To the Graduate Council:

I am submitting herewith a dissertation written by Margaret M. Gripshover entitled "The Development and Diffusion of the Tennessee Walking Horse: A Case Study in Equine Regional Specialization." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Geography.

Leonard R. Brinkman, Jr., Major Professor

We have read this dissertation
and recommend its acceptance:

Frank O Lentfold

Thomas L Bell

Sylvia M. Pulsipher

Accepted for the Council:

Associate Vice Chancellor
and Dean of the Graduate School

THE DEVELOPMENT AND DIFFUSION OF THE TENNESSEE WALKING HORSE: A CASE STUDY IN EQUINE REGIONAL SPECIALIZATION

A Dissertation

Presented for the

Doctor of Philosophy

Degree

The University of Tennessee, Knoxville

Margaret M. Gripshover

May 1995

Copyright Margaret M. Gripshover, 1995
All rights reserved

DEDICATION

This dissertation is dedicated to my father, Robert Bernard Gripshover, Sr. whose loving memory has guided me through this long and satisfying journey.

ACKNOWLEDGEMENTS

I am deeply grateful for the direction given to me by my major professor, Dr. Leonard W. Brinkman. His attention to detail, ability to motivate and endless patience was much appreciated. I would also like to thank the members of my doctoral committee, Dr. Thomas L. Bell, Dr. Lydia M. Pulsipher, and Dr. Frank O. Leuthold for their advice and support. Although not a member of my dissertation committee, Dr. Sidney Jumper deserves special mention as he was always behind the scenes offering words of encouragement. I am most appreciative of the Tennessee Walking Horse and Breeders' Association for granting me special access to their private archives to construct my data set. Without their cooperation this dissertation would not have been possible. The data collection for this research would still be in progress if it weren't for the unflagging assistance and friendship of Christa A. Smith. Thanks also to Terence J. Gilhula and Will Fontanez for their cartographic expertise. I would like to thank my family for their years of encouragement, especially my mother Joyce, and sister Nancy. I owe a tremendous debt to my parents for encouraging me to be curious, creative, and above all, myself.

ABSTRACT

By the early 20th century, the Tennessee Walking Horse emerged as a distinct American horse breed in Nashville Basin in Middle Tennessee. The Walking Horse developed in Tennessee largely as a result of equine and human diffusion, preexisting breeding and sales infrastructure, regional demand for a specific type, the evolution of a complex and complimentary equine gene pool, and growing interest in recreational horse breeds. The Tennessee Walking Horse breed registry was organized in 1935 but Walking Horse diffusion patterns that persisted through the late 1980s were established as early as the 1920s. A model for equine regional specialization was developed based on the spatial characteristics of Walking Horse marketing patterns. This model can also be applied to other purebred livestock. The data set was constructed from registration papers held by the Tennessee Walking Horse Breeders' and Exhibitors' Association. The spatial relationships between breeders and buyers were mapped using county-level import and export sales characteristics to identify areas with the most intensive development. The overall trend in Walking Horse diffusion from its Middle Tennessee hearth is for horses to be sold most often to owners south and west with smaller numbers of sales north and east. By the 1990s, Walking Horses had diffused from their Middle Tennessee hearth to every U.S. state and many foreign countries. Although their diffusion may appear to be extensive, the rate of adoption has been slow in some regions due to the presence of previously established horse breeds, prejudice against gaited horses, and the popularity of other incompatible equine activities.

TABLE OF CONTENTS

CHAPTER **PAGE**

LIST OF FIGURES

TABLE **PAGE**

CHAPTER 1

AN EXAMINATION OF EQUINE GEOGRAPHY

INTRODUCTION

The Tennessee Walking Horse is a specialized North American horse breed that evolved primarily in Middle Tennessee through a series of complex crosses during the late 19th century. By the mid 1800s, the blood of the French Canadian Horse, Narragansett and Canadian Pacers combined with the progenitors of the modern Thoroughbred, Morgan, American Saddlebred and Standardbreds to create the ancestral Tennessee Walking Horse (Fig. 1).

Walking Horse ancestors were known and valued for their easy gait, utility, and hardiness, winning acclaim from plantation masters and yeoman farmers alike. Fancied by southerners for their comfortable non-trotting gait known as the running walk, "plantation walkers," were sought by riders who found themselves in the saddle for long periods of time and required an animal that was equally suited to light draft duties. The Walking Horses' natural running walk is a smooth, ground covering three to five-mile-per hour stride. This gait was the hallmark of the earliest plantation walkers and is the trademark of the contemporary Tennessee Walking Horse as well, keeping the animal popular with both professional and amateur horsemen.

Although its characteristics of gait and temperament have been valued by Walking Horses fanciers for over a century, the Tennessee Walking Horse is a relatively new horse breed. While they have been recognized as distinctive type and selectively bred for over 100 years, the official breed registry was not established until 1935. The Tennessee Walking Horse Breeders' Association (later renamed the Tennessee Walking Horse Breeders' and Exhibitors' Association and hereafter abbreviated as TWHBEA) was formed in 1935 and published its first stud book in 1938. In 1942 the United States Department of Agriculture officially recognized the Tennessee Walking Horse as a distinct American horse breed. Since the first stud book was

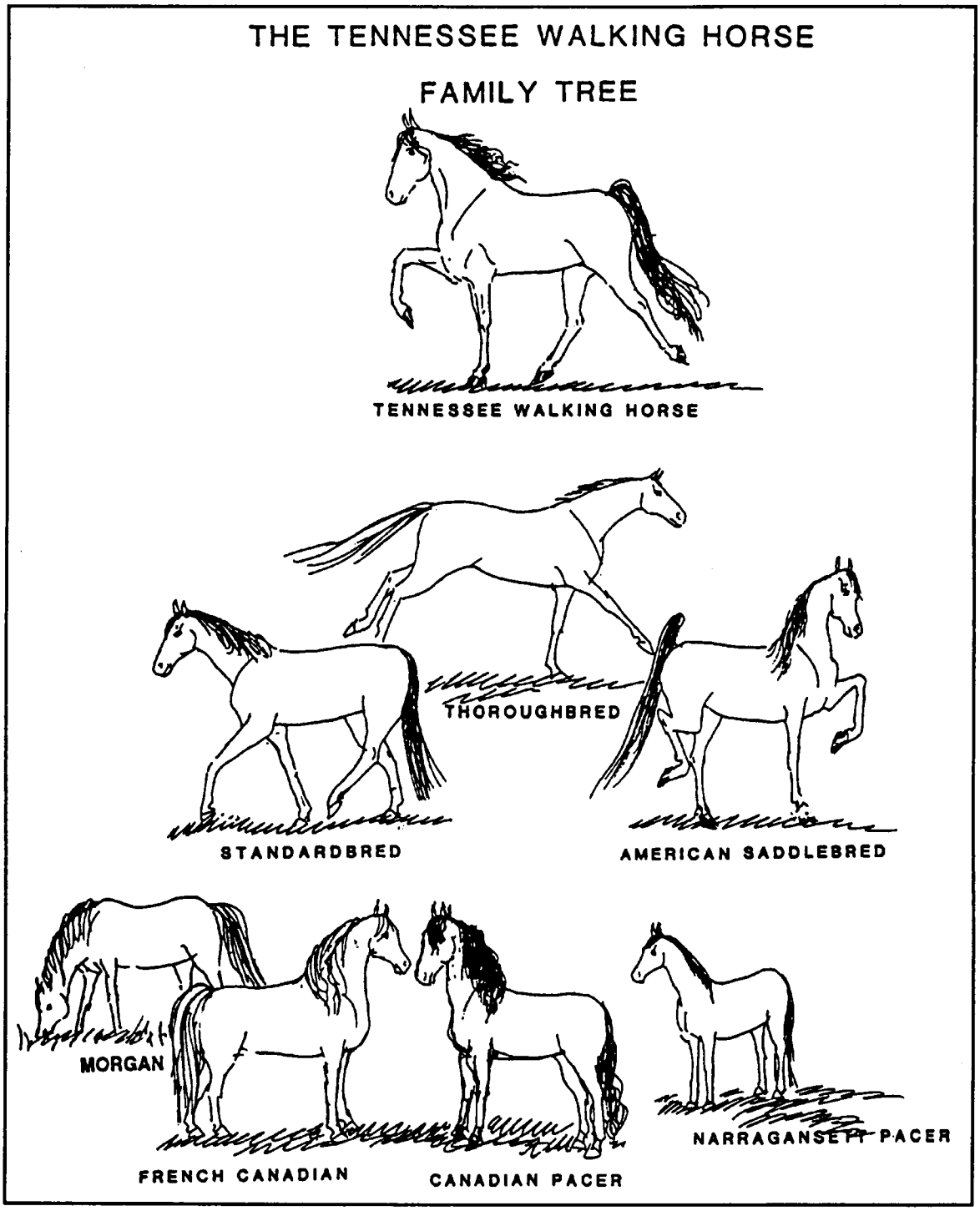

Figure 1: The Tennessee Walking Horse Family Tree. The Modern Tennessee Walking Horse developed as a result of a seies of complex crosses between at least seven different North American horse breeds or types. Three of these ancestral varieties, the Narragansett Pacer, Canadian Pacer, and French Canadian Horse, are considered to be extinct.

established, over 200,000 Tennessee Walking Horses have been registered by their owners throughout the United States and in numerous foreign countries.

That the Walking Horse evolved primarily in Tennessee, rather than in California or New York, was not as much as the result of geographic randomness as it was the consequences of historical inertia. The development of the Walking Horse in Middle Tennessee was preceded by the emergence of the Nashville Basin as a 19th century equine nursery for the American Thoroughbred and as a mule breeding center. Thoroughbred breeding in Middle Tennessee initially focused on the production and export of race horses. Although the American Thoroughbred did not have its own official breed registry until after the Civil War, many of its ancestors were imported English Thoroughbreds which were brought into Tennessee as early as the 1790s. These imported blood-horses did much to improve the native stock and provided both the genetic and institutional framework that would later foster development of the Tennessee Walking Horse.

By the 1850s, Tennessee had gained national attention for its racing stock, but its significance on the racing scene had markedly diminished before the close of the antebellum period. The decline in Thoroughbred horse breeding was hastened by the passing of the founding generation of horsemen, competition from other horse producing regions, changing public perception of racing institutions, and the growing demand for mules in cotton raising. High demand for mules with infusions of Thoroughbred blood was so great by the late 1850s, that the prices of mules actually surpassed those of horses (Gripshover, 1989). The negative effects of the Civil War on Tennessee horse populations further diminished the Nashville area's racing industry. After the Civil War, the center of Thoroughbred breeding and racing shifted north to the Kentucky Bluegrass where its preeminence as a Thoroughbred nursery persists today.

Despite the decline in race horse breeding, the Nashville Basin continued to evolve as an equine nursery, becoming a leading mule producer during the late 19th and early 20th centuries. The Middle Tennessee Thoroughbred complex never fully recovered from the loss of broodmares to mule production and from the drain of equine resources incurred during the Civil War. The near abandonment of Thoroughbred breeding in the Nashville Basin by the close of the 19th century and the eventual decline in demand for mules changed the nature of the region's equine specialization, but the basic marketing infrastructure for a 20th century equine nursery in Middle Tennessee remained. These institutional and marketing remnants are of the

great significance in the development and diffusion of the Tennessee Walking Horse. The diffusionary path taken by the modern Walking Horse virtually mirrors the breeding and marketing patterns established by 19th century Tennessee-bred horses and mules.

LITERATURE REVIEW

For decades, geographers have attempted to ascertain the factors that lead to regional agricultural specialization. During the golden age of the regional approach, geographers produced a large body of agricultural literature, mainly focused on the delimitation of crop producing regions. There was relatively little emphasis on livestock specialization. Much of this work was centered on descriptive cataloging of economic activity accompanied by cartographic treatments of the data as for example Oliver E. Baker's series of articles in, Economic Geography, beginning in 1925 (1925, 1926, 1927). Little was offered by Baker or his contemporaries in the way of time-tested analysis or theory development.

This early 20th century geographical research failed to address the regional significance of the horse. Horse populations may have appeared to be so nearly ubiquitous as to lack the distinct regionality such as the Corn or Cotton Belts. For example, Finch and Baker in a 1917 agricultural atlas noted that horse production was "...not a specialized but an incidental industry," while mules were "...more favorable to specialization (Finch and Baker, 1917, 110)." Baker and Finch were at a disadvantage when evaluating horse specialization during the early 1900s as few American breed registries existed to provide a data set and most horses were crossbred with little or no written history as to their origins.

In 1926, Ellsworth Huntington addressed the distribution and significance of horse populations in a study of climate and domesticated animals (1926). Huntington ranked horses at the top of a list of 30 domesticated animals. He believed that while U.S. horse populations were in decline by the mid-1920s, "...the effect of motor transport in diminishing the number of horses in the United States appears to have almost reached its limit (1926, 126)." Of course Huntington's vision of the future of transportation technology was as erroneous as his promotion of environmental determinism.

Spencer and Horvath's, "How Does an Agricultural Region Originate," (1963) and John C. Weaver's discussions of crop-livestock combinations are classic examples of how geographers have sought

understanding in regional dynamics (Weaver, 1954). However, neither of these studies shares similar location variables with Tennessee Walking Horse regionalization. Perhaps a closer parallel can be drawn to David Harvey's examination of the agglomerated economies associated with specialized hop production in Great Britain (1963). Yet Harvey's emphases on location rents and farm labor costs do not apply as neatly to horses as to hops. Equine production is less directly tied to soil and climate conditions than field crops and more oriented to market demands and fashion. To a great extent, the regional paradigm itself was a product of agricultural geography research (Reeds, 1964). What remains largely missing from the literature is a body of research that examines how livestock rather than how crops evolved into specialized regional products.

While some studies such as Loyal Durand's series on the American dairy industry (1947, 1951, 1963), and Terry G. Jordan's (1981, 1993) treatises on the evolution of Texas cattle systems focus on livestock, the spatial, economic or social dynamics of animal husbandry have yet to be fully explored. Historical geographers, especially British scholars P.J. Perry (1972), John Langdon (1984), and John R. Walton (1984), have made some effort to examine the specifics of improved livestock husbandry, but not factors which lead to breed emergence or regional specialization. In particular, equine diffusion and marketing structures have been largely ignored.

American historical geographers have examined animal husbandry having focused mainly on consumption-oriented livestock, especially cattle. Terry G. Jordan (1970, 1981, 1993), and Leonard W. Brinkman (1964), have researched the diffusion of cattle in the United States, the former with an emphasis on cultural diffusion, the latter with a more economic approach. Paul Henlein's study of the early development and decline of cattle raising in the Ohio Valley offers some excellent insights as to regional diffusion and adoption of improved beef herds (1959). Richard MacMaster's examination of cattle trading in Western Virginia acknowledges the role of human migration in pedigreed cattle diffusion, an important consideration in regional livestock specialization (1990). While these studies are valuable, the processes behind acceptance and diffusion of improved cattle do not always parallel horses, largely due to the end market for each.

A notable exception to geographic interest in meat producing livestock was Robert Lamb's study on mule production in the American South (1963). Lamb's focus was the role of the mule in agricultural practices in the South, and less on the factors relating to mule breeding. It was unfortunate that Lamb failed to

adequately examine the role of the mare horse in mule production, which could have provided additional explanation as to mule production patterns and diffusion. An investigation of mule stock origins would have provided Lamb with a more direct link between southern equine markets and Middle Tennessee.

Contributions by geographers to the agricultural diffusion literature are becoming increasingly rare as has most research in agricultural geography in the post World War II era. During the 1960s and 1970s, however, geographers produced a number of diffusion studies based on model building and theory construction (Anderson, 1970; Hagerstrand, 1966; Johansen, 1971; Peet, 1968). These approaches to agricultural geography were highly quantitative and markedly different from the more descriptive regional approach taken by scholars during the 1920s, 1930s and 1940s. The bulk of this research centered on the dynamics and structures associated with the adoption of innovations, especially those related to cropping enterprises.

The bulk of agricultural diffusion research to date has emphasized the diffusion of crops and cropping systems. The diffusion of livestock, despite the wealth of available data sets, has not been comprehensively investigated. The majority of livestock studies have focused mainly on historical change and agriculture in developing regions (Brown and Lentnek, 1973; Clark, 1962; Frederic, 1973; Hartman, 1973; Jordan, 1970; Winsberg, 1970). Despite the plethora of diffusion studies during the past 30 years, only Morton D. Winsberg's research on Aberdeen Angus in Argentina has dealt directly with 20th century purebred livestock economies (Winsberg, 1970). However, Winsberg's work was concerned with the introduction of a new breed type rather than the development and diffusion of an indigenous breed from a core region.

Only three geographers have directly contributed to equine geography literature--James Anderson, Alice Luthy Tym, and Karl B. Raitz. All three examined the American Thoroughbred industry as it affected the cultural landscape rather than evaluating the breed itself. Tym and Anderson examined the impact of Thoroughbred racing in Marion County, Florida (Tym and Anderson, 1967). Tym and Anderson's research was based largely on explaining the location of Thoroughbreds in Marion County by environmental factors such as soil types. Their dependence on the physical environment to explain Thoroughbred distributions was oversimplified and had questionable scientific foundations. Karl Raitz concentrated his research on the Thoroughbred on the landscape of gentlemen horse farms in the Inner-Bluegrass region surrounding Lexington (1975, 1987). Raitz was more concerned with the expressions of conspicuous consumption by horse breeders

and owners than the forces which fostered these activities. Neither the Tym and Anderson nor Raitz studies offer much in the way of explaining the spatial effects of horse breeding or diffusion.

Geographers have largely failed to investigate the dynamics of equine economies, while historians, sociologists and anthropologists have experienced some successes. The majority of these works in neighboring disciplines have been breed-oriented and are mainly concerned with anecdotal and historical aspects of Thoroughbred racing. Hervey's, Racing in America (1944), Hollingsworth's, The Kentucky Thoroughbred (1985), and Wills', "The Eclipse of the Thoroughbred Horse Industry," (1987), represent historical approaches to the racing industry.

Studies of breeds other than the Thoroughbred are less common in the scholarly literature as most breeds do not enjoy the same level of public exposure as the racing types. Many of these publications are generated by breed fanciers and interested laymen and oriented toward personalities and famous horses.

Little has been written on the Tennessee Walking Horse since it emerged as an official breed in the 1930s. Robert Womack's, Echo of Hoofbeats, is the most comprehensive history of the Walking Horse to date (1984). Womack's work is an excellent example of how anecdotal breed studies tend to concentrate on the activities of prominent individuals rather than the dynamics of regional specialization or diffusion. However, Womack's recounting of notable individuals and horses that shaped the breed is a valuable resource and serves as a major historical reference for this study.

Sociologist Charles W. Smith's study of structuration theory as applied to purebred cattle could have some interesting applications in future horse breeding research (1983). In the case of purebred horses, Smith's interpretation of structuration could be used to explain changes within the TWHBEA as to the marketing, performance and appearance of the Walking Horse as it has gained in popularity over the past 50 years. However, structuration theory alone does not explain diffusion patterns and would be best applied to studies examining the ramifications of the horse as a status symbol and the of dynamics of elitism.

Anthropologist Francis Haines is unique as both an equine scholar and breed innovator. Through his dissertation research and subsequent publications on the American Indian, Haines became an early authority on the development of the Appaloosa horse breed. Haines was one of the founders of the Appaloosa Horse Breeders Association and helped organize its first stud book. He examined the diffusion of horses from 1600

to 1770 and the role of the horse in the American West in Horses in America (1971). The bulk of this volume is devoted to Native Americans, the Spanish, and the role of the horse in the Civil War. However, Haines did little to explain the forces behind or the consequences of American and imported horse diffusion.

A comprehensive geography of American horses has yet to be constructed. A few Geographers have provided cursory discussions of the most elite equine activities, but none of these studies have centered on the diffusion of breed types or on market specialization. Yet to be examined are such topics as the effects of 19th century draft horse imports into grain farming regions of the American Midwest, the development, diversity, and diffusion of Anglo-American horse breeds, and the regional economic structure of the pleasure horse industry. The dynamics behind the diffusion of American horse breeds such as the American Quarter Horse and the Morgan Horse to such diverse locations as Australia, China, and Switzerland would also provide geographers much fertile ground for future research.

The functional evolution of the horse from plow lines to show ring represents not only changing resource use, but also a new role for the horse in contemporary urban America. The Tennessee Walking Horse is a breed that experienced just such an evolution---from farm to pleasure horse. An examination of specialized horse breeds such as the Tennessee Walking Horse would contribute to our understanding of regional equine specialization and diffusion. It is my intention that this study serve as a foundation for future research in regional horse specialization and diffusion, for the establishment of a comprehensive equine geography, and as a basis for the reevaluation of the horse's new role in urbanized societies.

PROBLEM

In the search for variables which may provide explanation in regional agricultural specialization, cropping systems rather than livestock have served as the primary models of development. Geographers have largely ignored the explanatory power and data base resources of purebred livestock associations when examining regional specialization. Records kept by livestock registries, when evaluated in concert with other archival and field evidence, can be used to reconstruct the pattern and processes needed to evaluate and interpret the emergence of specialized regions. The registries which record the development of the Tennessee Walking Horse from the 19th century to the present provide just such a data set. To date, no attempt has been

made to use equine stud books as a framework for the study of regional livestock specialization nor has there been any attempt by geographers to develop a breed diffusion model based on spatial and temporal information found in breed registries.

One advantage of utilizing purebred livestock records to examine regional specialization is the diffusion pattern that can be constructed from records which document foaling and ownership locations. Tennessee Walking Horse breed registries can be used to determine specific town and county locations of Walking Horses, and distinct import and export markets. The emerging patterns provide a base for spatial and temporal analysis of Walking Horse diffusion and lead to a greater understanding of the development and dynamics of equine regional specialization.

The unique structure of some livestock records afford the researcher the luxury of developing detailed maps of market intensity and breed diffusion patterns. Such data bases are virtually absent for seed varieties. Crop production is regarded as mundane and it is difficult to achieve even tenuous historical market and diffusion pattern detail using cropping enterprises to illustrate development and diffusion from an agricultural hearth area. The intrinsic social and economic aspects of corn breeding and diffusion, for example, do not possess the level of prestige that leads to the preservation of livestock pedigrees and ownership records such as those of the Tennessee Walking Horse.

Whereas the use of cattle in American agriculture and society has not radically changed since the late 19th century, horses have evolved from work animal to, "hobby," horse due to farm mechanization and the adoption of motor vehicles. This shift in specialization from utility to recreational animal differentiates the horse from other commercially raised livestock. The Tennessee Walking Horse is an excellent example of this evolution from multi-purpose farm horse to pleasure mount---a breed that emerged to become the "World's Greatest Pleasure Horse."

PURPOSE

The purpose of this study is to detail and analyze the development and diffusion of the Tennessee Walking Horse, from its antebellum ancestors to 1988, and to determine if the breed's development could be used as a model for equine regional specialization. The first step is to determine why and how the Walking

Horse nursery developed in a cluster of Middle Tennessee counties during the late 19th and early 20th centuries. The second question to be addressed is how the Middle Tennessee core counties influenced the diffusion of Tennessee Walking Horse and what changes have occurred since the first official stud book was published in 1938. With the diffusion pattern from the Middle Tennessee core counties established, the third task will be to find out if the Walking Horse has failed to make significant inroads into certain areas of the United States and why these gaps in diffusion have occurred. Finally, can the Tennessee Walking Horse be used as a model for examining regional equine specialization and provide the basis for the development of an equine geography applicable to the geographic study of other domesticated animals?

Based on these four central questions, it is hypothesized that the Tennessee Walking Horse emerged as a distinct American horse breed due to historical inertia provided by the preexisting equine nursery infrastructure in Middle Tennessee, and in response to changing equine market demands in the United States since the post-World War I era. The Walking Horse's broad distribution in the southern and western states, and limited concentrations in the north and east, is largely the result of historical markets, consumer preferences and prejudices, endorsements or rejections by leading breeders, and competition from previously established horse breeds. It is also postulated that the Tennessee Walking Horse typifies modern horse breed diffusion in the United States and could be used as a model for equine regional specialization and that this model can be applied at least in part to other types of livestock development.

PROCEDURE

At the heart of this study is the analysis of a series of maps constructed from the data contained in the registries of the Tennessee Walking Horse Breeders' and Exhibitors' Association from 1938 to 1988. Since 1938, the TWHBEA has recorded the pedigrees of acceptable horses at its offices in Lewisburg, Tennessee. From 1938 to 1948 stud books were published and sold to the public. However, due to declining sales and escalating production costs, publication of the registries ceased with the 1948 edition. From 1949 to the present Walking Horse registrations were recorded and held by the Association in their offices in Lewisburg. From these published and unpublished registrations, data for Walking Horse breeder and ownership patterns

were collected and mapped. Using the spatial relationship between breeder and ownership location, a series of maps reconstructing diffusion patterns of the Tennessee Walking Horse were created.

