestrian Park and Event Center (CEPEC) provided estimates of the direct economic impact from equine and equine-related businesses. The major categories of equine expenditures are shown in Table 2. The data are based on an estimate of 26,217 horses in Sonoma County as of 2013 provided by equine veterinarians which included a correction factor for duplicate clients. The client count from these service providers in the aggregate should be a strong indication of county equine animals cared for regularly by professionals and thus acts as a valid headcount estimate.

To generate expenditure estimates, survey respondents who own horses were asked about their monthly, equine-related spending. Primary data collected from equine vendors and businesses throughout Sonoma County are shown in Table 2, which includes median level of spending reported for each category from the survey. The median monthly expenses show the midpoint of the data. Table 2 substantiates the survey data gathered from businesses on a monthly basis from horse owners in Sonoma County. The total monthly median expenditure, based on how horse owners in the survey described their monthly expenditures, is approximately $1,475 per horse in 2013 or $464 million annually.

Table 2: Monthly Cost of Horse Ownership, Survey Responses (n = 380 for this question)

Category	Median Monthly Expenses	Survey Total Annual Expenses
Training	$200	$62,920,800
Showing	100	31,460,400
Lessons	100	31,460,400
Boarding	450	141,571,800
Vet/Health care	100	31,460,400
Farrier	125	39,325,500
Feed/supplements	200	62,920,800
Tack/apparel	50	15,730,200
Transportation/trailering	100	31,460,400
Maintenance/Other	50	15,730,200
Monthly Total	**$1,475**	**$464,040,900**

Tables 3 through 5, the economic impact estimates using the IMPLAN® model for Sonoma County, provide economic impact estimates and include some assumptions about direct expenditures

and types of expenses.[7] For example, horse shows, rodeos, and other competitive activities could be classified as indirect to equine spending. If the equine industry did not have a major presence in Sonoma County, it is doubtful that Sonoma County-based events would continue here in the same magnitude or frequency. Below is a list of the categorical inputs into the economic impact model by Table 2's expenses and the assumptions that make them direct expenses:

- Training: Direct expense of equine ownership, which would not exist in Sonoma County if it were not for horse ownership.
- Showing: Equine shows are attracted to Sonoma County because of the large number of local horses, also a sign of strong, local demand.
- Riding Lessons: As with equine training, riding lessons would likely not exist in Sonoma County if not for interest in riding (equitation generally) and the large number of local horse owners.
- Boarding: Very direct, as horses require boarding/stabling facilities.
- Vet/Health care/Farrier: Veterinarians and equine health specialists require a horse population and owners obtaining their services to sustain their business.
- Feed/Supplements: Feed and supplements are carried as inventory and also sold due to a local equine market. Retailers require a substantial horse and owner population to sustain their businesses.
- Tack/Apparel: Like feed and supplements they are necessary retail to support equines and their use.
- Transportation/Trailering: Direct expenses for those who transport horses or run equine-related businesses.
- Maintenance/Other: Additional expenses of equine ownership, most of which require expenditures from an equine owner to support their activities.

It is important to recognize the depth and breadth of industries affected by equine ownership and businesses in Sonoma County. Tables 3 and 4 show that spending on horse training, boarding, riding lessons, equine health, feed, and other expenses ripple out into industries that are completely unrelated to equine animals in terms of their use. Because these economic impacts are also about people, equine owners and those employed by equine or related businesses spend incomes made from the equine industry on hundreds of other businesses that support thousands of jobs and other people who work and have businesses in Sonoma County. The economic impact analysis and model show that few industries are truly unrelated; the equine industry touches many other industries throughout the county.

[7] See www.implan.com for more information.