Detailed geographic and temporal data were extracted from the Tennessee Walking Horse studbooks and TWHBEA files. However, due to the lack of early documentation of pedigrees, small parts of the record were incomplete. For example, most Walking Horse stud book entries include the name of the horse, its assigned registration number (the first two digits representing the year the horse was registered with the Association), its sex, color, date of birth, breeder name and location, owner name and location, sire, dam, and any other lineage information. Some studbook entries for early 19th century ancestral Walking Horses lacked complete locational information, yet the vast majority of registrations contained the locations of both breeder and owner. Only those entries that listed locations of breeders and owners at the time of registration and foaling dates were included in the data set.

The lack of a complete data set for ancestral Walking Horses in the 1800s typifies the state of livestock record keeping during the 19th century. Only a few horse breeds had an official registries published during the 19th century and most were organized by horse breeds originating in the British Isles such as the English Thoroughbred.

As late as 1899, only 18 American breed registries had been established, and at least 50% of these registries were organized for breeds that were originally imported from Great Britain. Only four registries existed for distinctly American horse breeds. All four of these registries were organized at the close of the 19th century, and despite millions of American horses, emphasis on scientifically managed breeding programs and registries was virtually absent during the last great century for the horse. The oldest American breed registry is the National Saddle Horse Breeders' Association of Louisville, Kentucky, which documents the bloodlines of the American Saddlebred. In the late 1800s, New Englanders organized the Morgan Registry in Middlebury, Vermont, to preserve the pedigrees of the region's most famous breed. One stud book was organized in Columbia, Tennessee for Jacks and Jennets used in mule production, and the American Trotting Registry was established in Chicago, Illinois, to record trotting and pacing Standardbred pedigrees. Except for the Jack and Jennet stud books, all of the aforementioned breed records were used to research locations of ancestral Walking Horses.

While breed registries such as those of the Tennessee Walking Horse provide highly geographic resource data, problems may be encountered in use of some records. For example, the location of the breeder or the owner does not automatically indicate that the horse could be found at that specific place. Although breeder and/or owner location was most often the actual location of the horse, many show horses (which are a minority within the breed as a whole) are stabled with a trainer who may or may not live in the home community of the owner. This is not a serious problem in interpretation, however, because the diffusion process may be as much the result of the spread of information as it is of the movement of goods or services. The presence of an influential breeder or owner in a community may have as much diffusional power as the actual physical presence of the animal.

When using livestock registries for a temporal study, one must also bear in mind that the year in which a horse was born may not always be the year in which it was registered. Such was the case with many foundation sires and dams foaled decades before the breed registry was established. A horse foaled in 1910 may have been registered in 1937 along with horses foaled in 1937. This disparity narrows with the passage of time and by the 1940s, the majority of horses were registered within two years of their birth. To account for the lag time in early registrations, the data set for each study period was constructed using foaling dates rather than the year the studbook was published.

Since over 200,000 Tennessee Walking Horses have been registered since 1938, it was necessary to select a sample that provided both explanatory power and a manageable data set. To accomplish this, a series of years in which Walking Horse production experienced the greatest changes have been identified for this study.

Walking Horse populations included in this study were those horses foaled before 1920, during the 1920s, in 1935, 1938, 1950, 1965, and 1988. The pre-1939 sample years were treated as a single developmental era and selected to illustrate the early evolution of the breed. The later years, 1950, 1965 and 1988 were selected to determine if the historical hearth region of Middle Tennessee persists and if the pattern of Walking Horse diffusion has changed since the breed was officially organized.

Walking Horse locations for the year 1950 were included in the data set because between 1940 and 1950, U.S. horse and Walking Horse populations declined by 40% and 64% respectively (United States

Department of Agriculture, 1950). This dramatic decrease followed over 40 years of steady decline in the general horse population, but marked a dramatic change for the Walking Horse which for years had increased steadily in numbers.

Tennessee Walking Horse registrations rebounded during the 1960s. Registration data for 1965 was used because a record number of Tennessee Walking horses were foaled in that year. After this peak, the number of Walking Horses registered fell steadily, reaching its lowest level during the 1980s. The final sample year, 1988, was selected as the concluding year as it was the most recent complete data set available from the TWHBEA and includes registrations filed with the TWHBEA up to 1990.

EQUINE SPECIALIZATION MODEL

Within each time period, Walking Horse locational and marketing characteristics were divided into four levels of county activity (Fig. 2). The four production and marketing levels were based on breeder and owner location and included horses that were (1) foaled and remained in their county of birth, (2) foaled in one county and owned in a different county within the same state, (3) horses which were born in a county in one state and owned in a different state, and (4) counties where Walking Horses were owned but none were foaled.

The highest level of equine activity includes core counties (C) which experienced the first three production and marketing characteristics. Core counties formed the historic Middle Tennessee Walking Horse hearth and had the greatest influence over the breed's diffusion. To qualify as a core area, a county must produce foals and market them to buyers within the county, outside the county, and outside the state where the horse was born. Core counties with their extensive marketing network dominated foal production and facilitated further diffusion through sales of surplus horses at local and regional markets. Core counties also had the potential to affect Walking Horse breeding and marketing activities in neighboring regions. Core counties were usually bordered by transitional (T), emerging (E), and import/only (I) counties. The intensity of foaling and marketing activity declined with distance from the core.

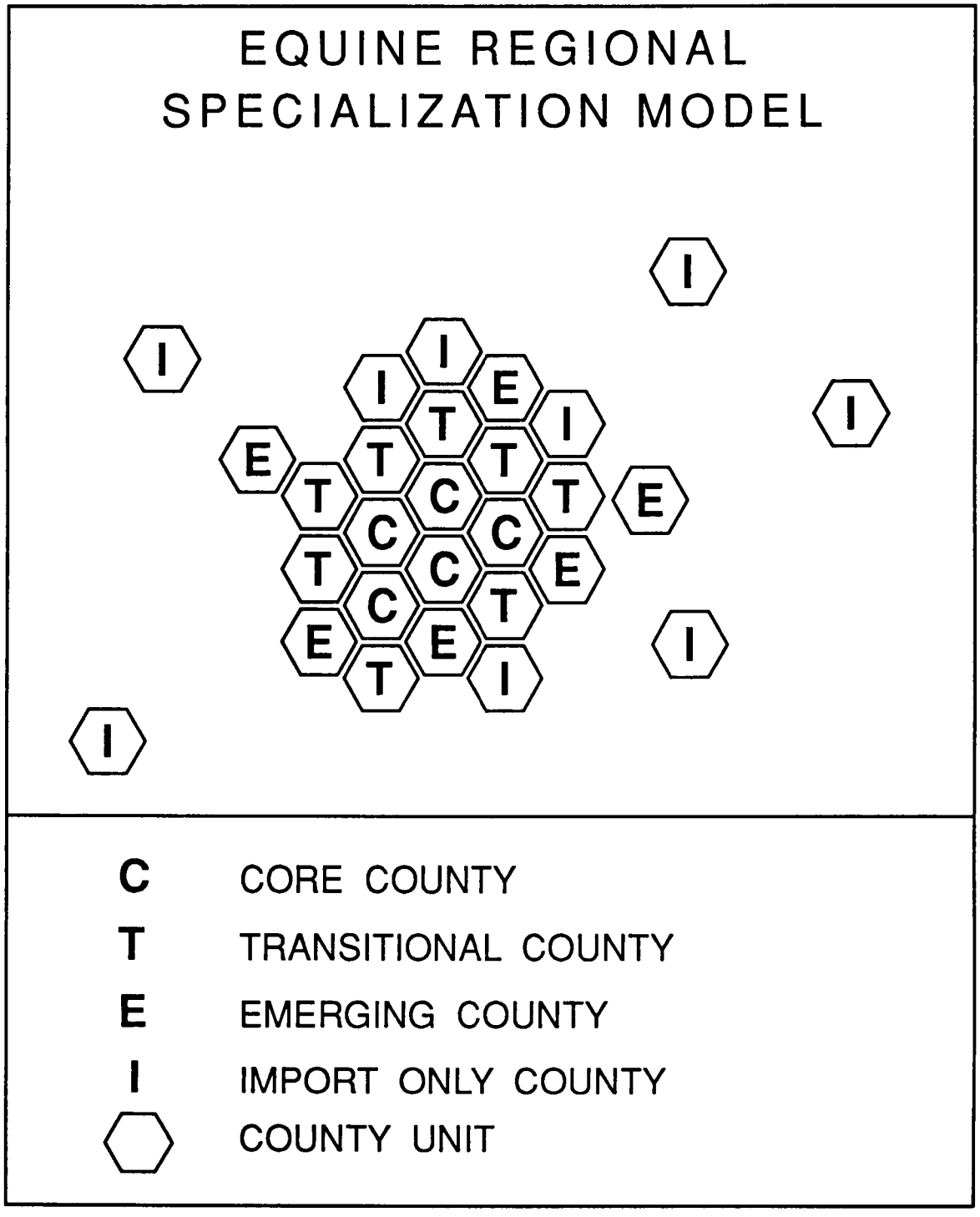

Figure 2: Equine Regional Specialization Model. Equine regional specialization at the county level exists at four levels with each classification based on breeding and sales levels. Some horses are sold within their birth county, others are sold to other counties within the state or exported to other areas. Core counties experience sales at all three levels, transitional at two and emerging counties at one. Import Only counties produce no Walking Horse foals for a particular year, but import from producing counties.

Transitional Walking Horse counties (T) represented an intermediate level of activity and experienced only two of the first three marketing and production characteristics. Horses foaled in transitional counties were sold either intra- and inter-county, intra-county and out-of-state, or inter-county and out-of-state. Transitional counties were areas where Walking Horse production was becoming more specialized but had not matured to the level of a core county. Transitional counties were the most likely to develop into core counties and were usually located adjacent to an existing core region.

A third type of equine specialization development involves emerging counties (E) which experience only one of the first three marketing and production characteristics. Emerging counties produced foals sold exclusively at the intra-county, inter-county or out-of-state levels. This category represents areas in which the Walking Horse industry was in an early stage of development and specialization dynamics were poorly developed. These counties were normally found on the outer limits of the hearth area and were less likely to benefit from the intensive breeding and production activity at the center of the core. Emerging counties were also less likely to develop directly into core counties before evolving into the transitional stage.

The fourth marketing and production counties were the import/only counties (I), areas in which Walking Horses were owned but none were foaled in a given sample year. These were counties in which Walking Horse breeding specialization had not yet developed. Import/only counties were found mainly on the outer edges of the equine hearth area and were often separated from the compact core region.

Import/only counties had the potential to develop into higher level breeding and marketing areas as more horses were located within the county providing a larger pool of breeding stock. Over time, import/only counties proliferated with the diffusion of exports from emerging, transitional, and/or core county regions. By 1988 nearly all import/only counties in Tennessee had developed into producing counties. Over time, Walking Horse owners found greater satisfaction and economy could be gained by local breeding rather than importing animals from other areas.

The classification of counties was not static. Core counties, as did all county classifications, retained, lost, and/or regained their marketing level status over time with fluctuations in Walking Horse foaling rates and sales. In the Middle Tennessee, core county designations often changed with only Bedford County qualifying

as a core county in each of the study periods. Despite the variability in core county status, Middle Tennessee persisted as the hearth region for Walking Horse specialization.

Typically, second, third, and even fourth level counties later progressed toward more efficient production and more diversified marketing. Conversely, it was possible for counties that experienced relatively high levels of breeding and sales to decline in market activities. Walking Horse counties which lost production over the study period were often located outside the Middle Tennessee hearth region or were not contiguous to a core county.

The evolution of the Tennessee Walking Horse core region in Middle Tennessee can be clearly illustrated cartographically as counties gain or lose foaling and marketing activity. In many cases, these changes were dramatic. In the earliest study period that includes Walking Horses foaled before 1920, only 25 counties in Tennessee experienced any foaling or selling activity. By 1988, only two of Tennessee's 95 counties failed to experience some level of Walking Horse breeding or marketing.

Cartographic representations of foaling and ownership patterns alone cannot fully explain the processes behind Walking Horse specialization in Middle Tennessee. In order to understand the dynamics by which the Walking Horse spread from its hearth region, it will be necessary to identify the variables that influenced the Walking Horse development and diffusion. Included in this discussion will be an examination of the role of the physical environment, archival evidence such as histories to explain the development of foundation stock, and the role of the TWHBEA itself in shaping the Walking Horse industry.

While the emphasis in this study is on Walking Horse specialization in Tennessee, it is also important to understand the consequences of Walking Horse diffusion to locations outside the state. Since many Walking Horses are sold to out-of-state buyers, it is essential to recognize that diffusion of Walking Horses helped to create national interest in the breed and fostered adoption and production in areas outside the historical Middle Tennessee hearth. Therefore, a brief summary of Walking Horse populations and diffusion patterns outside of Tennessee is included to provide explanation for each study period.

CHAPTER 2

FOUNDATION BREEDS' INFLUENCES ON TENNESSEE WALKING HORSE DEVELOPMENT

EARLY HORSE BREEDING IN MIDDLE TENNESSEE

Before the Civil War, Tennessee supplied southern and national markets with saddle horses and mules (Tennessee Department of Agriculture 1945). Tennessee horse and mule breeders enjoyed several environmental and market advantages. Most of Tennessee's surplus horses and mules were located in the Nashville Basin, one of only two bluegrass regions in the United States. The character of the soils, climate, and forage in the region provided an initial competitive advantage for Middle Tennessee breeders. The presence of newly emigrated populations from horse breeding regions in Virginia and North Carolina, and proximity to a horse deficit region to the south combined to create a thriving horse and general livestock breeding center in Middle Tennessee by mid-century.

Tennessee mules were also produced almost exclusively in the Nashville Basin where durable bluegrass pastures and an abundant supply of quality broodmares could be found. Often, the breeders who developed the American Thoroughbred in Tennessee were the same individuals who used improved blood mares to produce the hybrid mule, a cross between a mare horse and a jackass stallion (Gripshover 1989). The same communities that experienced high levels of horse and mule breeding in the 1800s, continued this traditional into 20th century with Walking Horses. This relationship is significant as the 19th century equine production and marketing infrastructure that existed for race horses and mules in Middle Tennessee provided the foundation for Walking Horse development.

Although horse and mule production were both taking place in Middle Tennessee prior to the Civil War, the two equine types had distinctively different production and marketing characteristics. The

Thoroughbred racing industry was almost exclusively the milieu of the wealthy gentleman farmers and plantation owners. The heaviest concentration of race horse breeding was in the northern Nashville Basin area and included Davidson, Rutherford, Sumner, Wilson, and Williamson counties. While some race horses remained and competed in Tennessee, the majority were shipped to race courses in Louisiana, California, New York, and Pennsylvania via land, river, and/or rail.

By the mid-1800s, mule breeding was wide spread in the Nashville Basin with the greatest numbers bred in central and southern counties in Middle Tennessee. Tennessee-bred mules were sold to local and regional farmers as work animals as well as exported to distant markets. Mule breeding was a less glamorous than horse racing, but high market prices could be had by driving the lowly mule to cotton plantations in the South, or to sugar cane fields in the Gulf Coastal Plain (Gripshover, 1989). Mules were also shipped to the Caribbean to work on large sugar plantations. This path of diffusion would be repeated in the 1930s when a number of Tennessee Walking Horses were exported to the Dominican Republic.

The development of equine nurseries in Middle Tennessee was severely disrupted by the Civil War. Tennessee's site and situation during the conflict created conditions that fostered the decimation of horse and mule populations. It is ironic that the same advantageous market location that benefited Middle Tennessee mule and horse breeders, allowed Union and Confederate armies to routinely drive animals out of the state or kill the ones left behind before retreating to safety. As the warring factions crisscrossed the state during the Civil War, it is estimated that over five million Tennessee horses and mules were either stolen or killed, the majority in the breeding centers of Middle Tennessee (Corlew, 1981). The state's Thoroughbred horse industry never fully recovered from the devastation of the Civil War, diminishing the national significance of race horse breeding in Middle Tennessee (Hervey, 1944).

In the decades after the Civil War, Middle Tennessee equine breeders found that the greatest profits were to be made in mule rather than light horse production. The value of mules out-paced that of horses throughout the late 1800s. By 1889, the average horse in Tennessee was valued at $36.65, while mules averaged 27% higher than horses in value. The highest prices for mules occurring in 1896 when they were valued an average of 27% higher than horses (United States Department of Agriculture, 1899, 701).

The differences in value for mules in Tennessee were slight and indicated that the local market did not present the greatest profit opportunities for breeders. Tennessee mule breeders looked to the South and West for more favorable markets where they could maximize their profits by shipping large numbers of mules, thereby achieving greater economies of scale. In Louisiana for example, average mule prices were 43% higher than for horses, while in Nevada, mule prices averaged 49% higher than horse prices (United States Department of Agriculture, 1899, 73). By driving many mules to distant markets, Tennessee breeders enjoyed higher profits and while servicing new markets, created additional demand centers for their product.

The high national demand for mules during the late 19th century may have negatively affected attempts to develop a Walking-type horse. Earlier in the century, mule breeding interfered with the development of the Thoroughbred in Tennessee during the antebellum period. It is possible that the economic focus on mule breeding in the late 19th century may have siphoned off some breeder activity and broodmares to mule production. The same broodmares that would have served as foundation dams for the Walking Horse during the mid to late 1800s, would also have been prime candidates for relegation to the more profitable mule breeding band.

While the mule gained favor as a work animal in some regions during the 19th century, changes in American light horse fashions began to influence the market. The trotting Standardbred horse came into favor hindering the development of gaited type horses that served as the foundation stock for the Tennessee Walking Horse. A Kentucky horseman noted that,

> "The high prices commanded for the trotter tempted even the most enthusiastic breeders of the saddle horse to stud their mares to trotting horses; and to this practice is now traced many of the greatest horses on the trotting turf (Castleman 1910, 66)."

The economic incentives for Kentucky horsemen to breed trotters rather than gaited horses were similar to those of Middle Tennessee mule breeders. These conditions observed by Castleman confirm that breeders' profit motivations were heavily influenced by market demands and consumer preferences.

Foundation stock for the Tennessee Walking Horse was intermingling as early as the first half of the 19th century and originated from such diverse geographic regions as eastern Canada, New England, and Kentucky (Fig. 3). The Tennessee Walking Horse descended from seven horse breeds or types, the

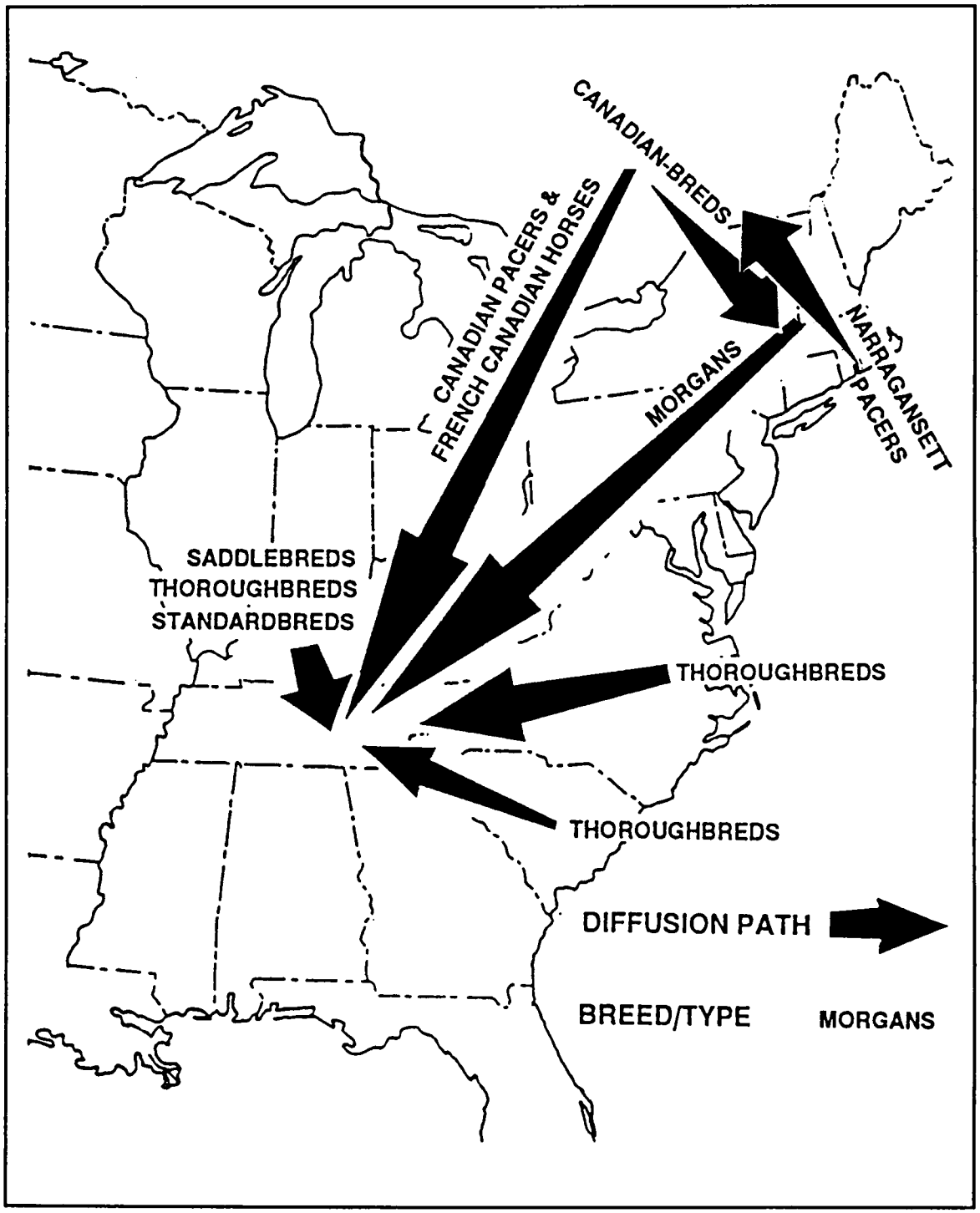

Figure 3: 19th Century Source Areas and Diffusion of Walking Horse Ancestors to Middle Tennessee. During the 19th century, horses of different regional origin were imported into Middle Tennessee. These animals served as the genetic base for the development of the modern Tennessee Walking Horse in the early 1990s.

Thoroughbred, the American Saddlebred, the Standardbred, the Morgan, the Canadian Pacer, Narragansett Pacer, and the French Canadian Horse, of which the latter three breeds of are now extinct [1]. Except for the American Thoroughbred, all these breeds can be traced back to the three gaited breeds, the Canadian Pacer, Narragansett Pacer, and the French Canadian Horse. The following discussion will focus on the influences of these ancestral breeds on the development and regional specialization of the Tennessee Walking Horse.

THE INFLUENCE OF CANADIAN-BRED HORSES

The deepest roots of the Tennessee Walking Horse family tree include an unlikely group of colonial-era horses from Canada and New England. Two breeds that are most often mentioned in anecdotal histories of the Walking Horse are the Canadian and Narragansett Pacers, overlooking the contributions of the French Canadian Horse. Disagreements also arise concerning the relative ages of the Narragansett and Canadian Pacers as breed types. Evidence exists, however, that Canadian-bred pacing horses predate the appearance of the pacers in the Narragansett Bay area of Rhode Island (Jones, 1947). The failure to recognize the role of the French Canadian Horse has partially obscured the ancestral base of the Tennessee Walking Horse. The Walking Horse may actually have more early history in Canada than in the United States.

Historian Robert Jones contended that with the exception of the Thoroughbred, English or American, the French Canadian Horse was the major factor in the development of American horse breeds by the end of the nineteenth century (1947). With but a few exceptions in the West, such as the Appaloosa and Spanish Mustang, Jones was correct. One cannot review the development of most Anglo-American horse breeds without uncovering some influence of Canadian horses.

Canadian and Narragansett Pacers were found in the St. Lawrence River Valley and New England during the early 18th century. The commonality of these two breeds was their pacing gait and sadly it was this, "way of going," which most probably led to their demise. Unfortunately for the Narragansett Pacers, they found

---

[1] The Canadian Pacer, as it existed in the 18th and 19th centuries is no longer a viable breed. Efforts have been made by the Canadian Government and concerned individuals to preserve the Canadian Pacer and a few small breeding programs exist today. However, the modern Canadian Pacer does not possess the same genetic purity as those which influenced the early development of the Tennessee Walking Horse.

themselves in a region in which the trotting horse was most favored and pacers were considered second-class equine citizens.

The 19th century market for pacers was not in New England, but farther west on the emerging Trans-Appalachian frontier where they provided a key ingredient in the development of at least three major American horse breeds. This proved disastrous for Canadian-bred pacers. So many were exported to U.S. markets, that few animals remained to perpetuate the breed in Canada.

Evidence exists which suggests that the Canadian Pacer was not an ancestor of the Narragansett Pacer, but actually the resultant cross from the French Canadian Horse (a long extinct yet separate and older breed type than the Canadian Pacer) and the Narragansett Pacer. A convention popularly held by many breed historians was that pacing horses such as the Narragansett existed in New England before the introduction of pacers to the St. Lawrence River Valley. The historical record suggests, however, that pacing horses in New England appeared after pacers were established in southeastern Canada (Jones , 1947, 128). It was the pacers of Canada rather than those of New England that probably had the greater direct impact on the development of the Tennessee Walking Horse.

The origin of the Canadian Pacer is shrouded in myth and mystery. Their history was based largely on anecdotal accounts since no official breed records were ever developed. They were believed to have existed in Upper and Lower Canada, the Maritime Provinces, New England, New York and as far west as Michigan and Illinois (Jones, 1947, 135).

Canadian Pacers were not generic pacing types as Womack and others have maintained, but descendants of an earlier pacing-type called the, "French Canadian Horse (Jones, 1947)." French Canadian Horses trace their lineage through horses imported into New France during the 17th century. The first horse populations in New France were located at Port Royal in the Acadia colony. Unfortunately in 1616, six years after the first importations, raiders from the Virginia colony carried these horses off. The most successful importations of French horses were sponsored by Louis XIV beginning in 1665 and ending in 1670 when the colonies became responsible for raising their own stock (Jones, 1947, 124).

The horses that Louis XIV sent to New France were of several different French types and were imported from the historically prominent horse breeding provinces of Normandy, Le Perche, and Brittany.

From the Norman horse, the French Canadian Horse inherited color (black-grey-white), hardiness, bottom and prepotency (Rutherford, 1909, 62). These characteristics as well as its pacing gait would later make the French Canadian a favorite among settlers living in the rugged New France colony. Breton and Le Perche stock provided the hardiness needed on the frontier. The Breton horse was smaller than the Norman, but of great hardiness and vigor and was useful as both saddle and draft animal.

The comfort riders gain from pacing horses comes from the mechanics of a pacer's leg motion. When pacing, horses move their legs in side to side motion---left front and left rear leg going forward on one beat while the right front and right rear legs move in unison in the opposite direction. This movement gives the rider a gentle side-to-side swaying sensation. Some equestrians find the pacing gait less exhausting than trotting over long distances. Trotters, on the other hand, move their legs in diagonal pairs---the left front and right hind working together while the right front and left hind complete the two beat gait. The diagonal leg motion of the trot creates a two-beat jarring motion that is usually, "posted," with the rider rising out of the saddle in rhythm to every other beat.

At one time the high demand for pacing horses in Europe was similar to that of the 18th and 19th century North American frontier. Many early European pacers were large draft-types such as the Norman and were often used as cavalry mounts during the era of armor-clad warfare. Difficult travel on unimproved European roads favored pacing horses and discouraged the use of carriages and carts which were usually pulled by trotters (Crowell, 1951).

The demise of European pacers was accelerated by road improvements and the decline of heavily-armored cavalry. As roads improved in France and England, trotters gained favor while draft horses and pacers used for cart and road work became less important (Crowell, 1951). New markets for European pacing horses were found in the New World, in particular French pacers, which were exported to the colonies where their gait was more appreciated in a region where all-weather roads were yet to be constructed (Smith, 1942, 29-58).

Besides these specific imported French types, many other grade draft horses were imported into the St. Lawrence Valley near the end of the 18th century (Jones 1947, 128). The results of this gene pool yielded the French Canadian Horse, which depending upon the cross, either trotted or paced. Detailed descriptions or

illustrations of the French Canadian Horse are difficult to find, but one horseman in the 1800s carefully described the breed.

> "He cannot be called a speedy horse...but is emphatically a quick one, an indefatigable undaunted traveller, with the greatest endurance...allowing him to go at his own pace, from six to eight miles the hour...As a farm horse and ordinary farmer's roadster, there is not honester (sic) or better animal; and, as one to cross with other breeds, whether upward by the mares to thoroughbred stallions, or downward by the stallions to common country mares of other breeds, he has hardly an equal...His is said, although small himself in stature, to have the unusual quality of breeding up in size...and to give foals his own vigor, pluck and iron constitution...(Herbert: 1857, 63-5)."

French Canadian Horses diffused from their St. Lawrence River Valley hearth to western French settlements at Detroit and to outposts in present day Illinois. By the late 18th century there were 216 horses at Kaskaskia, 260 at Vincennes in 1767, and 1,112 at Detroit by 1782 (Jones, 1947, 135). After the British conquest of New France, many French Canadian Horses were exported south. Some of these horses were exported to sugar plantations held by the British in the West Indies. When the West Indies trade diminished during the 1790s, French Canadian Horses were sold to farmers in northern New England, especially in western Vermont, later a source region for the Morgan horse. Others were reported to have been marketed by American dealers in Boston and New York (Jones, 1947, 137).

The diffusion of French Canadian Horses and Narragansett Pacers as a result of the horse trading between the northern and southern British colonies affected the early development of the Walking Horse. Jones suggests that after the American Revolution, Narragansett pacers from Rhode Island were introduced into the St. Lawrence River Valley through British horse trading activity (1947, 137). Offspring from these and other pacers were eventually sold to owners who were settling the Trans-Appalachian frontier. This scenario offers the best explanation of Narragansett Pacer diffusion and its subsequent genetic contributions to the modern Walking Horse.

Narragansett Pacers declined in numbers after the American Revolution, not because they were crossbred into extinction or killed during the conflict. The Rhode Island horses began to disappear with the development of wagon roads that were more suited to trotters (Jones, 1947). The Narragansett Pacer was exported to a place where the market favored pacing horses, which was at this time was the St. Lawrence River Valley (Flint , 1861, 385). To reciprocate, Canadians exported their French Canadian Horse which was better

suited than the diminutive Narragansett Pacer for draft duties in New England. By 1812, the Narragansett Pacer of New England was considered virtually extinct, a victim of changing transportation conditions, and the predominance of trotting horses as a matter of fashion.

The demand in New England for draft horses increased during the first half of the 19th century when work oxen were beginning to lose favor with regional farmers (Danhof, 1969, 143). French Canadian Horses along with imported European draft breeds would have found a niche in this market. Although horses were sometimes used with oxen to perform draft tasks, by the mid-1880s the shift to horsepower was becoming clear. Horses offered several advantages over oxen as draft animals. First, they could be used for both road and farm duties. Second, the development of more efficient plows required less energy to pull and allowed for the conversion from oxen to horses. Finally, reapers and mowers developed during the 19th century demanded a speedier energy source thus diminishing interest in the ox. (Danhof ,1969, 143).

In early 19th century New England, horse breeding as a regional livestock activity was poorly developed. Several different breeds and types had been introduced by the 19th century, but New Englanders never appeared to be interested in producing draft horses for regional use. Imported draft breeds such as the Percheron or Norman horse, which first appeared in New Jersey in the 1830s, never gained the popularity in New England as they enjoyed in the Midwest and West. In this case, form follows function. New Englanders preferred a smaller, handier horse such as the Morgan which could be used on rocky hill farms over a larger bulkier draft animal such as the Percheron which was less suited to small-scale farming. Smaller horses also afforded New England farmers better economy as they did not require as much feed or forage as the larger breeds. As a result, French Canadian Horses and similarly thrifty saddle and draft types were imported into the region for several decades.

The only active scientific horse breeding in New England during the 18th and 19th centuries involved the development of road horses and fast trotters, such as the Narragansett, Morgan, Hambletonians, Messengers and Clays. The Narragansett Pacer was the first to vanish from the scene while others such as the trotting Morgans would later develop their own registry.

Before the British conquest of New France, the gene pool of French Canadian horses remained fairly pure. After the British controlled the region, however, numbers of French Canadian types began to diminish in

their pure form due to cross-breeding with imported English and New England-bred horses (Jones, 1947, 152). It was during this period of interbreeding that the Canadian Pacer emerged. Canadian Pacers grew in number and were particularly valued for their ability to race on ice, a favorite winter pastime of French Canadians since the late 17th century (Jones, 1947, 143-4).

The Canadian Pacer quickly gained in popularity and reputation as a serviceable mount and was exported to the Ontario frontier where they provided riders with fairly comfortable rides over long distances and rough terrain. Even greater numbers of Canadian Pacers were sold as, "saddlers," and driven to Kentucky and Tennessee in the early 1800s when market demand was high for, "double-gaited," (could both trot and pace) horses (Report of the Committee on Agriculture of the House of Representatives, July 19, 1848, 30-1).

Imported French Canadian stallions were quite popular with U.S. horse breeders and serviced mares in the Northeast and the old Northwest (Hiatt, 1881, 154). Their heavy patronage may have been due to the large numbers of Canadian stallions available as it was unpopular at the time to geld (castrate) male horses (Jones, 1947).

The decline in popularity of Canadian pacing horses as breeding stallions in the United States during the second half of the 19th century can be attributed to two major factors. First, competition from imported draft breeds such as the Norman Horse, Percheron, and German Coach Horse proved strong in the Midwest grain belt regions. The French Canadians were more useful as saddle horses than for heavy draft purposes. The Midwest market demanded heavy horses capable of working in teams on extensive grain farms. The second major factor was indiscriminate cross-breeding which paid little attention to the perpetuity of the breed itself. With its best stallions covering non-French Canadian mares, and changing demand for a particular type, the breed was doomed.

The French Canadian horse gained most of its fame through cross-breeding, and became extinct by the means that made it so popular. As early as 1835, Canadian horsemen were, "...lamenting the deterioration of the French Canadian horse around Montreal in consequence of the crossing with American horses (Jones, 1947, 147). By the 1840s, the only true French Canadian Horses could be found in Acadia and by the 1850s French Canadian breeding stallions were almost impossible to come by. A late attempt to rescue the breed

from extinction arose around the turn of the century, but for all purposes, the French Canadian Horse in its feral form was extinct by 1900 (Jones, 1947, 154).

Another Canadian breed developed during the 1800s was called the "Frencher" (Jones, 1947, 144). A Frencher was a cross between a French Canadian Horse and the English Thoroughbred. By the 1850s there were large populations of Frenchers in Quebec, especially in Montreal, but they had also some had gained attention in Maine and Massachusetts (Jones, 1947, 144). Frenchers were used primarily as roadsters, prized for their swift trot, although some were also employed as saddle horses. By the close of the 19th century, the Frencher had vanished much like the Narragansett Pacer had almost 100 years before, the victim of unscientific breeding, cross-breeding, and the growing predominance of other breeds.

For all the Canadian-bred pacers gave to American horses, they received little in return. The lucrative market to the south and west offered Canadian horse traders an outlet for a type of horse which had become less fashionable in eastern Canada and New England. Canadian breeders exported pacers and let American breeders use them to improve local stock. The lack of registries or support for structured breeding programs fostered decreasing interest in Canadian pacing horse production. For the Walking Horse, the absence of foresight on behalf of Canadian breeders proved fortunate. If Canadian Pacers had been valued in Canadian or New England markets, exports of pacers would have been less extensive and less numerous.

The passing of Canadian pacing horses as a distinctive breed type went almost unnoticed by the agricultural community. An appropriate epitaph for the legacy of the French Canadian horse, however, was written in 1881 and appeared in the National Live Stock Journal.

> "The American trotting horse is an American creation...the material has been taken from various sources, but more largely from the short, quick-stepping French Canadians than from any other source. We run against the Canuck blood almost everywhere in our trotting pedigrees...Kentucky trotting pedigrees are full of it...New England pedigrees are full of it...Maine-bred horses (you) encounter this Canuck blood on almost every page (1881, 192-3)."

The presence of French Canadian, Canadian Pacers, and other Canadian-breds in the Midwest and South indicates that diffusion of these types was widespread and had an impact on local breeding stock. Late 19th and early 20th century registries for several American horse breeds, including the Tennessee Walking Horse and the American Saddlebred, credit Canadian-bred pacing horses with direct genetic influence on their

respective breed's development. The contributions by Canadian-breds to the Tennessee Walking Horse cannot be underestimated.

Historians of the major American light horse breeds have tended to refer to all horses from Canada and those crossed with American stock as, "Canadian Pacers." Given the previous discussion, however, it may be more accurate to trace the foundations of such breeds as the Saddlebred, Standardbred and Walking Horse to the French Canadian Horses rather than the crossbred Canadian Pacer. It is safe to say that some horses generically called, "Canadians," in some registries, were actually French Canadian Horses rather than Canadian Pacers or Frenchers.

The descendants of 18th and 19th century Canadian and New England pacers, regardless of their controversial pedigrees, found ready markets on the Trans-Appalachian frontier. The interest in pacing horses in Kentucky and Tennessee was fostered by the same environmental difficulties experienced during the early settlement of New England. Lacking carriage roads and turnpikes on the rugged frontier, much travel time was spent in the saddle rather than in a wheeled vehicle. Trotting horses such as the Thoroughbred, Quarter Horse and Morgan were perceived to be too uncomfortable under saddle over long distances, while pacing horses afforded the rider the desired speed and a more satisfactory ride. On this subject one equine historian in 1910 noted,

> "The majority of horses brought by the pioneer settlers of Kentucky were of this nondescript breed. They had no recorded pedigrees. Their breed had even no distinguishable name beyond the indefinite designation of, "saddlers." In the meantime the older States had been developing and there the need for the "saddler" grew less as better roads were built and vehicles came into use: but in Kentucky and all the newer States the need for the riding horse was imperative. (Castleman 1910, 62-63)."

Gaited horses were introduced in the bluegrass regions of Kentucky and Tennessee as early as 1802, when a pacing horse known as Tom Hal (ASB 3237) was sold in Philadelphia, Pennsylvania, to an owner in Lexington, Kentucky (American Saddle-Horse Breeders' Association, 1909, xvii; Womack, 1984, 80). Tom Hal was considered to have been a Canadian Pacer and is recognized as a foundation stallion for the American Saddlebred.[2]

---

[2] Tom Hal was the great-grandsire of Gray's Tom Hal of Tennessee who sired the Hal family of pacers.

Tom Hal provided a critical ingredient to the Walking Horse because in 1837 he sired, Bald Stockings, believed to be the first horse to have performed the running walk and whose progeny consistently inherited this unique way of going (American Saddle-Horse Breeders' Association, 1909, xviii; Womack 1984, 34, 62). During his nearly 40-year tenure in Kentucky, Tom Hal stood at stud at various locations in Fayette and Harrison counties which were important equine nursery counties for the American Saddlebred and Thoroughbred (American Saddle-Horse Breeders' Association 1909, xvii). The prepotency of Tom Hal resulted in the generic use of his name to refer to his offspring or to horses that exhibited similar characteristics. Tom Hal died in 1843 near the Harrison County, Kentucky, community of Leesburg (American Saddle-Horse Breeders' Association, 1909, xviii).

Another important early pacing horse in the region was Old Copperbottom, who was offered at stud in an 1816 Lexington, Kentucky, newspaper advertisement. Old Copperbottom was described as a Canadian Pacer stallion by his owner and was advertised for service four years after his arrival in Kentucky (American Saddle-Horse Breeders' Association, 1909, xix). According to the American Saddle-Horse Breeders' Association (ASBA), "Old Copperbottom was sired by the Old Imported Copperbottom, that was brought to Kentucky from Canada; his dam was by Stump the Dealer (American Saddle-Horse Breeders' Association, 1909, xix)." Stump the Dealer was a Thoroughbred stallion, bred in South Carolina and brought to the Nashville area during the Antebellum period when Middle Tennessee racing and Thoroughbred breeding activity was at its peak. Stump the Dealer was unique in that he was noted both for his speed at the gallop and at the pace, traits uncommon in a Thoroughbred.

"Copperbottoms," as they were known, were prized as pacing saddle horses and many Copperbottoms were kept as breeding stallions in Kentucky, Ohio and Indiana (American Saddle-Horse Breeders' Association, 1909, xix). Copperbottom horses were also exported to Middle Tennessee as early as the 1830s and brought with them a characteristic pacing-ambling gait that figured heavily into the development of the Walking Horse (Womack, 1984, 51-52).

A third stallion considered to be of Canadian Pacer descent was Pacing Pilot who was foaled in 1826 and stood in Lexington in 1832. The offspring of this stallion were generically known as, "Pacing Pilots," and

were prized for their speed. Pacing Pilot stallions sired offspring which eventually diffused to the Nashville Basin and provided part of the genetic ingredients for the modern Tennessee Walking Horse (Womack, 1984).

During the mid-nineteenth century the initial effects of imported pacing horses in Middle Tennessee were beginning to surface. In 1845, a horse now recognized by the TWHBEA as Brooks F-24 was foaled in Marshall County, Tennessee.[3] The Brooks family of pacing horses were popular pacing saddle and racehorses in Middle Tennessee during the mid-19th century.[4]

The long, complex, and often controversial history of the pacing horse in Anglo-America is a significant part of the Tennessee Walking Horse's past. Pacing horses form the foundation upon which many American gaited breeds such as the Standardbred, Saddlebred, and the Walking Horse were established. The diffusion of pacing blood from Canada and New England was the first step in the evolution of the Tennessee Walking Horse. The demand for pacing horses on the Trans-Appalachian frontier provided a favorable market for gaited types, and the bluegrass basin environment offered a conducive nursery site for breed development. In addition to the utilitarian purposes of pacing-types, by the late 19th century, the demand for pleasure horses was high. Horseback riding had become, "...fashionable recreation, and the business of training saddle horses is now a lucrative one (Sanders, 1893, 225)."

The pacing horse alone did not create the new breeds which would emerge in Kentucky and Tennessee during the late 19th and early 20th centuries. To the genetic base of the pacing horses was added several other equine characteristics which eventually resulted in the establishment of uniquely American horse breeds, such as the Tennessee Walking Horse.

THE AMERICAN SADDLEBRED: KENTUCKY COUSINS

The 19th century American Saddlebred provided the Walking Horse with a complimentary gene pool and many important foundation animals while the 20th century Saddlebred provides competition between the

---

[3] Brooks F-24's grand-sire was Pacing Pilot of Lexington, Kentucky, who identified in the literature as both a Canadian Pacer and as a French Canadian Horse (Womack, 1984, 65; Sanders, 1893, 210).

[4] An influential Brooks family member in Walking Horse development was Earnhart's Brooks, foaled near Shelbyville in Bedford County, TN, around 1875 (Womack, 1984, 69).

two related breeds for show ring admirers. This inter-breed rivalry intensified during the 1930s and 1940s and created a demand for a flashier, faster, and higher motioned Walking Horse.

The American Saddlebred (formerly known as the "Saddle-Horse") registry was established in 1891 in Louisville, Kentucky, 44 years before the Tennessee Walking Horse Breeders Association was organized. The Saddlebred is a versatile and handsome horse, often called the "Peacock of the Show Ring" in respect to their long graceful necks, expressive faces, flowing manes and tails, and animated gaits. Today, Saddlebreds are popular as show horses and as recreational horses.

The Saddlebred influence on the Walking Horse began in the 1850s when a horse named Mambrino Chief was brought to Lexington, Kentucky, by James B. Clay, son of statesman Henry Clay, while on a Shorthorn cattle buying trip in New York (Womack, 1984, 118). This is a good example of purebred stock breeder behavior in both the Kentucky Bluegrass and Middle Tennessee. Breeders recognized the inherent value of raising purebred animals and this interest was not limited to just one species. By the 1830s, Kentucky Bluegrass cattlemen had recognized the benefits from breeding improved and pureblood stock and began keeping herd books to record pedigrees (Henlein, 1959, 23). It was not uncommon for horse fanciers like the Clays to own both registered horses and cattle and to import breeding stock for herd improvement.

Mambrino Chief was believed to have been of Thoroughbred descent and was purchased for $4,000 in 1854 (Womack, 1984, 118). Through the Saddlebred a major infusion of Thoroughbred blood in the modern Walking Horse was achieved. According to Castleman, "It may be said though that scrutiny of pedigree of the best saddlers will reveal in most cases that the blood of the Thoroughbred predominates (1910, 67)."[5]

The greatest influx of Canadian pacing blood into the Walking Horse may be traced to the American Saddlebred. Many foundation sires of Saddlebred had detailed pedigrees that point directly to Canadian-bred horses of either French Canadian, Frencher, or Canadian Pacer lineage. For example, Davy Crockett (ASB

---

[5] Although Mambrino Chief died in a relatively undistinguished sire in 1862, he did leave behind a son of note, Mambrino Patchen. Mambrino Patchen was a trotter but his offspring can be found in the American Saddlebred and Tennessee Walking Horse registries. The most significant of his get in regard to Walking Horses was Alma Mater, the resultant cross between Mambrino Patchen and a Thoroughbred mare. Alma Mater in turn foaled Maggie Marshall, dam of Allan F-1, the foundation sire for all Walking Horses.

3236) was imported from Canada during the 1830s and stood in Woodford County, Kentucky. Davy Crockett stood at Eminence (Henry County) Kentucky, from 1840 until his death in 1845 where he was used as a breeding stallion, saddle horse, harness horse, and pacing racer.[6]

In the early 1900s, the importation of American Saddlebred breeding stallions into Middle Tennessee directly influenced the development of the Tennessee Walking Horse. The black Saddlebred breeding stallion, Giovanni, was brought from Lexington, Kentucky, to Middle Tennessee by Henry Davis. Davis was an early breeder and innovator in Walking Horses, and brought Giovanni to Wartrace (Bedford County), Tennessee, around 1910 for improving the conformation of his stock (Womack, 1984, 197).[7] The Saddlebred was used as a cross with Walking Horse stock as a conformation upgrade, just as Thoroughbreds, Arabians and Morgans were used for hybridized improvement. Giovanni is the best example of a Saddlebred imported to improve and refine the conformation of the Walking Horse and was often crossed with the offspring of Allan F-1. During his tenure in Tennessee, Giovanni was offered at stud in Bedford County, at Columbia (Maury County), and at Beech Grove (Coffee County). All of these developed into Walking Horse core counties during the 20th century.

The significance of the American Saddlebred to the Walking Horse may be better understood by examining the locations of Saddlebred breeders in Tennessee during the early 1900s. By 1902, the American Saddlebred Registry had been in existence for 11 years and the breed had diffused mainly to the west, north and south of its central Kentucky hearth. The majority of owners (in descending order of numerical significance) were located in Kentucky, Missouri, Illinois, Tennessee, Texas, Virginia, Indiana, Ohio, West Virginia, and Pennsylvania. By 1909, the American Saddlebred had diffused into at least 33 states, with approximately 50% owned in Kentucky, and 27% in Missouri (American Saddle-Horse Breeders' Association, 1909).

---

[6] Saddlebred stallion John Dillard (ASB 3235), also figures into the Canadian Pacer-Saddlebred-Walking Horse connection. John Dillard was bred in Owen County, KY, and later stood in several central Kentucky counties as well as in Indiana. John Dillard's sire was a Canadian Pacer named Canada Chief, who was used as a breeding stallion in Maine.

[7] The conformational refinement and action of Giovanni was most clearly manifested in the 1940s by the World Champion Walking Horse stallion, Merry Go Boy. Not only did Merry Go Boy attract much attention to show Walkers, but was also heavily patronized as a breeding stallion.

There appears to have been little reciprocal trade between Middle Tennessee and Kentucky during the developmental periods for the Walking Horse and Saddlebred. In Kentucky for example, fewer than 40 registerable Walking Horses were foaled from the 19th century to 1940, with at least 30 (75%) of those horses being exported. The lack of Walking Horse breeding activity in the Saddlebred nursery may also be explained by the lack of Walking Horse imports into Kentucky during the same period and breeder interest in other types such as Saddlebreds and Thoroughbreds.

Early 20th century Saddlebred ownership in Tennessee presents an interesting pattern. Up to 1910, approximately 54% of Tennessee's registered Saddlebreds owners resided in Gibson County, in West Tennessee. There were no registerable Walking Horses in Gibson County until 1931, which may be the result of the predominance of existing interest in Saddlebred breeding. In 1910 only 23% of the registered Saddlebred owners in Tennessee were located in Middle Tennessee, with the greatest numbers in Davidson, Sumner, and Wilson counties, areas that did not figure heavily in the early development of the Walking Horse. This trio of counties located in the northern section of Middle Tennessee, were more active in the breeding of Thoroughbred and Standardbred racehorses during the late 19th and early 20th centuries than in developing Walking Horses as a distinct type.