Table 3: Jobs Supported by Equine Industry (Annual Estimate, Full-Time Equivalent Jobs)

Description	Direct	Indirect	Induced	Total
Training/Boarding	2,693	1	1	2,695
Veterinary and Equine Health (including Farriers)	1,163	0	6	1,169
Shows/Rodeo/Fair	881	54	6	941
Lessons	758	2	7	767
Feed and Supplements	138	22	39	199
Bars and Restaurants	0	31	133	164
Maintenance and other equine expenses	144	8	6	158
Tack and Apparel	109	1	11	121
Real Estate Establishments	0	36	41	77
Medical and Dental Offices	0	0	71	71
Trucks, trailers, ATVs maintenance, fuel, expenses	47	1	23	71
Employment Services	0	31	19	50
Investment Banking	0	12	38	50
Lodging for Equine Shows	34	7	9	50
Grocery Stores	0	1	41	42
Private Hospitals	0	0	42	42
Nursing and Residential Care facilities	0	0	41	41
Private Household Operations	0	0	41	41
Check Cashing/Pawn	0	13	26	39
Accounting, Bookkeeping and Payroll Services	0	24	11	35
Retail Stores - General merchandise	0	1	33	34
Services to buildings and dwellings	0	19	14	33
Individual and family services	0	0	34	34
Architectural, engineering, and related services	0	25	4	29
Other private educational services	0	10	18	28
Internet Retail Sales – General	0	1	26	27
Nonprofit organizations (including horse clubs)	0	9	18	27
Insurance agencies	0	19	6	25
Legal services	0	12	12	24
All others	0	238	409	647
Total	**5,967**	**578**	**1,186**	**7,731**

Table 4: Business Revenues Supported
(Annual Estimates for Sonoma County Thousands of 2013 dollars)

Description	Direct	Indirect	Induced	Total
Training/Boarding	$164,357	$55	$65	$164,477
Veterinary and Equine Health (including Farriers)	70,786	2	402	71,190
Shows/Rodeo/Fair		1,945	389	33,794
Wholesale trade businesses	21,645	4,020	7,219	32,884
Lessons	31,460	83	324	31,867
Maintenance and other equine expenses	23,580	1,309	1,135	26,024
Rental income for property owners	-	-	24,197	24,197
Real estate agencies	-	6,681	10,017	16,698
Bars and Restaurants	-	1,891	10,270	12,161
Medical and Dental Offices	-	4	11,258	11,262
Private hospitals	-	5	8,644	8,649
Banks and Credit Unions	-	2,425	6,138	8,563
Truck/Trailer/ATV expenses and purchases	4,908	141	2,810	7,859
Apparel and Tack	6,119	30	748	6,897
Insurance carriers	-	1,384	5,195	6,579
Check Cashing/Pawn	-	1,797	4,690	6,487
Lodging for Shows	3,998	735	1,298	6,031
Telecommunications	-	1,904	2,713	4,617
Medical and diagnostic labs, outpatient care services	-	622	3,947	4,569
Pharmaceutical preparation manufacturing	-	2,479	2,039	4,518
Investment Banking	-	792	3,719	4,511
Legal services	-	2, 033	2,374	4,407
Accounting, bookkeeping, and payroll services	-	2,772	1,530	4,302
Architectural, engineering, and related services	-	3,517	546	4,063
State and local government fees	158	484	3,002	3,644
Grocery Stores	-	95	3,445	3,540
Nursing and residential care facilities	-	-	3,458	3,458
Insurance agencies	-	1,826	990	2,816
Services to buildings and dwellings	-	1,317	1,226	2,543
Retail Stores - General merchandise	-	66	2,421	2,487
All Others	-	30,440	57,586	88,026
Totals	**$358,471**	**$70,854**	**$183,795**	**$613,120**

Table 5 shows estimates of tax revenues generated by the equine industry in Sonoma County. Table 5 splits the estimated sales taxes supported by the equine industry into state and county in terms of which level of government retains the tax revenues. Property taxes and Transient Occupancy Tax (TOT) are assumed to be retained 100 percent within Sonoma County. The tax revenues generated by the economic impacts of the equine industry, or those which would not exist without an equine industry in Sonoma County, were approximately $11,306,600 in 2013, or 3 percent of the county's budgeted revenue for 2013-14's fiscal year.[8] Table 5 provides data on tax revenues generated annually by the equine industries and their economic impacts, and requires a bit more explanation.