The American Saddlebred did not gain the level of popularity in Middle Tennessee during the first few decades of the 20th century as it did in Kentucky. Although there were registered Saddlebreds present in the Middle Tennessee Walking Horse nursery in the early 1900s, it appears that they were mostly used for crossbreeding. Perhaps the Saddlebred's trotting gait put them in poor favor with gaited horse enthusiasts, but it is more likely that the presence of an established horse population of ancestral Walking Horses, pacers, and mules narrowed the market for the fancy movers from Kentucky.

The early 20th century spatial characteristics of Saddlebred diffusion offer two major points of explanation as to the limited diffusion of Walking Horse types over the same time period, as well as some insight as to the dynamics of other purebred horses. First, the Saddlebred registry had been established for over a decade by 1910 allowing for promotion of the new breed and a nearly 30 year head start over the Walking Horse. Second, the Saddlebred was most readily adopted in non-Southern states that either had established populations of other registered horse breeds, were home to breed registries, or were actively

importing horses. The presence of other registered stock, and the inherent value, status and appreciation for purebred animals, plays an important role in understanding the equine diffusion.

Saddlebreds were well received in areas where many horse breeders and owners were already raising purebred horses. This agricultural leadership facilitated adoption of new horse breeds by promoting the production of registered animals. Wisconsin Extension agents, for example, extolled the improved values of pure-bred versus grade horse and encouraged breeders to used registered bloodstock in their breeding programs. The Wisconsin report noted that horses sired by purebred stallions typically had market values 33% higher than the get of non-registered horses (Wisconsin Agricultural Experiment Station Report, 1910).

American Saddlebreds enjoyed an initially wider diffusion pattern than the Walking Horse because the Kentucky Bluegrass was an established equine nursery for thoroughbred horses and cattle prior to the development of the Saddlebred. Central Kentucky possessed marketing and transportation infrastructure which was easily adapted to the export of Saddlebreds to the north and west. Transportation linkages with the livestock producing areas of the Kentucky Bluegrass to outside markets were established in the early 19th century by cattle traders who used the rivers, roads, rails, and canals to buy and sell stock (Henlein, 1959). The movement of Saddlebred-types to northern markets was reported in the 1901 The Bureau of Animal Industries Nineteenth Annual Report, which listed the sale prices for horses described as, "saddlers," in the Chicago markets and their values being the highest of all non-draft horses (1901, 547).

The diffusion of the Saddlebred was also tied to the flow of Kentucky-bred mules to western markets. In the early 1900s, Missouri was second only to Texas in the numbers of mules and was also a major market and outlier breeding center for Saddlebreds (Bureau of Animal Industry, 1903, 519). The demand in the west for mule teams was extremely high during the early 1900s. Missouri served as a gateway to the west and the demand for horses and mules for migration and farming was high. Early Tennessee Walking Horse diffusion also followed the mule, but initially to the south and later to the west.

Through the Saddlebred and its ancestors, the Tennessee Walking Horse gained much of its modern form and function. The largest infusion of Thoroughbred blood into the Walking Horse may be traced to the American Saddlebred. The Saddlebred exhibited the characteristics of pacing horses from Canada and the United States. Bald Stockings, son of a Saddlebred and grandson of a Canadian Pacer, was the source of the

definitive running walk that was passed on to generations of Tennessee Walking Horses. Through the stallion Giovanni and others, the conformation and style of the Saddlebred brought refinement to the Walking Horse.

As the Walking Horse developed into its own breed, the Saddlebred took on a new role in its relationship with its southern cousins. Horse show audiences were enthralled by the flashy and elegant Saddlebred, yet relatively unimpressed by the plodding Walking Horse. In reaction to consumer demand, Walking Horse breeders, trainers, and exhibitors attempted to emulate the high-style and speed of the Saddlebred in order to gain more followers and thus promote the breed. Unfortunately, it may have been this desire to compete with the Saddlebred during the 1940s and 1950s which precipitated the proliferation of artificial appliances and training aids that have now brought the Walking Horse much unwanted publicity from animal rights activists in the 1980s and 1990s.

American Saddlebred influences on the Tennessee Walking Horse were not all simply genetic or performance based. The dynamics of American Saddlebred diffusion in the late 19th and early 20th centuries offer a great deal of insight as to the process and pattern of Walking Horse diffusion in the United States. The two breeds share many characteristics such as similar foundation stock, bluegrass nurseries, and popularity based on pleasure and show ring riding. Based on the pattern of early Saddlebred diffusion, it may be hypothesized that purebred horse breeds like the Tennessee Walking Horse were most likely to diffuse into areas that experienced a market void for a particular type, and into those regions where interest in breeding and promoting purebred horses had been previously established.

THE MORGAN HORSE AND THE NEW ENGLAND CONNECTION

To the foundation laid by the pacing horse, the Morgan Horse further contributed to the development of the Tennessee Walking Horse. Morgans were a popular 19th utility breed which were often used under saddle, for light draft, as harness racers and as roadsters. A New England-bred horse, the Morgan was imported into Kentucky and Tennessee during the mid-19th century (Womack, 1984, 85).[8]

[8] Like most other American Horse breeds, the Morgan has a mystical and romanticized past. For the purpose of this research, it is not necessary to detail the storied life of Justin Morgan, the breed's foundation sire.

These smallish, yet sturdy trotting horses are believed to be descendants of English Thoroughbreds which were first imported into the colonies during the late 18th century. An 1863 treatise on the Morgan classified them as New England roadsters, well-adapted to the region's environmental and work demands. Morgans were described as having, "...the proper paces of the roadster...the walk and trot (United States Department of Agriculture, 1863, 338)." No pacers need apply.

Agricultural commentator Sanford Howard of Boston, Massachusetts, further stated that,

> "Our soil is comparatively thin and our climate rather severe--better adapted to animals of small or medium size than to those of large size. We have already the stock for producing the best roadsters---horses of the weight of 950 to 1,000 pounds, and fourteen and a half to fifteen hands high, adapted to light carriages and quick driving. There is a great demand for horses of this character and although they can be raised at a cheaper rate, they bring generally the highest prices...fast travellers particularity as "all-day" horses...the beau ideal of the road horse. (United States Department of Agriculture, 1863, 339)."

The Morgan influence on the Walking Horse is traced back to a line of horses known as the Bulletts which were imported into Tennessee from Vermont during the 1850s (Womack, 1984, 74). The source sire for the Bullett family in Tennessee was a stallion known as Fanning's Vermont who sired two stallions, Chickamauga and Bullett, during the 1850s. Through the descendants of Bullett, Morgan blood entered the 19th century Walking Horse gene pool (Womack, 1984, 75).

Conditions in New England that produced the Bullett line of Morgan horses typify the conditions of horse breeding throughout the United States during the 19th century. Horses were bred to meet market demands for utility and roadster horses and records were generally not kept as to their genealogy. The average farmer would not have had the time or the record keeping skills to maintain breed records. Chances are that most horses purchased in the early 1800s came with very little background information, making it difficult to keep pedigree records. Breeds emerged and prospered based on regional bias, available bloodstock and market demands or fashions for a particular type.

Used extensively for cross-breeding, Morgan blood contributed the hardiness and refinement of the modern Walking Horse. What the Morgan lacked in gait and size it made up for in spirit and endurance over a broad spectrum of tasks much like the multi-purpose ancestral Walking Horse. What remained for the

development of a modern breed was an infusion of larger gaited horses such as the American Saddlebred which would help complete the formula for the 20th century Tennessee Walking Horse.

THE THOROUGHBRED AND THE WALKING HORSE

The American Thoroughbred made two major contributions to the development of the Tennessee Walking Horse. First, the Thoroughbred exerted a direct and indirect genetic influence on the development of the Walking Horses as a distinct horse breed. Second, and perhaps more significantly, 19th century Thoroughbred breeding in Middle Tennessee helped to establish a horse and mule production and marketing infrastructure that would later serve as the foundation for the development of the Tennessee Walking Horse.

All Thoroughbreds in the United States are descendent of imported English Thoroughbreds. The term "Thoroughbred" has both generic and specific connotations. In a generic sense, any animal of purebred lineage may be said to be, "thoroughbred." Since the American Thoroughbred did not organize its studbook until after the Civil War, the use of the term, "Thoroughbred," during the 18th and 19th centuries varied from horse trader to horse trader.

Some Walking Horse enthusiasts tend to down play the direct genetic influence of the Thoroughbred on the Walking Horse. A prejudice born from the trotting gait of the Thoroughbred, which is considered by gaited horse enthusiasts as a most uncomfortable and unforgivable trait. This type of prejudice against the Thoroughbred as a saddle horse was also voiced by the American Saddlebred Breeders' Association when they stated into their 1904 registry that, "The Thoroughbred is not and cannot be made a good saddle horse; his stride is not easy, his temper is often objectionable, but by proper selection there has been produced in the family of American saddle horses the most desirable characteristics of the thoroughbred...In a life experience I do not recall one high-class saddle horse that was strictly Thoroughbred (American Saddle-Horse Breeders' Association, 1905, xxiv-xxv)."

It is said that each Walking Horse breeder holds his or her breath until the newborn foal takes its first wobbly steps to determine if the animal possesses the truly natural run-walk. A trotting Walking Horse would

be as disastrous as a Thoroughbred performing the run-walk, thus genetic ties to the Thoroughbred have been de-emphasized.[9]

Most early horses described as Thoroughbreds were flat racing-types most likely of English ancestry, but written pedigrees to substantiate this claim were rare and often fraudulent. For the purposes of this discussion, however, the term "Thoroughbred" will be used to describe horses of both vernacular and authentic lineage perceived to be Thoroughbreds in their time. During most of the 19th century Thoroughbreds were used for saddle mounts or race horses as well as for horse and mule breeding purposes.

The first Thoroughbreds believed to have been imported into the state were brought into upper East Tennessee at the close of the 18th century (Anderson, 1916, 2). Their first appearance in the Nashville Basin apparently occurred during the first decade of the 19th century. By 1839 Tennessee had gained national recognition as the center of Thoroughbred horse breeding in the United States (Anderson, 1916, 7). Fame was short-lived for the Thoroughbred in Tennessee. By the 1850s, the industry was in decline due to competition for broodmares for mule breeding and from other Thoroughbred breeding centers, and a new generation of gentleman farmers who did not continue the horse breeding traditions of their forefathers either because of financial misadventures or changing priorities (Gripshover, 1989).

Perhaps the greatest direct genetic influence of the Thoroughbred on the Walking Horse was through the dam, often referred to by horseman as the "bottom line." An examination of the foundation stock from which the Tennessee Walking Horse evolved reveals a number of significant horses possessing Thoroughbred bloodlines. McMeen's Traveller, who was born at Carters Creek (Maury County), Tennessee, in 1854, descended from internationally recognized race horses Diomed and Sir Archy, both offspring of English Thoroughbreds from which the American Thoroughbred was officially established (Womack, 1984, 50). [10]

---

[9] Although Womack devotes 40 pages of his history of the Walking Horse to the Thoroughbred, the bulk of the discussion focuses on the social aspects of racing in the Nashville area with little investigation as to the direct influence of the breed on the development of the Tennessee Walking Horse (Womack, 1984).

[10] Diomed is historically noteworthy as he was the first winner of the English Darby in 1780 and sired many Tennessee-bred racehorses which in turn helped establish Middle Tennessee as an early 19th century equine nursery.

The Copperbottom family, one of the earliest pacing families imported into Middle Tennessee represented crosses between imported Canadian pacing horses and Thoroughbreds. From the Copperbottoms came the Mountain Slasher line of horses that were also of Thoroughbred breeding and important to the development of the Tennessee Walking Horse. Copperbottom and Mountain Slasher-bred horses stood in many locations in the Nashville Basin including Nashville (Davidson County), Shelbyville (Bedford County), Wilson County, Rutherford County, and Cannon County (Womack, 1984). It should be noted that these counties would later serve as core counties of the Walking Horse hearth region in Middle Tennessee.

Walking Horse foundation sire Earnhart's Brooks, whose genes can be found in an estimated 75% of all registered Tennessee Walking Horses, was believed to have descended from the English Thoroughbred race horses Timoleon and Leviathan (Womack, 1984, 69). Timoleon was sired by Diomed who sired Sir Archy, all of whom stood in the Nashville Basin during the first half of the 19th century.[11]

The relocation of Thoroughbred breeding stallions from the Middle Tennessee nursery in the 1800s went first to the south, then west. By the mid-19th century, the established trend was for Thoroughbred stallions to leave Tennessee and stand at stud in Alabama and later Missouri. A similar pattern emerged for early Walking Horse diffusion where horses were frequently sold to new owners or relocated in Alabama, Missouri and later in Texas.

Marketing and resource conditions that fostered the success of the Thoroughbred in Tennessee in the 19th century, persisted through the 20th century providing breeders with an established network. Trading and droving routes established by the early 1800s, local interest in horse breeding, abundant pasture and grain crops as well as a strategic market location provided Tennessee with an early edge in race horse breeding. These marketing structures were highly specialized yet adaptable to other equines such as mules and pacing horses. The capacity of 19th century producers and markets to adjust to a new equine product facilitated the development and diffusion of the 20th century Tennessee Walking Horse.

---

[11] These Thoroughbred stallions also directly influenced the development of the American Saddlebred. The main foundation sire for the Saddlebred, Denmark, was by a Thoroughbred stallion and out of a mare of Narragansett Pacer breeding (American Saddle-Horse Breeders' Association, 1900, v).

STANDARDBREDS AND THE WALKING HORSE

The Thoroughbred's ability to provide complimentary genes during cross-breeding fostered the development of the American Standardbred which in turn served as a foundation breed for the Tennessee Walking Horse. Major foundation sires for Standardbred racing trotters such as Rysdyk's Hambletonian, Messenger, and Mambrino, were all English Thoroughbreds who gained fame for their trotting offspring. These Standardbred stallions and sulky racing itself played an important role in the emergence of the Tennessee Walking Horse.

Standardbreds were named for their ability to pace or trot against a set time (the "standard") at a distance of one mile and during the late 19th and early 20th centuries the demand for these specialized horses was great. Nineteenth century equine writer and publisher of agricultural journals, J. H. Sanders noted that,

> "It can scarcely yet be said that we have distinctive breed of driving horses or roadsters. The horses used for light driving, fast trotting, etc., are largely a conglomeration of all breeds and types. Some of the them approximate the French Canadian pony in form and action, while others possess most of the characteristics of the thoroughbred....As the thoroughbred was the result of the inherent love of the turf and the chase so characteristic of the people of Great Britain, so the American trotting horse is the result of a fashion that has demanded the fastest an stoutest trotting horses in the world for driving on the road... (Sanders, 1893, 205-206)."

The modern Standardbred in America can be traced back to the importation of the English Thoroughbred, Messenger, who stood at Philadelphia, Pennsylvania, beginning in 1788 (Sanders, 1893, 206). The foundation sire of the Standardbred is Rysdyk's Hambletonian, a grandson of Messenger from which 99% of all registered Standardbreds can be traced (Womack, 1984, 112). Tennessee Walking Horse Foundation sires Allan F-1 and Echo trace their pedigrees back to Hambletonian.

Early in their development, Standardbreds were known by various names. Most of these road horse-types were called American Trotters as trotting was the preferred gait during the late 19th and early 20th centuries.[12] The craze for fast trotters at the close of the 19th century was a national obsession (Cole, 1926, 622-639). Races were conducted in such disparate venues as straight stretches of country roads to kite-shaped

---

[12] Early agricultural texts often referred to this type of horse of as Hambletonians, Mambrinos, or Clays. Morgan Horses were also classified at times as American Trotters and referred to by the names of prominent Morgan stallion lines such as the, "Black Hawks, " and, "Grey Eagles." (Goff and Mayne, 1904, 178-9). Sanders also classified many groups of road horses as, "standard types," including the Morgan (1893, 209-210).

and oval racetracks across the United States. Trotting and pacing exhibitions were also held at agricultural fairs.

It was important for trotters to be swift and fancy in their way of going. High-stepping, smartly-going trotting horses were in high demand for wealthy urbanites.[13] A century later, specialized show breeds such as the American Saddlebred, Hackney, and Tennessee Walking Horse, continued to be subjected to a variety of artificial appliances which induce greater animation at their gaits which increases their market value and performance records.

A 19th century family of trotters that figure prominently in pedigrees of future Walking Horses were the Pilots. Womack contends that the Pilot family descended from Pacing Pilot who was of Canadian descent (1984, 65). Wallace asserts that the background of Pacing Pilot is uncertain except that he was a black pacing stallion foaled around 1826 and of Canadian breeding (Wallace, 1901). It is quite possible that Pacing Pilot was of Canadian ancestry but arrived in Kentucky via New England horse traders. In discussing the Pilot family of pacers, Sanders refers to an,

> "...old black pacer Pilot, who was of French Canadian ancestry, (who) has mingled kindly with our best trotting strains, and many of our very best and fastest trotters trace to him, mainly through his son, Pilot Jr., a horse owned for many years by the late R.A. Alexander, of Kentucky, out of a mare that was nearly thoroughbred. (Sanders, 1893, 210)."

Indeed Pilot Jr. did sire many swift trotters, but it was Pacing Pilot's son Brown Pilot that brought the Pilot bloodline to Middle Tennessee (Womack, 1984, 67). Brown Pilot was the sire of Walking Horse foundation sire Brooks F-24. The Brooks family of horses were centered in Bedford County during the late 1800s, with Earnhart Brooks F-25 having the greatest influence in the development of the Tennessee Walking Horse. Earnhart Brooks F-25 was foaled near Shelbyville, Tennessee around 1875 (Womack, 1984, 68-69). Sires such as Earnhart Brooks F-25 helped to establish Bedford County as the first core county for Walking Horse breeding in the 19th century.

---

[13] One extreme interest in such horses was described in the journal Agricultural Science, which reported that, "...a well known firm of opticians in London, manufactures spectacles constructed specially for horses, the object being to promote high stepping. The glasses are deep, concave and large of size. The effect is to give the ground in front of the horse the appearance of being raised, consequently, the animal steps high." (1891, 301).

Like the Thoroughbred, the Standardbred provided an important genetic link in the development of the Walking Horse. Standardbred pacing horses in particular were preferred breeding stock in Middle Tennessee. Speed and style were highly prized by early breeders and stallions like Earnhart Brooks F-25 were heavily patronized. It has been said that except for Allan F-1, Earnhart Brooks F-25 had the greatest influence over early Walking Horse development (Womack, 1984, 69).

THE FORMULA FOR THE WALKING HORSE IS SET

The culmination of this great equine gene pool composed of French Canadian, Canadian Pacers, Narragansett Pacers, Morgans, Saddlebreds, Thoroughbreds, Standardbreds, and a host of unheralded grade horses, was the emergence of the modern Walking Horse. From the French Canadian, Canadian Pacer and Narragansett Pacer came a comfortable riding gait, hardiness and prepotency. The Morgan gifted the Walking Horse with temperament and versatility. From the Saddlebred the Walking Horse inherited refinement of conformation and show ring presence. The Thoroughbred contributed as much to the development of the Walking Horse through its institutions and marketing as it did through its bloodlines while the Standardbred infused the Walking Horse with speed and motion.

Like a great recipe in the making, all that was missing was the single spice that would bring all the varied flavors to their peak. That single spark for the Walking Horse was a horse that became known as Allan F-1, recognized as the singular foundation sire of the Tennessee Walking Horse.

As with many other horses which would influence the development of the breed, Allan F-1 represents a strong connection between the bluegrass equine nurseries of Kentucky and Tennessee. Several significant breeding stallions like Allan F-1 were imported into Middle Tennessee from the Lexington, Kentucky area during the late 19th century. This import/export pattern mirrors the decline of Middle Tennessee as a Thoroughbred breeding complex and the rise of the Kentucky Bluegrass as a major American equine nursery during the postbellum period.

Like the breed itself, Allan F-1 was the end result of cross-breeding between Thoroughbreds, Morgans, Saddlebreds and others. And like other great foundation sires such as Justin Morgan, the history of Allan F-1 is shrouded with mystery, misfortune and myopia. What is known about Allan F-1 is that he was

foaled in 1886 in Lexington and was entered into the American Trotting Registry. His sire Allandorf was a grandson of George Wilkes F-54 who was sired by Hambletonian, the foundation sire of the Standardbred. Allandorf's dam was by Mambrino Patchen and his grand-dam was by Mambrino Chief giving Allan F-1 a large dose of Saddlebred and Thoroughbred blood. Allan F-1's dam was Maggie Marshall who descended from a prominent line of Black Hawk-bred Morgan horses (Womack, 1984, 111-112).

Allan F-1's debut into Middle Tennessee was less than spectacular. The black stallion was purchased in Lexington for $335 in 1891 and put to stud at Murfreesboro (Rutherford County), Tennessee. The low price reflects Allan F-1's refusal to trot and as pacing horses were not in favor, he represented a real bargain for his new owner. Allan was not particularly handsome, was rather small, and most distressing to his owner, slow in harness. With few mare owners interested in patronizing such a poor specimen given the number of fine stallions available in the area, Allan F-1 found himself involved in a series of downwardly spiralling trades (Womack, 1984, 110-112).[14]

It was Allan F-1's tenure at the Beech Grove farm of James R. Brantley which allowed the aging black stud to prove his worth as a breeding stallion. Brantley believed in the much maligned horse and crossed him with his best gaited mares. The ensuing colts all possessed a smooth ambling gait, much in favor with horsemen of the South. Allan F-1 covered approximately 30 mares each season he stood at Brantley's farm, and his low stud fee of $6.00 reflects the continuing lack of outside interest in the undistinguished black stallion.[15]

To detail the significant offspring of Allan F-1 would involve the inclusion of thousands of pedigrees of Tennessee Walking Horses, and for the purposes of this discussion, contribute little to the problem at hand. What is salient is that the sons and daughters of Allan F-1 diffused throughout Middle Tennessee, and when crossed with other horses, produced foals with the characteristics we recognize today as trademarks of the

---

[14] For Allan F-1, the abyssal point in his career occurred in 1900 when he was traded for a yearling filly, a yearling Jersey heifer, and $20.00 (Womack, 1984, 110). Allan F-1 was later relocated to three different Coffee County locations, at one point being traded as a teaser for a jack, a most demeaning assignment for an animal destined to be the foundation sire of the Tennessee Walking Horse.

[15] In 1909 Allan F-1 was traded for the last time when he was purchased for $140 by Brantley's friend Albert Dement of Wartrace (Bedford County) where he died in 1910 (Womack, 1984, 112).

modern Walking Horse. These attributes, such as the running walk and rhythmically nodding head, are the hallmarks of the contemporary Tennessee Walking Horse and are the characteristics which distinguish them as a recognized American horse breed.

CHAPTER 3

MIDDLE TENNESSEE:

THE HISTORIC CORE OF WALKING HORSE SPECIALIZATION

FROM THE 19TH CENTURY TO 1938

THE MIDDLE TENNESSEE HEARTH

The presence of Allan F-1 and a complementary gene pool in Middle Tennessee created conditions favorable to the development of a new distinctive American horse breed, the Tennessee Walking Horse. Access to quality breeding stock is but one element in regional specialization. In addition to understanding the conditions in Middle Tennessee which created the breed, it is critical to investigate the temporal and spatial dynamics of pattern and process in the diffusion of the Walking Horse. The greatest markets for Walking Horses in the 20th century were not in Middle Tennessee where the breed developed, but rather in areas where the emerging suburban middle class possessed the right combination of disposable income and leisure time to afford the luxury of a pleasure horse.

Production and marketing of the Tennessee Walking Horse has historically been associated with a compact cluster of counties in Middle Tennessee with the heaviest concentrations in the southern half of the Nashville Basin. Contemporary Walking Horse foaling and marketing dynamics reflect patterns established as early as the 19th century. What has yet to be explained is the processes which led to the predominance of Middle Tennessee as a specialized Walking Horse equine hearth region.

Walking Horse evolution and diffusion from Middle Tennessee to 1938, can be divided into three developmental periods in order to identify subtle changes in the distribution of the Tennessee Walking Horse. The first period includes horses foaled from the 19th century through 1919 illustrating the earliest development and influence of the foundation stock of the breed. Since the pre-1920 period is critical in understanding future Walking Horse diffusion from the Middle Tennessee hearth, it is discussed in greater detail.

The second or intermediate period, 1920-1929, was a transitional stage in which core regions solidify and ownership patterns expand beyond the historical hearth area. Diffusion during the 1920s exhibits patterns similar to those of the previous period. This period was marked by the decline in use of horses for transportation and power and the emergence of the pleasure horse industry.

The final development period for the Walking Horse includes the years 1930 through 1938. Despite the national economic hardships of the 1930s, the Walking Horse gained national recognition by establishing a formal breed organization. During this period the TWHBA was created and the first stud books published. The period also illustrates the increasing marketability of pleasure horses positioning the Walking Horse for explosive growth in the post-war years.

ENVIRONMENTAL FACTORS EFFECTING WALKING HORSE DEVELOPMENT

Environmental factors as well as human activities contributed to the concentration of horse breeding specialization in Middle Tennessee during the 19th and early 20th centuries. The Nashville Basin of Middle Tennessee possesses certain environmental advantages for the raising of livestock, and in some cases was superior to the Kentucky Bluegrass (Wallace, 1951). Middle Tennessee has a longer growing season and higher rainfall than the Kentucky Bluegrass, which allows for increased production of corn and forage crops, as well as less severe exposure during the colder months (Tennessee Department of Agriculture, 1945, 9).

Tennessee horse breeders in particular benefited from the region's durable bluegrass pastures, plentiful water, and surplus feed and forage production. Bedford and Coffee counties were the first two Walking Horse core counties to develop and are situated within the bluegrass basin. Bedford County is almost entirely located within the Nashville Basin, with only a small portion in its southeast corner a part of the Highland Rim (Fig. 4). Approximately one-fifth of Coffee County is situated within the Nashville Basin, while the balance of the county is part of the Highland Rim.

Bedford County and to a somewhat lesser extent Coffee County both possess quality bluegrass pastures. 19th century supplies of Kentucky Bluegrass (Poa pratensis) seed came primarily from Fayette and Bourbon counties in Kentucky, with secondary supplies shipped from Iowa, Illinois and Missouri. Other important forage seeds such as Orchard Grass (Dactylis glomerata), Timothy (Phleum pratense), and Meadow

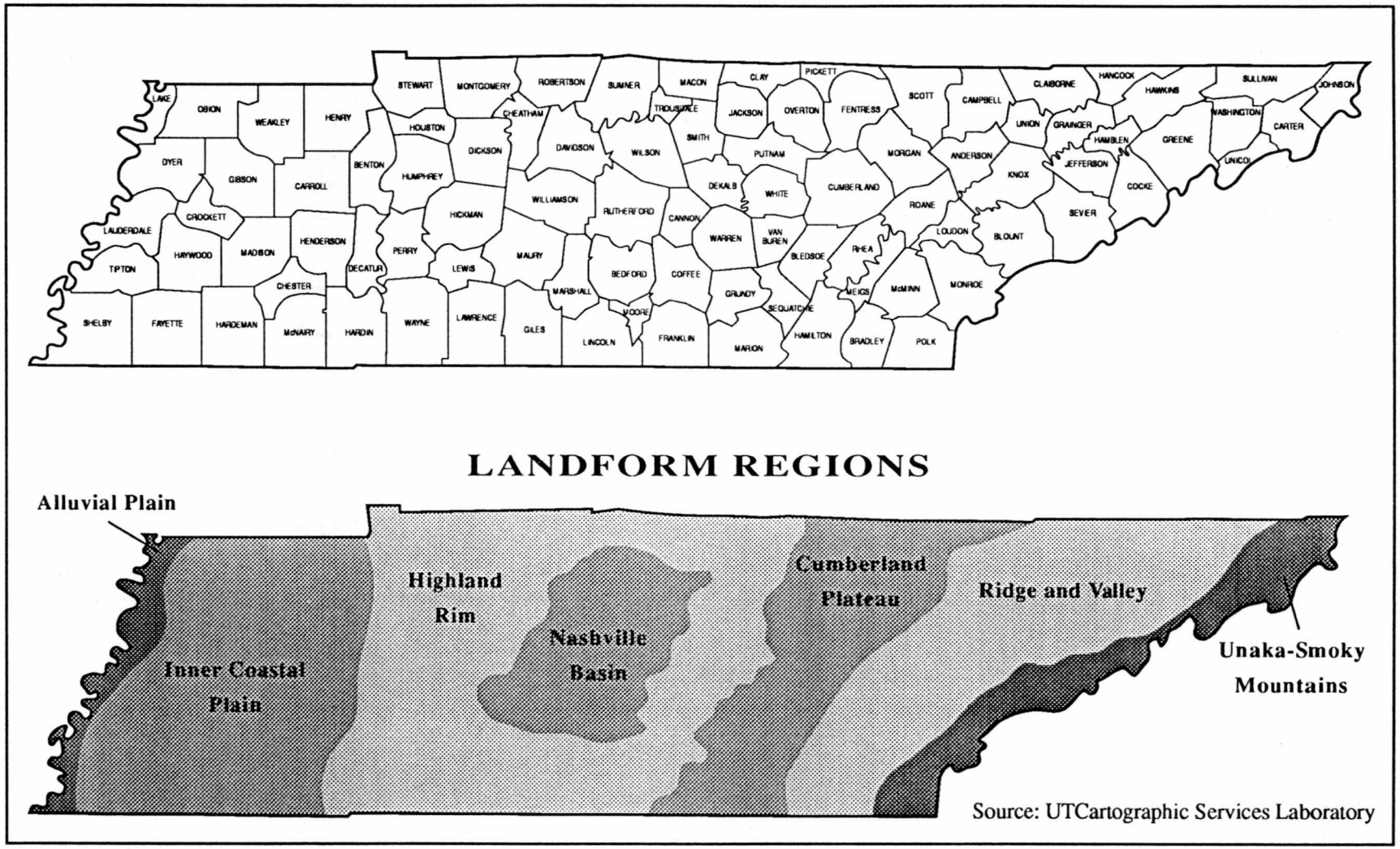

Figure 4: Tennessee Counties and Physiographic Regions. The Nashville Basin of Middle Tennessee is one of only two bluegrass regions in the United States (Central Kentucky, the other.) Favorable climate, fertile limestone soils, and durable grass pastures combine to create a conducive environment for profitable livestock production.

Fescue (Festuca pratensis) were also raised and exported from the previously mentioned bluegrass seed producing states as well as from Kansas, and Ohio (United States Department of Agriculture, 1899, 482). All of these bluegrass seed source regions with the exceptions of Iowa and Kansas were also active in horse production and importation.

Bluegrass basins of Kentucky and Tennessee became prolific producers of all types of livestock due to the availability of year-round forage which facilitated greater survival rates and above-average conditioning. Since bluegrass is not a suitable hay forage, it was used almost exclusively for grazing. Well-managed pastures were capable of sustaining herds without extensive use of dried hay in the winter. The relative mildness of winters in the central Kentucky and Tennessee basins further allowed for this extensive, virtually year-round use of pasture. A 1915 field crop textbook extolled the virtues of bluegrass when it noted that, "As a pasture grass in the corn belt states it (bluegrass) has no rival. It furnishes a palatable and nutritious pasture, starts early in the spring, and grows late into the fall. (Livingston, 1915, 204)."

Raising of horses on bluegrass pastures has developed into a myth larger than life itself---the notion that fast horses with extraordinarily strong bones were grazed on limestone based pastures sown with bluegrass seed. Kentucky and Tennessee horses raised in their respective state's bluegrass regions have been touted as superior in bone and "bottom" for over 100 years. It was perceived that since strong bones were formed from calcium, the calcium carbonate contained in the limestone parent material and soils of the two bluegrass basins would be absorbed into the animal's bones through the consumption of bluegrass. In reality, bluegrass does thrive in calcium-rich soils. However, the plant has only a limited ability to absorb calcium into its tissues and does not provide ruminants with an added dose of calcium in their diet.

By the 1850s, Middle Tennessee had emerged as the livestock and grain farming center of the state and was nationally recognized as a source region for quality horses and mules. A Tennessee State Agricultural Bureau census reported that in 1856, Middle Tennessee led the state in the production of horses, mules, cattle, hogs, sheep, corn, as well as in slave ownership. The only category in which Middle Tennessee was surpassed by another state region was in cotton, which was concentrated in West Tennessee (Tennessee State Agricultural Bureau, 1858).

Middle Tennessee retained its reputation as a major livestock producing and marketing region into the 1900s. Agricultural writer W.S. Porter noted in 1906 that Middle Tennessee was, "...an ideal place for the raising of live stock (sic)...a Tennessee mule is the favorite in all our southern States, while our race horses have brought fame and fortune to the owners... (Tennessee Department of Agriculture, 1906, 373)."

Porter's remarks were made during a Middle Tennessee Farmers' Convention and while he extolled the virtues of the region, he admonished farmers for not taking better care of their pastures and for marketing poorly presented horses and mules. He suggested that Middle Tennessee farmers attend county fairs and exhibitions where purebred and improved stock were on display, and read current scientific farming literature in order to gain greater successes from their breeding programs (Tennessee Department of Agriculture, 1906, 375). Agricultural fairs which had become established in the "Border South," provided farmers with the desired educational as well as social opportunities and the ensuing exchange of information fostered the diffusion of farming techniques and livestock improvements (Kniffen, 1958, 48-50).

Favorable climatic conditions and the potential for surplus grain and forage production were partially responsible for the early predominance of Tennessee over Kentucky in horse and mule breeding. In addition to its environmental advantages, the Nashville Basin's relative location afforded Tennessee farmers more direct access to historically horse-deficit regions in the cotton South, while markets for Kentucky-bred horses and mules were more oriented to the north and west.

The types of horses and mules being bred in Tennessee were physically suited to the needs of Southern agriculturalists. Tennessee-bred horses were in high demand as saddle horses while mules were used to perform work tasks. Horses and mules were shipped from Middle Tennessee to southern destinations along establishing driving routes, by river and by rail. Kentucky-bred horses and mules were most prized in regions where draft horses were more commonly used for pulling and plowing duties. These large animals were unsuitable as saddle mounts or for light carriage work. Light horse breeds such as the American Saddlebred were particularly prized in urban areas where they were used as fancy riding mounts and as stylish driving horses.

Central Kentucky breeders, like those of Middle Tennessee, took advantage of established trade routes and shipped horses and mules to markets which minimized their transportation costs and maximized the return

on their investment. The Kentucky Bluegrass area horse breeders, however, had a locational advantage over Middle Tennessee for sales to the growing population centers of the Ohio River valley. By the mid-1800s, Cincinnati, Ohio was the sixth largest city in the United States, served as a major market for livestock in the mid-Ohio valley, and had developed close transportation linkages with the Kentucky Bluegrass. Overland, river and rail transportation was utilized to ship livestock from the Kentucky Bluegrass to eastern and northern markets (Jakle, 1977). This early preeminence of Central Kentucky in establishing itself as a source area for horses, mules, and cattle, helped establish the market orientations for each Bluegrass region---Kentucky livestock shipped north, and Tennessee livestock shipped south.

WALKING HORSE EVOLUTION PRIOR TO 1920

The beginnings of a Walking Horse breeding complex can be found by examining the production and marketing characteristics of Middle Tennessee counties prior to 1920. In the earliest stage of Walking Horse development, interest and breeding was highly parochial. The majority of Walking Horses foaled in Tennessee up to 1920 were owned and matured in the same county in which they were born (Fig. 5). Only a few horses foaled in Middle Tennessee that were sold outside the State and the few Walking Horses were exported diffused within the South (Fig. 6).

The data set for Walking Horses foaled prior to 1920 includes 136 horses with known breeder and owner locations in eight different states, representing a 61% sample of all Walking Horses foaled during this period. Considering the antiquity of the pedigrees and the lack of consistent documentation in early breeding programs, the sample size was relatively large.

Sales of Tennessee-bred Walking Horses within Tennessee prior to 1920 were limited to six counties with Bedford County leading the region in sales (Fig. 5). All of the Tennessee marketing counties were in Middle Tennessee with Grundy County being the only county outside of the Nashville Basin. The only states outside of Tennessee which purchased Walking Horses foaled prior to 1920 were Alabama, Georgia, and Texas (Fig. 6).

Walking Horses which were sold to owners out of the county of birth, but in the same state accounted for 26% of sales, while seven percent of the ancestral Walking Horses were exported to other states. This early

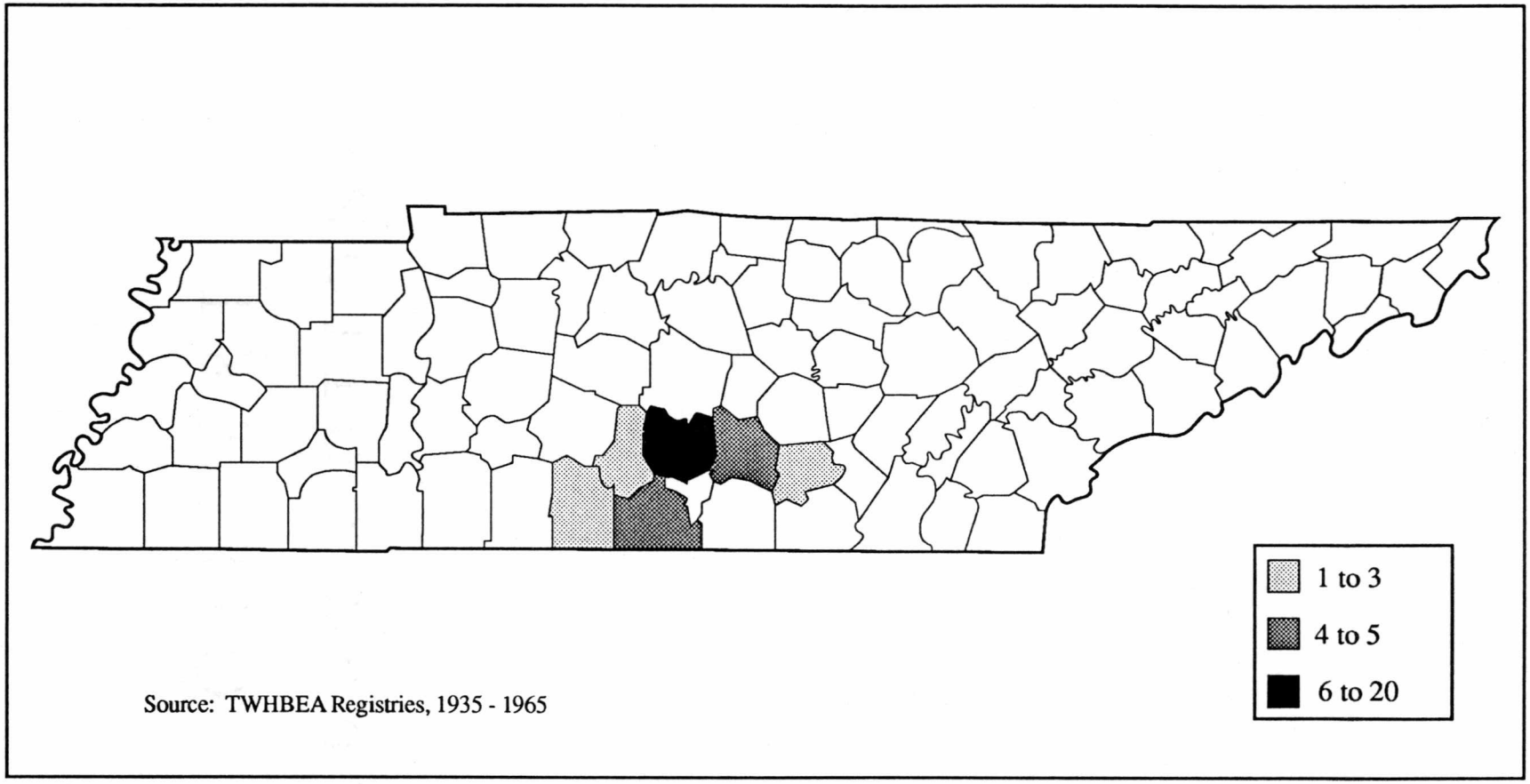

Figure 5: Walking Horse Sales from Tennessee Core Counties, Pre-1920. Sales of Tennessee-bred Walking Horses in Tennessee prior to 1920 were limited to six counties in the southern Nashville Basin, with the highest sales experienced in Bedford County.

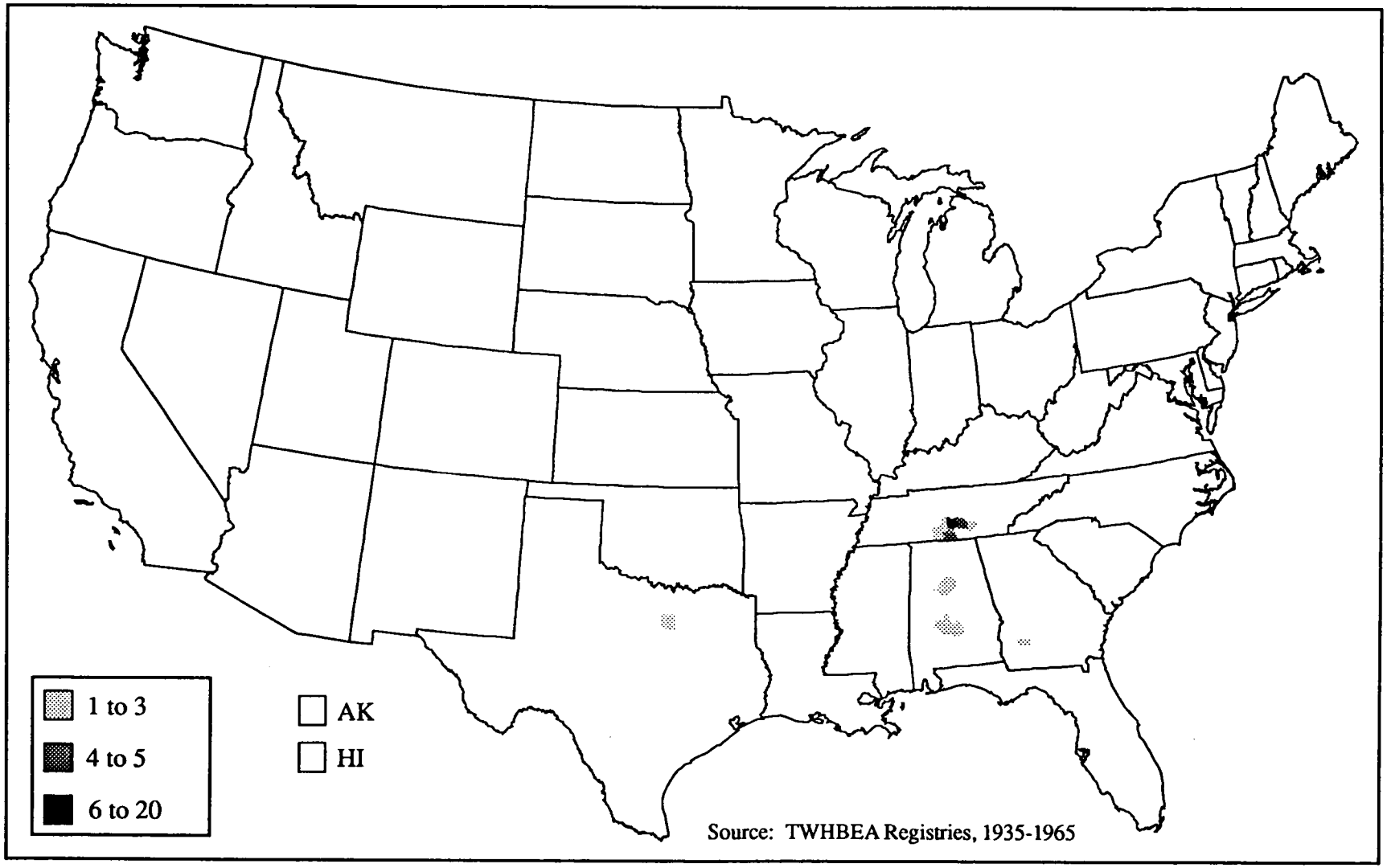

Figure 6: U.S. Walking Horse Sales from Tennessee Core Counties, Pre-1920. Prior to 1920, sales of Walking Horses from the Middle Tennessee hearth were limited to counties within the state and within the South.

marketing pattern would later shift towards fewer horses remaining in their county of birth, and more bound for interstate markets in the post-1920 era.

Twenty-five Tennessee counties experienced Walking Horse breeding and or marketing activity before 1920 (Fig. 7). Only two of those counties, Bedford and Coffee, qualified as core counties. Eight transitional counties developed by 1919, all in Middle Tennessee and contiguous to other counties with Walking Horse activity. The largest group of counties were emerging counties. Fourteen emerging counties developed by 1919, all bordering on other producing counties with the lone exception of Shelby County in West Tennessee. Grundy County, which lies in outside of the Nashville Basin in the Cumberland Plateau, was the single import/only county for the time period. Counties with the highest levels of production and marketing were those located in the Nashville Basin, the traditional area of equine breeding and trading activity.

But how much did these social and economic structures assist in the development of the Tennessee Walking Horse nearly three-quarters of a century later? The high-brow Thoroughbred was certainly different in form and function than the utilitarian Walking-type. What was the connection between these two distinctively different horse breeds and their masters? Certainly the physical environment exists as a relative constant. What has not remained a common denominator, however, are the producers and consumers. Race horses and farm-utility types are disparate creatures, indeed. Despite this obvious polarity, the common ground rests in the production and marketing infrastructure which was established during the 19th century for both Thoroughbred-types and cotton mules.

Production and marketing networks do not change simply because the commodity has been altered. Fashions come and go in horses just as in wearing apparel, yet the same procedures are generally used to sell clothing despite changes in hemlines and lapel widths. The reason why equine production has progressed in both the Nashville and Lexington bluegrass regions is because the production and marketing networks, established during the 19th century, were easily adapted to suit changing tastes in equine types. The same marketing infrastructure which served the Thoroughbred and mule during the 1800s, and the Standardbred and Saddlebred at the turn of the century, continued to serve the emerging Walking Horse in the 1900s.

With the 20th century underway and the automobile age on the horizon, demands for a different type of equine more suited for recreation than utility was beginning to develop. The emerging Tennessee Walking

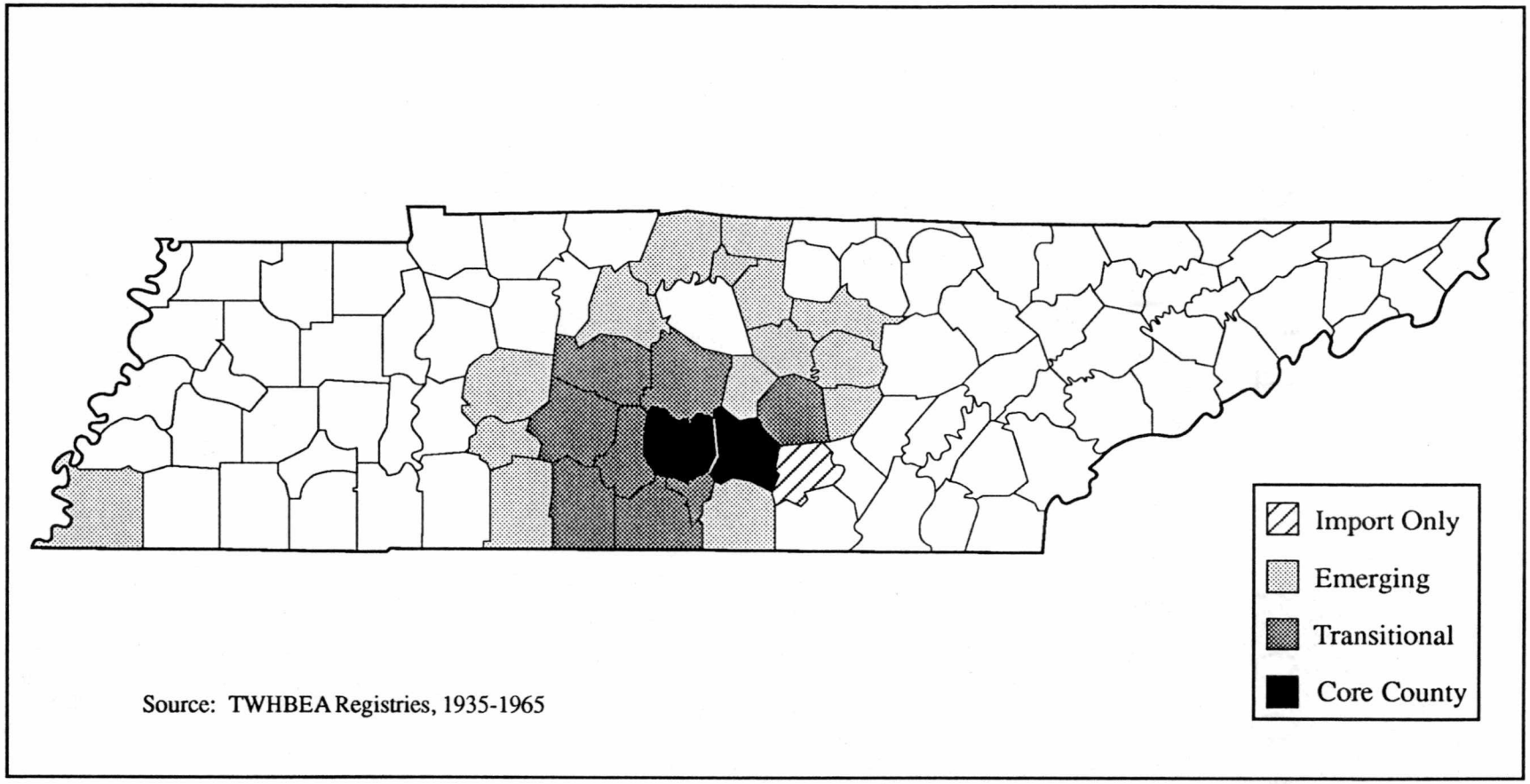

Figure 7: Walking Horse Marketing Patterns in Tennessee, Pre-1920. The first two core counties to develop in Middle Tennessee prior to 1920 were Bedford and Coffee. These core counties were surrounded by transitional, emerging, and import-only counties.