Sales taxes are split between the cities, county, and state. On April 1, 2014, the effective sales tax rate for Sonoma County will be a minimum of 8.25 percent with a maximum tax of 9 percent in Sebastopol. The state of California retains 6.5 percent of that, which makes for another 1.75 percent to be split between funding for the SMART rail project, transportation funding otherwise, open space and agricultural preservation, and general cities and county uses. Specific municipalities may generate more sales tax revenue based on city-level initiatives, but have will not retain the choice over the base as described above unless earmarked for a specific city or town.

Table 5: Equine Industry Supported Annual Tax Revenues
State and Local Governments, 2013 dollars

Type of Tax	**Revenue**
Employment Taxes	$711,100
Sales taxes – California	$6,653,900
Sales taxes – Sonoma County	$**1,791,400**
Property taxes – Sonoma County	$**9,315,300**
Personal Income	$6,293,300
Other Taxes and Fees	$4,457,400
TOT – Sonoma County (Cities)	$**199,900**
Total State and Local taxes	**$29,422,300**
Subtotal for Sonoma County	**$11,306,600**

As a way to test the survey findings, California Equestrian Park and Event Center (CEPEC) lead a parallel effort to look at spending by both horse owners and local businesses in Sonoma County. The data search by CEPEC was not informed by the survey results at all, but corroborated many of the survey

[8] See Sonoma County's adopted budget for Fiscal Year 2013-14 at the following website: http://www.sonoma-county.org/auditor/pdf/fy_2013-2014_adopted_budget.pdf

findings. CEPEC's key contribution to the final study and results was helping to estimate the number of horses in Sonoma County.[9]

Conclusions

An estimated 26,217 horses resided in Sonoma County in 2013. Survey data collected between November 2013 and March 2014 provided primary data on equine businesses and ownership. Further business data were collected by SSU from the survey data and other government data about Sonoma County's demography and the equine industry.

The equine industry in Sonoma County contains a wide breadth of services and products for both equine owners and local business. From local barns and stables to horse training and riding lessons, equine health providers, farriers, and maintenance workers help support working horses throughout the county and region that support local agriculture. The importance of this industry on regional connections is growing annually. The Sonoma County Fair, for example, draws from a regional audience annually for its horse racing, sponsored horse shows, and other events. The Sonoma Horse Park in Petaluma hosts events that draw a global audience and participation. These connections convert equine activities into tourism spending; tourism spending further expands the economic impacts to hotel stays, restaurant meals, transient occupancy tax (TOT or the bed tax for hotel stays) revenue for Sonoma County cities, and sales tax revenues.

Sonoma County's horse owners tend to be middle age and have relatively high incomes. These owners participate in a number of equestrian activities that complement and provide demand to equine businesses and service providers. Trail and arena riding tend to be the dominant equestrian activities in the county, but other activities such as horse camping, dressage, and pleasure riding were also reported as frequent activities by survey respondents. Quarterhorses and Warmbloods are the dominant types of horses owned, but Thoroughbreds, Gaited Horses, Morgans, Mustangs, and miniature horses are also relatively plentiful. Owners tend to own between one and two horses, and do not foresee substantial buying and selling activity in the next five years. Santa Rosa, Sebastopol, and Petaluma are where most owners and their equines reside.

Equine ownership and use of land is a big business in Sonoma County. This study did not look at the value of equine land because it is difficult to know what land and capital is committed to equine ownership based on the mix of agricultural land uses. It is important to recognize that real estate transactions for horse properties augment the economic impacts and available capital for horse ownership and businesses in the county. Further, land use considerations should take into account the importance of this industry as an economic engine for the county.

[9] CEPEC's contribution to this study was: gathering and compiling data from Sonoma County records and interviews with equine and related businesses in Sonoma County. Because the final estimate from CEPEC ($486 million) was slightly larger than what the survey data suggested, this study used the more conservative figure in terms of total spending on Sonoma County's equine industry.

In 2013, Sonoma County horse owners incurred approximately $464 million in direct expenses relating to their ownership of their equine animals. When one considers the indirect and induced effects of these direct expenses, we see that the Sonoma County equine industry generates over $613 million in business revenues annually due to the relationships between people who own and care for horses, and the businesses that support this ownership. These business revenues support over 7,760 jobs across hundreds of industries in Sonoma County, and provide almost $12 million per year to county and city governments in taxes.

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