Horse, suited for work, pleasure, and show, was perfect for the market conditions at hand. With the Bedford and Coffee County hearth areas established by the 1920s, the Walking Horse was well on its way to diffusing to other Tennessee counties and the Upland South to satisfy the growing demand for versatility horses, much like its Thoroughbred and mule cousins did 50 years before.

SOCIAL FACTORS AND CORE COUNTY DEVELOPMENT

Within Tennessee counties, social and economic activity often centered around the county seat. One factor which fostered equine specialization in county seats such as Shelbyville and Lewisburg, were "First Monday" or, "Court Day" livestock sales. Court Day sales held in Middle Tennessee County seats beginning in the mid-19th century often featured hundreds of horses for sale, trade or advertised for stud. These centralized markets not only offered great variety for the purchaser, but also afforded horse breeders, stallion owners, and traders an opportunity to introduce new types and breeds to a wide audience.

Court Days and First Monday sales had a profound influence on the development of Middle Tennessee as the hearth region for the Walking Horse. A similar situation occurred in the 19th century in the bluegrass region of north-central Kentucky. Regularly scheduled livestock sales at county seats were commonly held in the Kentucky Bluegrass as in the Nashville Basin. In each area, livestock markets allowing for the intermingling of regional bloodlines and for the exchange of information between horsemen. (United States Department of Agriculture, 1910).

In addition to the significance of First Mondays on the development and diffusion of Walking Horse, the exchange of new ideas and bloodlines was also facilitated by an increased receptiveness to new agricultural technology. During the first decade of the 20th century Tennessee farmers began taking greater interest in scientific farming and the improvement of livestock. A report to the Department of Agricultural Commissioner W.W. Ogilvie in 1906 includes several notations regarding the increased sophistication and prosperity of Tennessee farmers.

> "The farmers of Tennessee have had their full share of the great prosperity that has blessed our entire country during the past two years, and their financial condition at the present time is unprecedented in the history of our State. Various crops have yielded abundantly, and there has been an increase in the number of live stock (sic) of all kinds raised and marketed...There is marked increase in the

number of newspapers, agricultural journals and miscellaneous literature that go in to the homes of farmers throughout the State. Throughout the State there is an increased demand for scientific methods of farming, and better grades of livestock (Tennessee Department of Agriculture, 1906, 1)."

THE BEDFORD COUNTY WALKING HORSE HEARTH

Bedford and Coffee counties were the first two counties to develop the necessary breeding and sales infrastructure to achieve core county status. Bedford County was the first Walking Horse core county, reaching core county status in 1916, followed closely by Coffee County. Both of these counties possessed Walking Horse foundation stock with verifiable breeder and owner locations by 1897.

Prior to 1920, Bedford County-bred Walking Horses were owned in the county of their birth, in other Tennessee counties (Coffee, Giles, Lincoln, Marshall), in Alabama (Dallas, Jefferson), and Georgia (Dougherty). Of the 29 Walking Horses foaled in the county, 69% were owned in Bedford, 20% were sold to other Tennessee counties, and 11% were sold to out-of-state buyers. The high percentage of horses remaining in the county was typical of the entire 19th century-1919 data set as 67% of Walking Horses remained in their county of birth. During this period, the only Walking Horse owned in Bedford County which was born outside of Bedford County was foaled in neighboring Lincoln County, in 1916.

What advantages did Bedford County experience over other counties to emerge as the first Walking Horse nursery county in United States? An agricultural report noted in 1899 that, "Animals are transported from one country to another or to distant islands either by accident or by the direct agency of man." It was further stated that, "Horses, cattle, sheep, goats, pigs dogs, and cats are now almost cosmopolitan, but they owe their wide distribution entirely to man, who has carried them with him to all parts of the earth. Accidental distribution is much less common in the case of mammals... (United States Department of Agriculture, 1899, 87-88)."

If the diffusion of the Walking Horse was not, "accidental," how and why did it develop first in Middle Tennessee, especially in Bedford County during the 1900s? The most obvious answer to this question was the legacy of A.M. Dement of Wartrace and his most famous charge, Allan F-1. Dement also leased the influential foundation stallion Roan Allen F-38 (sired by Allan F-1) from James Brantley of Coffee County. (Womack,

1984). Today, virtually 100% of registered Tennessee Walking Horses can be traced to Roan Allen F-38 (Womack, 1984, 133).

If Allan F-1 can be identified as the foundation sire for all Tennessee Walking Horses, then Dement should be lauded for his foundation stock management which resulted in the Walking Horse emerging as a distinct American horse breed. In 1905 Dement declared that a breed of run walking horses could be produced with great reliability. The Dement breeding program produced important foundation horses such as Nell Dement F-3, who was the dam of Merry Legs F-4. Merry Legs F-4 enjoyed great success in the show ring and in the broodmare band. To date, more than thirty World Champion Celebration winners can be traced to Nell Dement F-3, mostly through her son, Merry Boy (Womack, 1984, 141). Dement was a successful breeder of Walking Horses, but of greater significance were his promotion of the breed and exports of quality stock which fostered diffusion and development of extra-regional markets.

In addition to A.M. Dement, Bedford County was home to another early innovator in Walking Horse breeding, Henry Davis, who lived in Wartrace. Henry Davis, considered to be the founding father of the annual Walking Horse Celebration, selectively bred foundation horses which would ultimately impact the Walking Horse industry. Davis also rode and trained many notable show horses including Roan Allen F-38, Merry Legs F-4, and Strolling Jim (Womack, 1984).

Breeders like Davis, who owned and showed their stock, acted as promotional agents for not only for themselves but for the entire breed. The purpose of exhibiting livestock is to define the highest standard for a breed in a competitive environment. Horse shows provided the emerging Walking Horse with a public venue in a variety of locations. The Tennessee State Fair began offering Walking Horse classes in 1912 and served as the culmination of the show season which began with local shows and county fairs. The Middle Tennessee circuit began with a show at Murfreesboro and continued on to Shelbyville, Fayetteville, and Winchester before concluding at Nashville (Womack, 1984, 138).

Horse shows, like other many other livestock events, also offer interested parties an opportunity to share training and breeding information which might influence their future breeding plans. The generally accepted idea is that the horse that wins the blue ribbon is the best horse in the ring and sets the standard for others to follow.

If a breeder or exhibitor wants to win in the future, then the type of horses they should produce or show should closely resemble the conformation and or performance of horses that are winning the championships. Show winners are perceived as the best the breed has to offer and as the ideal to be replicated by subsequent generations. This is especially true for show stallions and to a lesser extent mares. A successful show stallion has the potential to exert an enormous impact on the breed's gene pool as they may be used to breed dozens or even hundreds of mares in a given season and provide breeders with extra income. Mares who have a successful show career have a less immediate impact on the state of the breed as they will produce only one foal per year. The impact of broodmares on breed development is more subtle and is usually only understood after several generations have passed.

The more blue ribbons a stallion can garner, the more fashionable his bloodlines become and the more likely his progeny will set the standard for the next generation. For example, Davis' successful show ring campaigns with the stallion Roan Allen F-38 did as much to promote the horse as a breeding animal as the Walking Horse in general. Roan Allen F-38 was owned by James Brantley of Coffee County but was leased for stud in many locations in Middle Tennessee including Bedford County, Davis showed Roan Allen F-38 at county fairs throughout Middle Tennessee creating great rivalries in the show ring and attracting great crowds of spectators. Roan Allen F-38 was foaled in 1904 and died in 1930, yet continues to figure into the pedigrees of many influential contemporary Walking Horses. Womack recognized the historical significance of Roan Allen F-38 when he stated that, "100% of all living Walking Horses can trace to this great stallion (1984, 133)."

In addition to the activities of leading breeders and showmen, Bedford County benefitted from other factors which contributed to its early predominance in the evolution of the modern Walking Horse. The Bedford County seat of Shelbyville was a First Monday trading site early as the 1880s, and it was not uncommon for stallion owners to bring as many as 100 of a horse's offspring for sale. Stallion owners took advantage of this opportunity to advertise their horses and demonstrate a stud horse's prepotency (Womack, 1984, 191).

In addition to large horse sales, regularly scheduled horse shows were being held in Shelbyville by the 1910s. Local horse trainers were on hand to exhibit and promote their own horses as well as prepare other

horses and riders for show ring events. Since many leading Walking Horse breeders lived within a short distance of Shelbyville, the fairs and horse shows were well attended. Horses from surrounding towns and counties were also exhibited in Shelbyville. It was not uncommon in the days prior to modern horse transportation for Walking Horses to be ridden or driven over great distances to enter horse shows, which only added to their legend as a sturdy, reliable and stylish mount.

Shelbyville provided an early venue for Walking Horse shows and was a central trading and meeting place for Bedford County farmers. The town served as a primary node of early Walking Horse promotional and breeding activity and continues in that role today as home to the internationally famous Walking Horse Celebration. In addition to Shelbyville, the community of Wartrace, home to A.M. Dement and Henry Davis, was another major Walking Horse center in Bedford County. Other Bedford communities including New Hermon, Bell Buckle and Unionville, all possessed Walking Horses by 1919 and served as secondary nodes of Walking Horse activity.

The evolution of the Walking Horse in Bedford County in the early 1900s was fostered by a favorable physical environment, the activities of dedicated breeders, the presence of quality foundation horses, and the development of organized horse shows and county fairs. These variables combined with a growing popularity of recreational and show horses to create the first Tennessee Walking Horse hearth in Bedford County. Today, Bedford County continues to be a major center for Tennessee Walking Horse breeding, exhibiting and ownership.

THE COFFEE COUNTY WALKING HORSE HEARTH

Coffee County rates a close second to Bedford in reaching all three major Walking Horse marketing levels to achieve core county status. While Coffee County paled in comparison to Bedford in terms of numbers of horses foaled, it played an important role in establishing outlier markets for Walking Horses in the first half of the 20th century. Walking Horses foaled in Coffee County in the early 1900s were more likely to be exported than to remain on the farm where they were born. While breeders may have found the local sales unprofitable, they were successful in marketing their horses in other counties and states.

By 1918, Coffee County had evolved into a core county. Of the nine Coffee County Walking Horses located for the period prior to 1920, all were foaled in 1918. Of these nine horses, four remained in Coffee County, two were owned in other Tennessee counties (Grundy, Lincoln), and three were sold out-of-state to Alabama, Mississippi, and Texas. This early interstate diffusion pattern from Coffee County was similar to that of the Tennessee-bred Thoroughbreds of the mid-19th century.

A higher percentage of Coffee County horses were exported at the intra- or inter-state level than those Walking Horses foaled in Bedford County. While 56% of all Walking Horses foaled in Coffee County were exported, only 31% of those foaled in Bedford County to sold to out-of-county owners. Prior to 1920, only two horses owned in Coffee County were foaled outside of the County, one each from Marshall and Warren County, Tennessee.

Walking Horses were foaled in several Coffee County locations prior to 1920. While the majority of horses were produced in the Beech Grove area, others were also foaled in Manchester, Tullahoma, and Hillsboro. It should be noted that Allan F-1 stood at all of these communities with the exception of Tullahoma between 1903 and 1910 (Womack, 1984, 109-112). The presence of Allan F-1 helped upgrade local stock and create breeding stock with Walking Horse traits.

Coffee County's development as a core county for the Tennessee Walking Horse was tied to activities in bordering Bedford County. Coffee and Bedford counties shared a close network of Walking Horse breeders, traders, and trainers. The most influential of the early Coffee County breeders was James Brantley, of Beech Grove. Brantley was a close friend of A.M. Dement, and these two breed pioneers often traded horses and patronized each others stallions (Womack, 1984). Brantley also had close contact with Henry Davis, who for a time showed Brantley's great horse, Roan Allen F-38. The significance of such interpersonal contact between breed enthusiasts cannot be underestimated. Such localized information and exchange networks in Coffee and Bedford counties directly contributed to the development of core counties in Middle Tennessee.

The story of Roan Allen F-38 is an excellent example of Walking Horse development and diffusion. Roan Allen F-38 was, "born run walking," in Coffee County in 1904 and Brantley was his sole owner throughout the stallion's lifetime. His dam, Gertrude, was also foaled in Coffee County as was her sire Royal Denmark (probably a Kentucky Saddlebred by Gaines Denmark), who had stood for one season at Beech

Grove, near the Brantley farm (Womack, 1984, 127). Roan Allen F-38 earned his name from his sire, Allan F-1 who stood at Brantley's farm near Beech Grove. During his lifetime Roan Allen F-38 sired many outstanding broodmares and more than 30 breeding and show stallions. Brantley recognized Roan Allen F-38's impact when he noted that the stallion's, "...best get were sold for plantation horses in Mississippi, Arkansas and Louisiana to large planters" (Womack, 1984, 132).

Coffee County Walking Horse breeders also benefitted by patronizing stallions from other breeds to improve performance and conformation. The American Saddlebred stallion Giovanni was imported from Kentucky to refine the physical characteristics of early Walking Horses. Another Saddlebred sire, Royal Denmark, also influenced the Walking Horses of Coffee County by cross-breeding local mares. The stallion Bell Buckle, believed to have been a Standardbred, stood at Beech Grove, Tennessee, from 1912 to 1918 and later at Woodbury (Womack, 1984, 166). Bell Buckle's sire was Bow Bells who was foaled in Palo Alto, CA in 1887. The Hermitage Stud Farm of Nashville, Tennessee, paid $10,000 for Bow Bells before he was foaled (Womack, 1984, 165-66). Given the state of transportation and information infrastructures in the late 19th century, trans-continental horse trading at this level was quite extraordinary.

The California Standardbred connection with Middle Tennessee most probably began with the harness racing craze which swept the nation after the Civil War, and by the 1870s and 1880s was in full gear. Harness racing competition was keen enough to foster bi-coastal rivalries by the 1890s. Acclaimed Standardbred racers such as Little Brown Jug, Star Pointer, Hal Pointer, and Tom Hal all played a role in the popularity of the sport and were part of the gene pool for the development of the Tennessee Walking Horse.

Although there is not verifiable record of Walking Horses in California during this early time period, during the 1920s several registerable Walkers made their way west from Middle Tennessee to Los Angeles, San Diego, and San Francisco. As early as 1920, the diffusion path was reversed and a Los Angeles-bred Walking Horse was sold to a new owner in Lincoln County, Tennessee. Walking Horses gained popularity in California in the post-World War II era and today California has its own West Coast version of the Shelbyville Walking Horse Celebration.

While Bedford County has long been recognized as the heart of Tennessee Walking Horse history and development, Coffee County provided the young breed not only with heavily patronized breeding stock but also

with outside marketing connections. Whereas Bedford County Walking Horses were more numerous and more likely to remain in the area, Coffee County-bred Walkers were sold to owners outside the traditional Middle Tennessee market. The impact of this was two-fold. First, sales of Walking Horses out of the county bolstered the activities of local breeders, encouraged them to produce more horses of a specific type to meet consumer demand. Second, the relocation of Walking Horses out-of-state or county facilitated the establishment of new breeding centers and exposed the breed to a broader audience.

THE FIRST TRANSITIONAL COUNTIES IN TENNESSEE

The Bedford and Coffee County hearth was bordered by a cluster of eight Middle Tennessee transitional counties prior to 1920 (Fig. 7). By 1920 11 counties emerged as transitional areas, eight in Tennessee and three in Alabama (Fig. 8). Seven of the eight Tennessee counties in this grouping were found in the Nashville Basin and include Giles, Lincoln, Marshall, Maury, Moore, Rutherford, and Williamson. The only Tennessee transitional county located outside the Nashville Basin was Warren, which is situated mainly in the Highland Rim with a small portion of the county located within the Cumberland Plateau. All transitional counties during the Pre-1920 period were adjacent to either a core or another transitional county.

The most predominant of the eight Tennessee transitional counties from the 19th century to 1919 was Marshall County in which 11 Walking Horses were produced. Of these, seven (64%) remained in the county after their birth, and four (36%) were exported at the intra-state level. Marshall County experienced no sales at the interstate level, yet would later become a national marketplace for Walking Horse sales. Marshall County later became home to the Tennessee Walking Horse Breeders Association in 1935 when a headquarters was established at Lewisburg. Marshall was a leading transitional county due to its proximity to Bedford County, highway and trading connections with other Walking Horse producers, and the activities of established equine producers of horses and mules.

Lincoln County ranked second among the Tennessee transitional counties with nine Walking Horses foaled prior to 1920. The first recorded Walking Horse foaled in Lincoln County was born near Petersburg in 1909 and later sold to owners in Maury County. Lincoln County Walking Horse breeders actively traded bloodstock with Bedford and Coffee counties, but were more dependent on imports than the two cores. Three

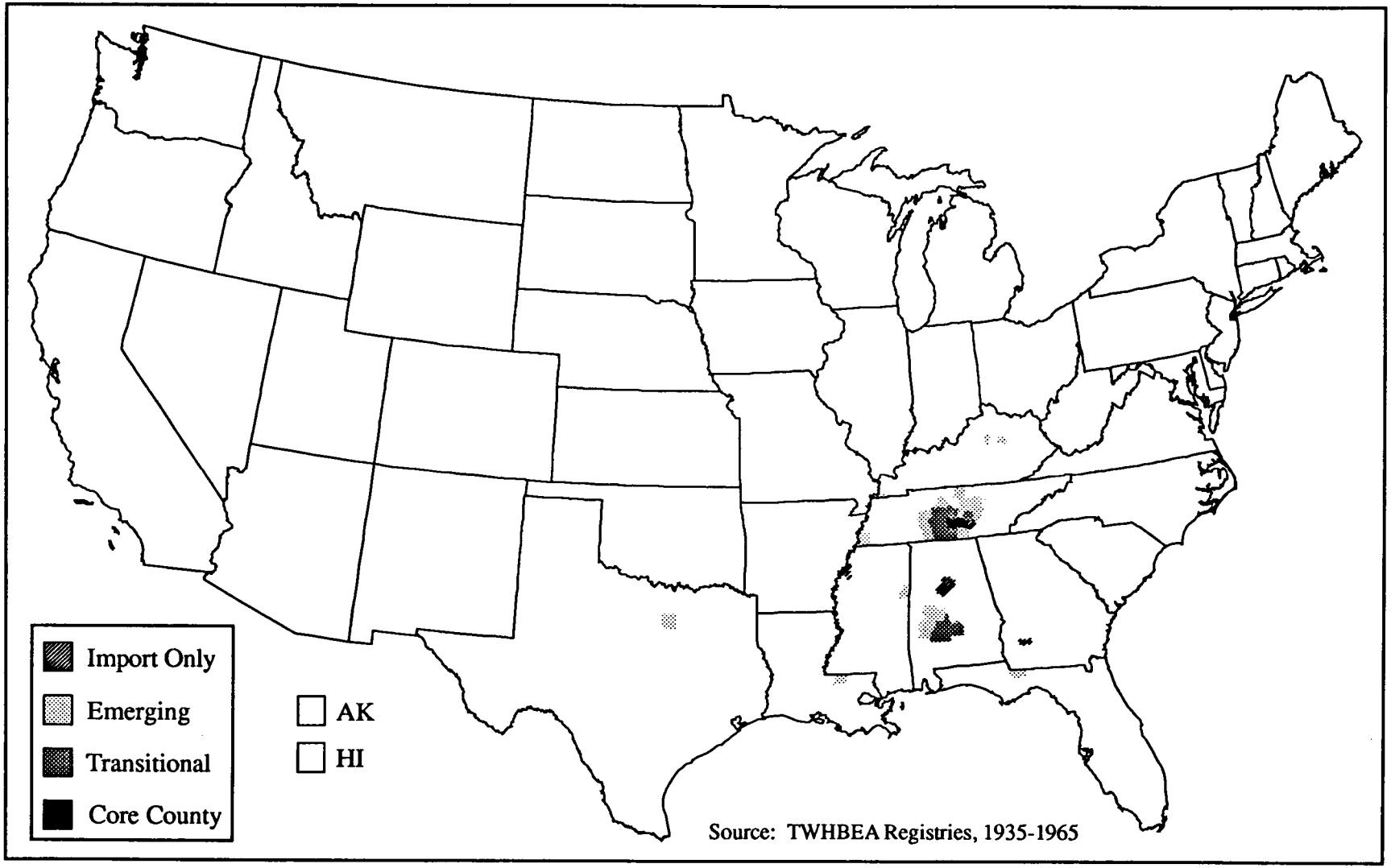

Figure 8. U.S. Walking Horse Marketing Patterns, Pre-1920. Prior to 1920, only seven states outside of Tennessee were active in Walking Horse marketing with the strongest non-Tennessee breeding center in south Alabama.

Walking Horses foaled between 1916 and 1918 were sold to Lincoln County owners from farms near Shelbyville and Wartrace in Bedford County, and one from Beech Grove in Coffee County. In return, only one horse was sold from Lincoln to Bedford County and none to Coffee County.

Five of the nine Lincoln County-bred Walking Horses (56%) remained in the county, while four (44%) were sold to owners in Bedford, Marshall, and Maury counties. No Lincoln County Walking Horses were sold out-of-state. Eight of the nine Walkers foaled in Lincoln County were born on farms near Petersburg and one was foaled near Fayetteville. Fayetteville, the county seat, held regular horse sales held there each month and was the site of some early horse shows.

Five of the remaining six transitional Tennessee counties experienced ownership patterns at the intra- and inter-county levels. Maury, Rutherford, Warren, and Williamson counties all produced horses and sold horses to other Tennessee counties. These counties experienced the same sales relationship with the Bedford and Coffee cores as Lincoln. Only one horse foaled in this group of transitional counties was sold to a Coffee County and none to Bedford. These transitional counties obtained their foundation stock from Lawrence, Lincoln, Marshall, Smith, and Williamson counties in Tennessee, and one horse was imported from Woodford County, Kentucky. These counties influenced the future evolution of Marshall as a core county, but had little effect on Bedford or Coffee's emergence as hearth regions.

The final transitional county for the pre-1920 period was Moore, a small county situated within the Nashville Basin and Highland Rim. Moore was the only transitional county of this time period with a sale to an out-of-state-owner. Of the two Walkers foaled in Moore, one was sold to an owner in Dallas County, Alabama, and one to Franklin County, Tennessee. Dallas County was breeding and trading center for Walkers in south Alabama during the early 1900s was itself a transitional county for the pre-1920 time period. Moore County continued to develop its Walking Horse industry in coming decades but never reached the activity levels of neighboring counties. Moore County was the only transitional county which did not evolve to a higher marketing level during the 1920s. It remained a transitional county until 1935, when it graduated to core status largely due to the activities of Lem Motlow.

As a group, the transitional counties form a secondary Walking Horse marketing area near the Bedford and Coffee cores. All of the aforementioned counties either bordered on the core counties of Bedford

and Coffee, or were contiguous to other transitional counties. In turn, the transitional counties were bordered by emerging Walking Horse counties which form the outer rim of the hearth region. Of the transitional counties, only Marshall and Lincoln traded horses with the Bedford and Coffee cores. The remaining counties were more likely to trade among themselves or with other areas. Six of the eight Tennessee transitional counties developed into core counties by the close of the 1920s, with only Moore and Williamson stagnating at the transitional level.

Fifteen emerging Walking Horse counties in Tennessee during this time period experienced sales at either county or state levels. None of the Walking Horses in emerging Tennessee counties were sold to out-of-state owners, an important element hindering evolution to core county status. Pre-1920s emerging Tennessee counties included, Cannon, Davidson, Dekalb, Franklin, Hickman, Lawrence, Lewis, Macon, Putnam, Shelby, Smith, Sumner, Trousdale, Van Buren, and White.

During the pre-1920s era, emerging Tennessee counties were home to 30 Walking Horses, or 22% of Tennessee Walking Horses foaled. The general trend for emerging counties was a decrease in marketing activity with increasing distance from the Middle Tennessee cores. Proximity to counties which achieved higher levels of breeding and sales activities was of great benefit in generating interest in the Walking Horse. For example, Franklin and Cannon counties accounted for nearly one-third of all horses foaled in emerging counties. Coffee County, a pre-1920s core, is bordered to the south by Franklin and by Cannon to the north. Emerging counties with only one Walking Horse foaled prior to 1920 including Davidson, Lawrence, Lewis, Macon, Putnam, Shelby, Smith, Sumner, Trousdale and White, do not border either Bedford or Cannon. Shelby was the only emerging county without shared boundaries with core, transitional, or other emerging counties. Diffusion to Shelby County was the result of sales to Memphis and early livestock trading ties that Middle Tennessee established with the Mississippi River port.

Most Tennessee counties with Walking Horses up to 1919 produced some of their own stock, with the exception of Grundy County was the sole import/only county. Grundy County did not foal any Walking Horses up to 1920 and never achieved core county status. It did advance as high as transitional status during the 1930s. In the pre-1920 era, Grundy was surrounded by transitional and emerging counties to the north and west. The eastern part of Grundy was bordered by counties that did not possess Walking Horses prior to 1920.

Grundy's more isolated location in the rugged and less equine oriented Cumberland Plateau may explain its early deficiencies in breeding Walking Horses and lack of marketing in coming decades.

PRE-1920 WALKING HORSE MARKETS OUTSIDE TENNESSEE

While no Walking Horse market areas outside of Tennessee could claim core county status prior to 1920, several states were active in breeding and trading (Fig. 8). Walking Horses were foaled and or sold to Alabama, Georgia, Kentucky, Mississippi, and Texas. All of these locations were either sources of foundation stock, traditional markets for Tennessee-bred horses and mules, or destinations for Tennessee migrants.

Alabama was the only state other than Tennessee to possess transitional counties during pre-1920 era. Three south-central counties including Dallas, Lowndes and Wilcox, developed transitional marketing levels by 1919. These counties form parts of the historical "Black Belt," a wealthy cotton plantation region also noted for hay, forage and cattle production (Smith, 1941). Southern Alabama also possessed a large number of mules which most likely were imported from Middle Tennessee fostering a marketing relationship between the two regions. These counties also benefitted from late 19th and early 20th century railroad linkages with Middle Tennessee, a popular means of moving horses long distances prior to the advent of trucks and trailers (Dodd, 1974).

Alabama's transitional counties formed a compact, contiguous mini-core, similar to the pattern established in the Middle Tennessee hearth. Dallas, Lowndes, and Wilcox counties were bounded on the west and north by three emerging counties, Hale, Marengo and Perry. The south-central Alabama Walking Horse region continued to slowly develop through the 1960s but declined by the 1980s without ever evolving into an intensive hearth region as was the case in Middle Tennessee.

Four states other than Tennessee developed emerging Walking Horse counties up to 1919. Alabama, Florida, Kentucky, Louisiana, Mississippi, and Texas had emerging counties during the 19th century to 1919 period. Kentucky and Alabama each possessed three emerging counties with the remaining states with one apiece. The diffusion of Walking Horses into these states resulted from the relocation of population. For example, the first Walking Horses in Texas can be traced to a single Walking Horse breeder, J.D. Luna, an early influential Middle Tennessee breeder who migrated to Dallas-Forth Worth area during the early 1900s

(Womack, 1984, 77). Previously established equine marketing patterns also influenced Walking Horse development in these states. Tennessee-bred Thoroughbreds, saddle horses, and mules had been exported to other Southern states as early as the 1830s, and the demand for Walking Horses simply perpetuated this marketing relationship (Gripshover, 1989). In each case, these non-Tennessee emerging counties consistently experienced Walking Horse production and sales through the 20th century, with many evolving into transitional or core counties in later years.

Import/only counties outside of Tennessee appeared in Alabama, Georgia and Mississippi during the pre-1920 period. Jefferson County, Alabama, developed into an emerging Walking Horse by the 1920s, and in later years achieved transitional county status. Coahoma County, Mississippi achieved transitional status briefly in 1940 and later declined in marketing diversity. Dougherty County, Georgia, remained as an import/only or emerging Walking Horse county through the 1980s.

THE PRE-1920 ERA: CONCLUSIONS

The patchwork quilt of various Walking Horse marketing areas in the pre-1920 developmental era covered eight states and 38 counties. The majority of Walking Horses foaled prior to 1919 (79%) were found in Tennessee but Walking Horses were being bred bought and sold in areas far from the Middle Tennessee hearth. Equine marketing relationships established in the 19th century between Middle Tennessee breeders and southern traders remained active in the early 1900s.

The diffusion pattern during this earliest period of Walking Horse development persists throughout the 20th century. Up to 1920, Walking Horses tended to diffuse from core counties to nearest-neighbor counties, then to the south and west. Walking Horses in areas outside of the Tennessee core counties were found in regions where remnants of the old planter system remained, such as southern Alabama, Mississippi River counties, and the Kentucky Bluegrass. With the exception of the Lexington, Kentucky, area, these were traditionally equine-deficit regions which have historically relied on northern breeders for their horse and mule needs.

While Walking Horses were developing in and diffusing from Middle Tennessee, some areas failed to experience any Walking Horse activity. Up to 1920, no Walking Horse foal locations could be verified outside

of the South. The barriers to northern diffusion of the Walking Horse came from competition from preexisting breeds, and prevailing horse fashions (trotters over gaited stock), as well as a transportation and migration bias from Middle Tennessee to the west and south.

Prior to 1920, the Northeast was home to many popular and successfully adopted light horse trotting types such as the Morgan, Thoroughbred, Standardbred and a variety of draft horses. The predominance of trotting horse breeds was the result of 18th and 19th century prejudice against gaited, non-trotting horses. This negative perception of non-trotters such as the Walking Horse remained prevalent in the Northeast throughout the 20th century.

Given the nature of Northeastern equine markets in the early 1900s, the adoption, let alone the production of Walkers in the region would have been difficult. The Walking Horse also developed later than any of the aforementioned breeds which further hindered adoption. For example, Saddlebred diffusion and market patterns were firmly established 30 years before the Tennessee Walking Horse developed its own breed registry.

Transportation also played an important role in the slow growth in Walking Horse markets in such places as Indiana, Ohio, and Illinois. Kentucky livestock marketing and transportation in horses and other livestock was more oriented to northern and western consumers in cities such as Cincinnati and Chicago. This relationship was heavily influenced by railroad linkages, and the railroad was the transportation mode of choice for many horse-traders during this period. Saddlebreds and other Kentucky light horse breeds being shipped to western and northern markets decades before Walking Horses were recognized as a distinct breed type, making it more difficult for Walkers to diffuse outside of the South.

Historical driving routes also contributed to the Walking Horse's diffusion bias towards the south. Large shipments of Tennessee and Kentucky horses and mules were driven west and south on overland routes and on the Mississippi River from Memphis to New Orleans during the 19th century. This southerly river route for horse trading was established when Antebellum race horse enthusiasts in Middle Tennessee engaged in active trading and racing competition at New Orleans tracks (Anderson, 1916, 7).

Diffusion of Walking Horses along established driving and hauling routes was also consistent with human migration patterns, especially for Tennesseeans who moved to points west during the 19th and early

20th centuries. Westward migrations of Walking Horses, especially those in California and Arizona were, also the result of human migration and relocation diffusion.

The Pre-1920 period in Walking Horse diffusion ended with the emergence of a specialized hearth region in Middle Tennessee. The hearth area continued to expand in during the 1920s and 1930s, but the focus remained in Middle Tennessee. The relatively compact hearth area reflects the intensive regional interests in pursuing Walking Horse development and the lack of widespread diffusion outside of the localized core. In the coming decades, the Tennessee Walking Horse would outgrow its nursery and expanded its markets from coast to coast with the greatest concentrations of Walking Horses persisting in the South and West.

THE TENNESSEE WALKING HORSE IN THE 1920s

The 1920s was the critical decade for Walking Horse diffusion from the Middle Tennessee hearth and diffusion characteristics were unlike those of the earlier period. This was the first era in which more Walking Horses were sold out of county than remained in their county of birth indicating broadening interest in what had been an essentially a regional breed. National markets for Walking Horses expanded greatly during the 1920s with horses sold from the Middle Tennessee hearth to areas as diverse as Pennsylvania and California (Fig. 9). Walking Horse breeding activities also followed the same pattern with production and sales during the 1920s from coast to coast and from the Great Lakes to the Gulf of Mexico (Fig. 10).

Of the 392 verifiable horse locations during this period (69% of all horses born during the 1920s), only 69 (18%) remained in their birth county, 192 (49%) were sold to other counties within the state of their birth, and 131 (33%) were sold to out-of-state owners. This trend is very significant for understanding future Walking Horse production and marketing patterns since those horses exported to other regions would later serve as breeding stock and allow areas outside of Tennessee to develop localized Walking Horse activity.

During the 1920s, Walking Horses foaled in Middle Tennessee were being sold to owners as far away as San Diego County, California, and Montgomery County, Pennsylvania. The majority of out-of-state sales, however, were to owners in neighboring southern states, especially Alabama and Mississippi. Within the

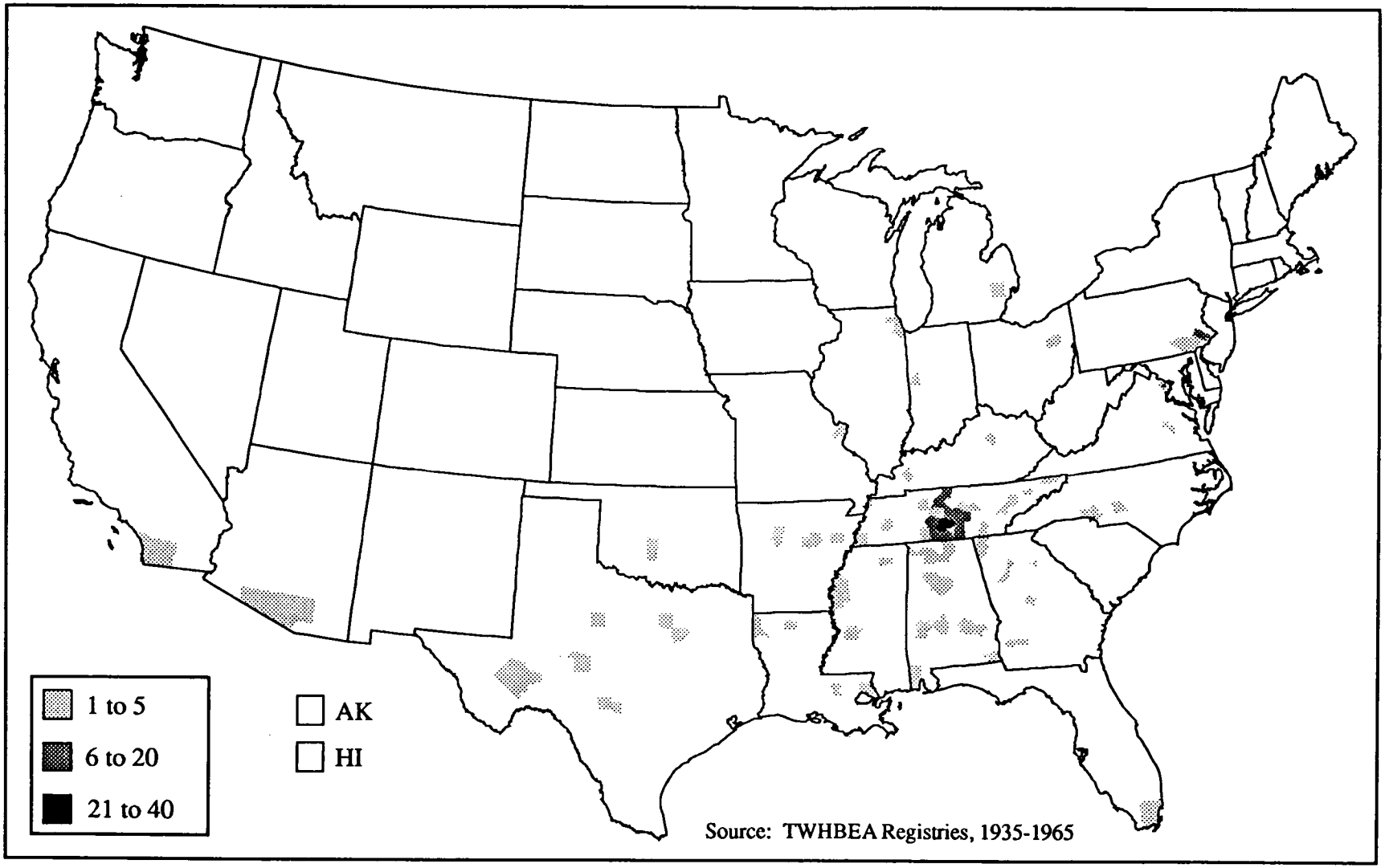

Figure 9: U.S. Walking Horse Sales from Tennessee Core Counties, 1920s. During the 1920s, sales of Tennessee Walking Horses began to break out of its regional scale and made significant inroads into the Midwest and West, however with the exception of Pennsylvania, the Northeastern markets for Walking Horses were virtually non-existent.

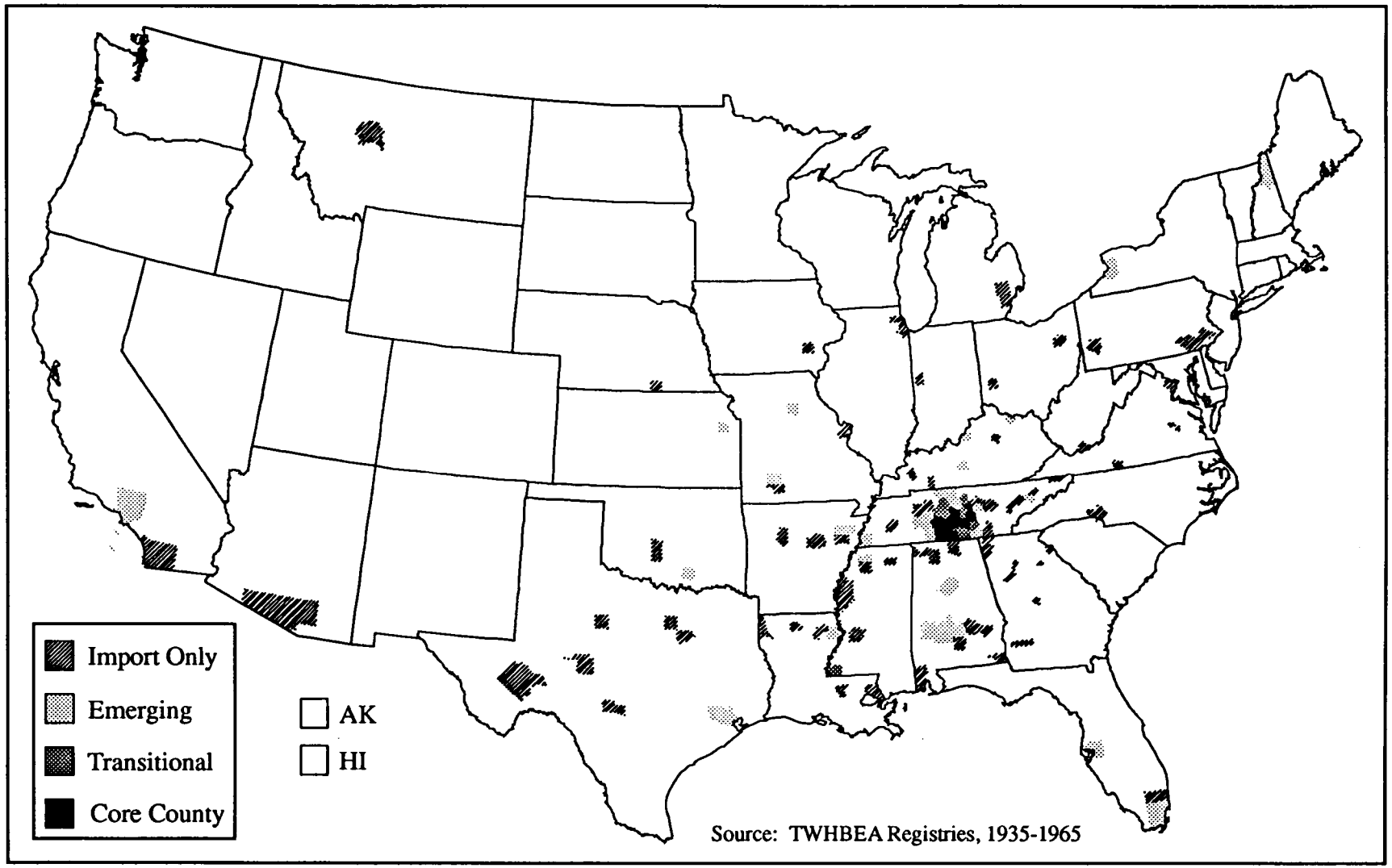

Figure 10: U.S. Walking Horse Marketing Patterns, 1920s. The Middle Tennessee core remained the primary Walking Horse production and marketing region in the U.S. during the 1920s, with most other states remaining import dependent.

Tennessee, Walking Horses sold from core counties largely remained within Middle Tennessee with Bedford and Marshall, the most active sales counties (Fig. 11).

The general pattern for Middle Tennessee core county exports established during the 1920s sets the precedent for the remainder of the 20th century. Although the 1930s can claim the establishment of the Breeders Association and the first published stud books, the 1920s was the most important decade in the diffusion and adoption of the Tennessee Walking Horse in other areas of the United States. For the first time the Walking Horse industry in the 1920s could look beyond its regional appeal and historical nursery and enter the national pleasure horse market.

TENNESSEE CORE COUNTIES DURING THE 1920s

Walking Horses during the 1920s enjoyed a widening diffusion pattern precipitated by more diverse marketing at the intra- and inter-state levels. With this increasingly dynamic marketing pattern, the core county region in Middle Tennessee intensified in the 1920s (Fig. 12). All 1920s core counties were contiguous to other core counties and included (in descending order of numerical significance), Bedford, Marshall, Rutherford, Coffee, Warren, Giles, Lincoln, Maury, and Dekalb. Walking Horses foaled in these Tennessee counties accounted for 76% of the 392 horses included in the registrations for the 1920s.

Bedford County continued its predominance in Walking Horse production and marketing. Seventy-two Walking Horses were foaled in Bedford County during the period, with 11 (15%) remaining in Bedford, 34 (47%) sold within the state, and 27 (38%) sold to out-of-state owners. The Bedford County communities of Shelbyville, Wartrace, and Bell Buckle continued to be the most active in breeding and sales and exported the majority of Bedford County-bred Walking Horses to out-of-state owners. The tendency for more Walking Horses to be sold out of the county indicated that by the 1920s the breed was developing new markets outside of the traditional Middle Tennessee core.

Influential breeders and promoters such as A.M. Dement and Henry Davis continued to intensively breed and successfully show Walking Horses during the 1920s. Interest in the breed increased as horsemen became more knowledgeable about the Walking Horse. The promotional activities of Bedford County breeders including Dement and Davis resulted in a wider Walking Horse diffusion pattern. Surplus stock was

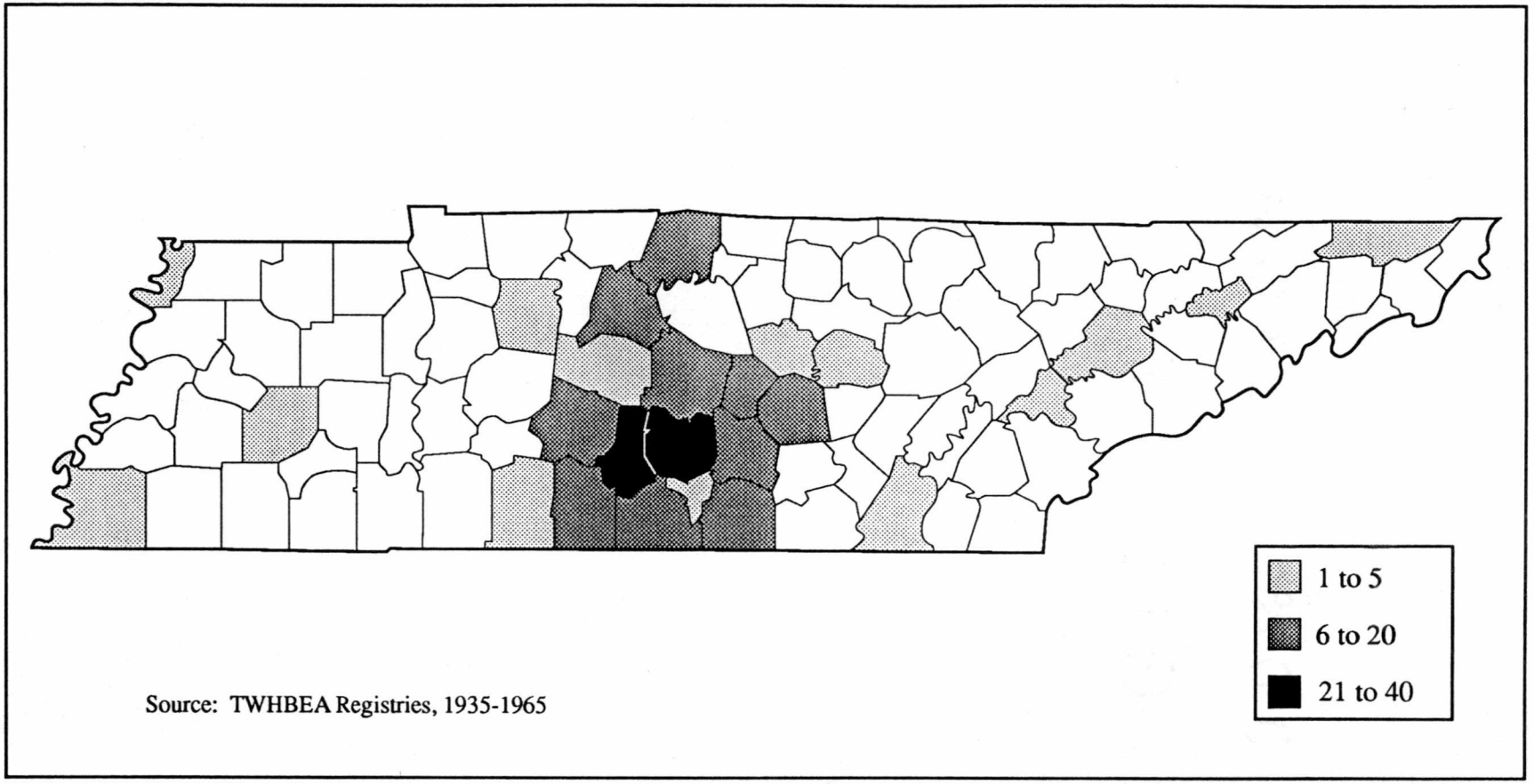

Figure 11: Walking Horse Sales from Tennessee Core Counties, 1920s. By the 1920s, sales of Walking Horses within Tennessee remained highest in the Nashville Basin with Bedford and Marshall Counties experiencing the highest sales levels. While sales had expanded beyond the Middle Tennessee region, the highest foaling rates were still found within the Nashville Basin.

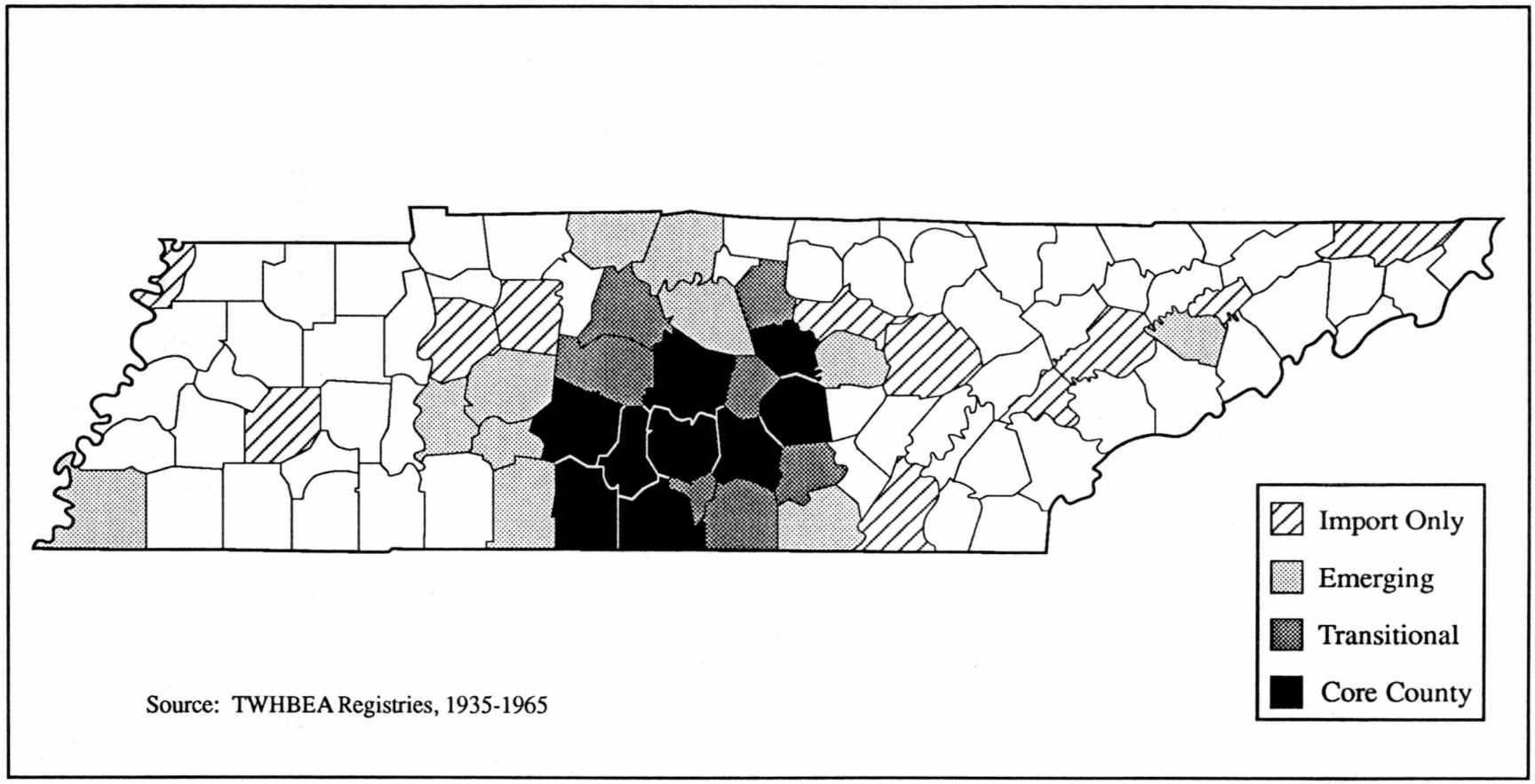

Figure 12: Walking Horse Marketing Patterns in Tennessee, 1920s. The number of Middle Tennessee core counties increased dramatically during the 1920s, and marketing activity began to diffuse beyond the Nashville Basin.

sold from Bedford farms to breed fanciers Alabama, Arkansas, Florida, Kentucky, Mississippi, and other Tennessee counties.

Coffee County, the second of the pre-1920 core counties, diminished slightly in significance in the 1920s. It did have the distinction of being the most export-oriented county with 90% of its Walking Horses being sold to out-of-county or out-of-state owners. Beech Grove, Tullahoma, and Manchester produced the most Walking Horses, with the Beech Grove community exporting the most horses at the interstate marketing level.

The trend for Coffee County-bred Walking Horses to be sold out of the county was tied to the high quality of the stock and the popularity of certain bloodlines. Several notable stallions were foaled in Coffee County including Hunter's Allen who won the Tennessee State Fair Walking Horse Stallion class in 1912, 1913, 1916, 1917, and again in 1924. Hunter's Allen was foaled in 1909 in Beech Grove and remained in Coffee County until 1917 when he was sold to a new owner in Farmington (Marshall County) where he remained until his death in 1932 (Womack, 1984, 134-7). Breeders and exhibitors alike recognized the value of Hunter's Allen and booked many broodmares for his services as well as purchased his offspring. The Hunter's Allen line continued his legacy by winning eleven Walking Horse stake classes at the Tennessee State Fair during the 1920s.

The new core counties which developed during the 1920s, (Marshall, Rutherford, Warren, Franklin, Giles, Lincoln, Maury, and Dekalb), were transitional counties during the earlier study period. Their promotion to core county status was the result of adding out-of-state sales to their marketing pattern. The growing importance of out-of-state sales in the new core counties mirrors the marketing characteristics of the older established Bedford and Coffee core.

Marshall County became the most serious challenger to the supremacy of Bedford County as the focal point of the Walking Horse industry. Marshall County Walking Horse breeders imported a number of quality horses prior to 1920, and these served as the broodstock for the coming decades. Walking Horse production was fairly well distributed in Marshall County between the communities of Lewisburg, Belfast, Chapel Hill, Cornersville, and Farmington, although Lewisburg experienced slightly higher foaling numbers than the others.

Lewisburg was the home of the greatest of numbers of Walking Horses in Marshall County and was also the major source for export sales. Lewisburg breeders sold Walking Horses to owners in Alabama, Arkansas, Illinois, Missouri, New York, Ohio, and Pennsylvania. Export sales were fueled by the region's ability to produce quality surplus stock and increasing knowledge among horsemen that towns like Lewisburg could support large and successful sales. The early development of Lewisburg as a sales center for Walking Horses led to the establishment nationally known auction and sales barns including the famous "Murray Farm Sale" in the 1930s.

As Walking Horse marketing centers gained reputations for high-quality stock, owners would send their best horses to be sold at auction in hopes of obtaining higher prices than those prevailing in their local market. Buyers came to sales centers like Lewisburg and Shelbyville from great distances in anticipation of having a large number of quality horses to chose from and often were willing to purchase them at a premium price. W.J. Carlyle found this same relationship between sheep farmers and markets in Scotland and concluded that, "...farmers take great pride in their breeding stock, and they may sell them at distant but larger markets where they will receive a wider and more appreciative audience (1975, 459)." He also observed that stock raisers would divert some animals, "...to another (market) if considerably higher prices were paid there at a previous sale (1975, 459).

There were fewer transitional counties in the 1920s than in the previous study period. Middle Tennessee transitional counties for the 1920s included Cannon, Davidson, Franklin, Grundy, Moore, Smith, and Williamson. The majority of pre-1920s transitional counties evolved into core counties between 1920 and 1929, leaving little additional area within the region with favorable physical characteristics and a history of purebred livestock breeding. Cannon County led the group with the most Walking Horses foaled. Only two earlier transitional counties (Moore and Williamson), failed to advance to the core county level during the 1920s, perhaps because not enough Walking Horses (less than three percent of the Tennessee total) were foaled to allow for a surplus to be exported.

Most of 1920s era transitional counties experienced very low intra-county sales activity. With the exception of Franklin and Williamson counties, none of the transitional areas found local buyers for their Walking Horse foals. The lack of local markets within these counties during the 1920s may be explained in

two ways. First, these transitional counties were generally located on the outer edges of the historical Walking Horse hearth, removed from areas with established markets and consumer awareness. Without local sales, marginal breeders had to rely on export activity which in turn diminished the number and quality of native stock. Second, intensive Walking Horse breeding in core counties such as Bedford and Coffee not only produced horses, but also created a demand for additional breeding stock to meet the growing demands for Walking Horse sales.

There were fewer Tennessee counties (11) identified as emerging counties in the 1920s than in the earlier period. Of the these, only Jefferson and Shelby counties were not contiguous to the Middle Tennessee hearth area. Shelby County was also classified as an emerging county in the Pre-1920 era, while Jefferson did not produce any Walking Horses until the 1920s. The decrease in the number of emerging counties in the 1920s can be attributed to increased production in the Middle Tennessee hearth region , which allowed some earlier emerging and transitional counties to develop into core counties.

During the 1920s import/only Walking Horse counties in Tennessee increased by 91%, to include Cumberland, Dickson, Hamblen, Hamilton, Humphreys, Knox, Lake, Loudon, Madison, Putnam, and Sullivan counties. Sales levels were very weak, with all counties except Hamblen importing only a single Walking Horse. The majority of sales were to counties in the Ridge and Valley section of East Tennessee and the sources of the imports were largely from the Middle Tennessee core. Interest in the Walking Horse in East Tennessee during the 1920s was most likely the result of two factors. First, knowledge and information about the Walking Horse was becoming more common outside of Middle Tennessee through events like the Tennessee State Fair and county fairs. Second, the demand for horses as recreational animals was apparently beginning to grow, as it is unlikely that these animals were being purchased for either transportation or work purposes.

1920s WALKING HORSE MARKETS OUTSIDE TENNESSEE

Although no core counties had yet developed outside of Tennessee during the 1920s, one transitional county, Wilkinson, evolved in Mississippi. Wilkinson County horsemen raised at least seven registerable Walking Horses during the 1920s. The majority of these horses were born near Centreville, Mississippi.

None of the Walking Horses foaled in Wilkinson County during the 1920s were sold to owners in other Mississippi counties. All were either marketed within Wilkinson County, or sold to owners in Alabama, Louisiana, or Pennsylvania. The Wilkinson County-bred Walking Horse sold to Pennsylvania went to an owner in the Pittsburgh area who was also a Walking Horse breeder. This reflects the extent of extra-regional information on Walking Horses even before the formal organization of the breed association as well as the beginnings of a southwest Mississippi Walking Horse breeding center.

One of the biggest changes in Walking Horse diffusion in the 1920s was the proliferation of emerging counties outside of the Middle Tennessee hearth region (Fig. 10). In addition to Tennessee, 13 other states possessed emerging Walking Horse counties including, Alabama, Arkansas, California, Florida, Kansas, Kentucky, Louisiana, Mississippi, Missouri, New Hampshire, New York, Oklahoma, and Texas. The majority of these states experienced Walking Horse imports prior to 1930.

All of the previously mentioned states either possessed Walking Horses prior to the 1920s, were part of the established southern and western equine marketing network, or were states in which persons from Walking Horse producing regions migrated to during the period. Two exceptions to this were New Hampshire and New York. Neither New York nor New Hampshire were producers of registerable Walking Horses during the 1920s, but rather were home to ancestral breeding stock which the TWHBEA chose to list in its studbook and thus included in the data set. It would take several decades for either state to acquire a substantial number of Walking Horses and the Northeast remains today as the weakest marketing region for the Tennessee Walking Horse.

During the 1920s, import/only counties outside of Tennessee developed from in the East and West (Fig. 10). Twenty-four states other than Tennessee imported Walking Horses in the 1920s. With the exceptions of New England, the High Plains, and Mountain West, most regions possessed some imported Tennessee Walking Horses by the close of the 1920s. Most of the horses sent to these regions were foaled in Bedford, Cannon, and Rutherford counties in Middle Tennessee.

The most significant change in the location of import/only counties during the 1920s was the emergence of Walking Horse ownership in urban areas other than Tennessee. Walking Horses foaled during the 1920s were not restricted to rural locations or farm duties, rather they were more often used for pleasure

riding and showing. Owners of registerable horses were located in the Philadelphia, Chicago, Detroit, Los Angeles, Miami, Houston, St. Louis, Atlanta, and New Orleans metropolitan areas.

THE WALKING HORSE IN THE 1920s: CONCLUSIONS

The urbanization or even suburbanization of Walking Horses mirrors the changing functions of equines during the early 1900s. With the advent of the street-car and automobile, personal transportation by horsepower was rapidly becoming obsolete. Suburbanization, which followed transportation innovation and increasing personal wealth among the middle and upper-middle classes, enabled suburbanites to create a new type of landed gentry, "gentlemen farm-less."

The 1920s created an entirely new market for virtually all light horse breeds. The family horse, used only for pleasure or show purposes, was becoming the primary horse type in the United States. To this end, the Walking Horse had arrived. Horse show events and results, which were instrumental in promoting the Walking Horse and increasing public awareness, were widely publicized and the reported in local newspapers. As early as 1901, the results of a "Nashville Day" show held in Murfreesboro were published in a Nashville paper (Womack, 1984, 194). Visitors from all over the state and region attended Walking Horse events at the Tennessee State Fair beginning about 1910 and continuing throughout the century. By the 1920s, horse show managers recognized the distinctness of the breed and began offering regular Walking Horse classes (Womack, 1984, 196). The breed's very first marketing pitch described the animal as "The World's Greatest Pleasure Horse" and widely used this description as a selling point to the new horsemen of the auto age (Womack, 1984). But just any horse wouldn't do. The purebred show horse and its inherent status was a popular choice for recreational equine enthusiasts then as it is today. The proliferation of urbanized horse shows not associated with agricultural fairs is testimony to this trend.

The number of Walking Horses foaled during the 1920s were relatively small when compared to the entire horse population. However, the national horse population had declined by nearly one-third during the 1920s, while the number of registerable Walking Horses had tripled. In addition, the 1920s were the greatest period of expansion of Walking Horses into new regions. In areas to which Walking Horses were most likely

to diffuse, mainly to the south and west of Tennessee, Walking Horses were established in critical locations which would serve as far flung core areas for the breed throughout the 20th century.

THE 1930s: ORGANIZATION AND RECOGNITION

The 1930s brought great changes to the Walking Horse industry with the birth of the Tennessee Walking Horse Breeders Association (TWHBA)and the establishment of the breed's registry books. Built on the progress of the previous decades, the 1930s were important to the organizational maturity of the breed and its future popularity.

Breeder and owner locations were verified for 4,183 Walking Horses foaled between 1930 and 1938, representing an 83% sample for the period. This was a tremendous increase over the 1920s data set which was based on 392 horses. During the 1930s Walking Horse foaling patterns were similar to the 1920s. However, due to stagnant market conditions, Walking Horses foaled in the 1930s tended to remain in their birth county rather than become part of a wider diffusion of the breed. This localized production and marketing characteristic peaked in 1933 and 1934 with 53% of all Walking Horses owned in the county in which they were foaled. After 1934, the trend shifted toward fewer horses remaining in their home county, and more horses entering interstate markets, especially new export markets to the west.

A general decrease in Walking Horse mobility during the early 1930s reflects several factors: the national economy, the changing role of the horse, and the behavior of breeders. The speculative era of the 1920s was over and the United States found itself in a major economic depression. A horse for recreational use was a luxury item that was difficult to market in an era when there was less disposable income for leisure pursuits. Farm economies in general were devastated and many rural families left the farm to find work in cities. Middle Tennessee horse breeders found it increasingly difficult to maintain earlier production levels as Walking Horses were being sold or taken out of the breeding program in order to raise revenues for many farm families (Womack, 1984).

A second variable which had a negative impact on the Walking Horse diffusion during the 1930s was the narrowing equine markets in general. With the advent of the automobile age, the slow demand for all types

of horses softened the market. Although the Walking Horse was primarily being used as a pleasure riding animal by the 1930s, it now found itself competing with other light horse breeds within a dwindling market.

Finally, growing interest in the Middle Tennessee hearth for developing a registry for Walking Horses intensified localized production and limited the numbers of horses being sold to outside markets. The value of Walking Horses increased with the establishment of a registry and breed organization. Public perception of the Walking Horse was changing from a local phenomenon to a nationally recognized breed. Breeders recognized inherent value in producing registered stock, but with the price and demand for Walking Horses at an all time low, breeders found it more profitable to retain their stock on the farm rather than take a large loss in the market. Some early influential breeders such as Albert Dement, held on to breeding stock during the difficult economic times. Dement resisted the temptation to disperse his herd during the Depression with the vision that one day Walking Horses would be a highly prized luxury item (Womack, 1984, 287). While this approach reduced the numbers of horses on the marketplace, it had a positive long-term effect. By the end of the decade, foresighted Middle Tennessee breeders were able to capitalize by selling their improved stock in a more favorable market.

Middle Tennessee experienced little growth in Walking Horse production during the first few years of the 1930s as evidenced by the lack of new core counties. The following year, the Walking Horse industry suffered not only from the national economic situation, but also from the previous year's poor marketing performance. Between 1930 and 1931, there was only a seven percent gain in Walking Horse production, the bulk of which was concentrated in Middle Tennessee. The depression in the Walking Horse industry bottomed out in 1932.

There were some advances made by the Walking Horse industry in the 1930s prior to the establishment of the TWHBA. For the first time a registerable Walking Horse was foaled in the Pittsburgh, Pennsylvania, area, a result of 1920s exports to Allegheny County. The first Illinois-bred Walking Horse was foaled in 1933 near Chicago in Cook County. Walking Horse production in Texas expanded from one county in the 1920s to four counties in 1933. Tennessee Walking Horses foaled in 1933 also diffused for the first time into Idaho and Montana.

Although 53% of all Walking Horses foaled in 1934 remained in their home county, nearly one-third were sold to out-of-state buyers. This was a turning point for the Tennessee Walking Horse. Breeding and marketing activities in the Middle Tennessee hearth intensified and precipitated a grass-roots movement towards creating an official breed registry to support and promote the Walking Horse. Breeding and marketing activity increased 28% over the previous year and Walking Horses were being foaled in nearly one out of every four states. Walking Horses foaled in 1934 were owned in virtually every region in the United States with the persistent exception of New England. This was the first group of Walking Horses to achieve such a broad export market and signaled the beginning of better times for the industry.

The pre-TWHBEA days ended on a more positive note than they began. Despite the economic hardships of the depression, by mid-decade, the Walking horse was on the verge of receiving national recognition and its very own institutional bureaucracy. The fortitude of early Walking Horse breeders to retain breeding stock despite economic exigencies and to keep records of their activities played an important role in the organization of the breed. Diffusion and foaling of Walking Horses in regions outside the Middle Tennessee hearth prior to the 1930s also assisted in the survival of the breed and the development of national markets for the Tennessee Walking Horse.

WALKING HORSE DEVELOPMENT IN 1935

In the history of the Walking Horse, 1935 represents at least two major milestones. First and foremost, the Tennessee Walking Horse Breeders Association was established on April 27 at Lewisburg, Tennessee. Ironically, the idea to officially name the breed the "Tennessee" Walking Horse was put forth by a Mississippian, Clyde Westbrook (Womack, 1984, 288). Certainly Mr. Westbrook and others recognized the significance of the Middle Tennessee hearth in that the vast majority of Walking-types were foaled and developed there.

The second significant event of 1935 was the dramatic increase in foal production over the previous few years. In 1935, a decade high increase in the annual production of Walking Horses was achieved with 30% more foals on the ground than in 1934. Of the 673 Walking Horses foaled in 1935, breeding and ownership locations for 561 were verified, creating an 83% sample. The increase in foaling rates was related

to improvements in national and regional economic conditions as well as an increased awareness that Walking Horse values had the potential to increase due to the impending breed organization. Sales from Tennessee counties continued to remain strongest in Middle Tennessee. Walking Horse sales were highest in Bedford, Rutherford, Marshall and Maury counties (Fig. 13).

1935 was the peak year for the development of core counties (16) in Middle Tennessee, and each had an established track record for Walking Horse production (Fig. 14). All of the 1935 Middle Tennessee core counties had been Walking Horse foaling areas in previous years, and produced 81% of all Walking Horses foaled in 1935. Middle Tennessee core counties for 1935 included, Bedford, Cannon, Coffee, Davidson, Dekalb, Dickson, Franklin, Giles, Lincoln, Marshall, Maury, Moore, Rutherford, Warren, Williamson, and Wilson. Bedford County continued to dominate with 22% (101) of all Middle Tennessee foals and 18% of all Walking Horses foaled in 1935. Bedford's nearest rivals were Rutherford with 12%, Coffee with 11%, and Marshall with 10% of all Walking Horses foaled in the Middle Tennessee hearth.

The 44% increase in the number of Middle Tennessee core counties between the 1920s and 1935 occurred as many transitional counties evolved to higher marketing levels. Nine of the 16 core counties in 1935 were cores in the 1920s. Five of the 1935 core counties, Cannon, Davidson, Franklin, Moore, and Williamson, were classified as transitional during the 1920s. Wilson County was the only 1920s emerging county to develop into a core in 1935. Dickson County was the sole import/only county to advance to core status.

Despite the evolution of many Middle Tennessee transitional counties into cores by 1935, there was little change in the number of transitional counties between the 1920s and 1935. During the 1920s, seven counties were classified as transitional, while in 1935 six transitional counties were identified. This pattern was consistent with the spatial expansion of the Middle Tennessee hearth area and the continuing diffusion dynamics effecting nearest-neighbor counties and states.

Tennessee transitional counties for 1935 included Grundy, Lawrence, Lewis, Robertson, Trousdale, and White. Grundy County was the only transitional county to repeat its level of Walking Horse marketing activity between the 1920s and 1935. Located on the southeastern edge of the historic Walking Horse hearth, Grundy County never achieved core status, but did graduate to transitional status in 1938 and 1950. Lawrence,

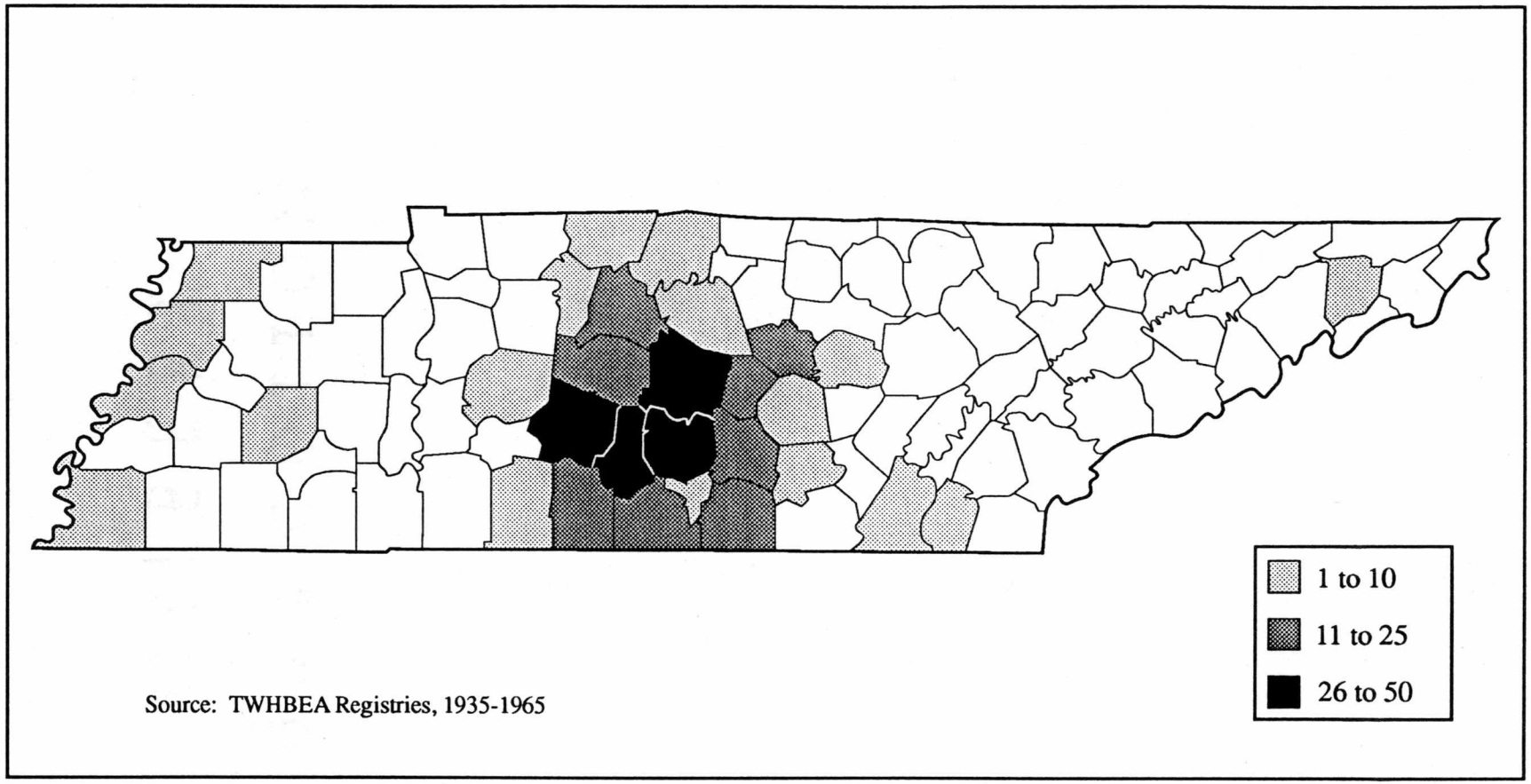

Figure 13: Walking Horse Sales from Tennessee Core Counties, 1935. The Tennessee Walking Horse Breeders' Association was established in Lewisburg, TN (Marshall County) in 1935, and sales of Walking Horses remained highest in Middle Tennessee counties such as Bedford, Rutherford, Marshall, and Maury.

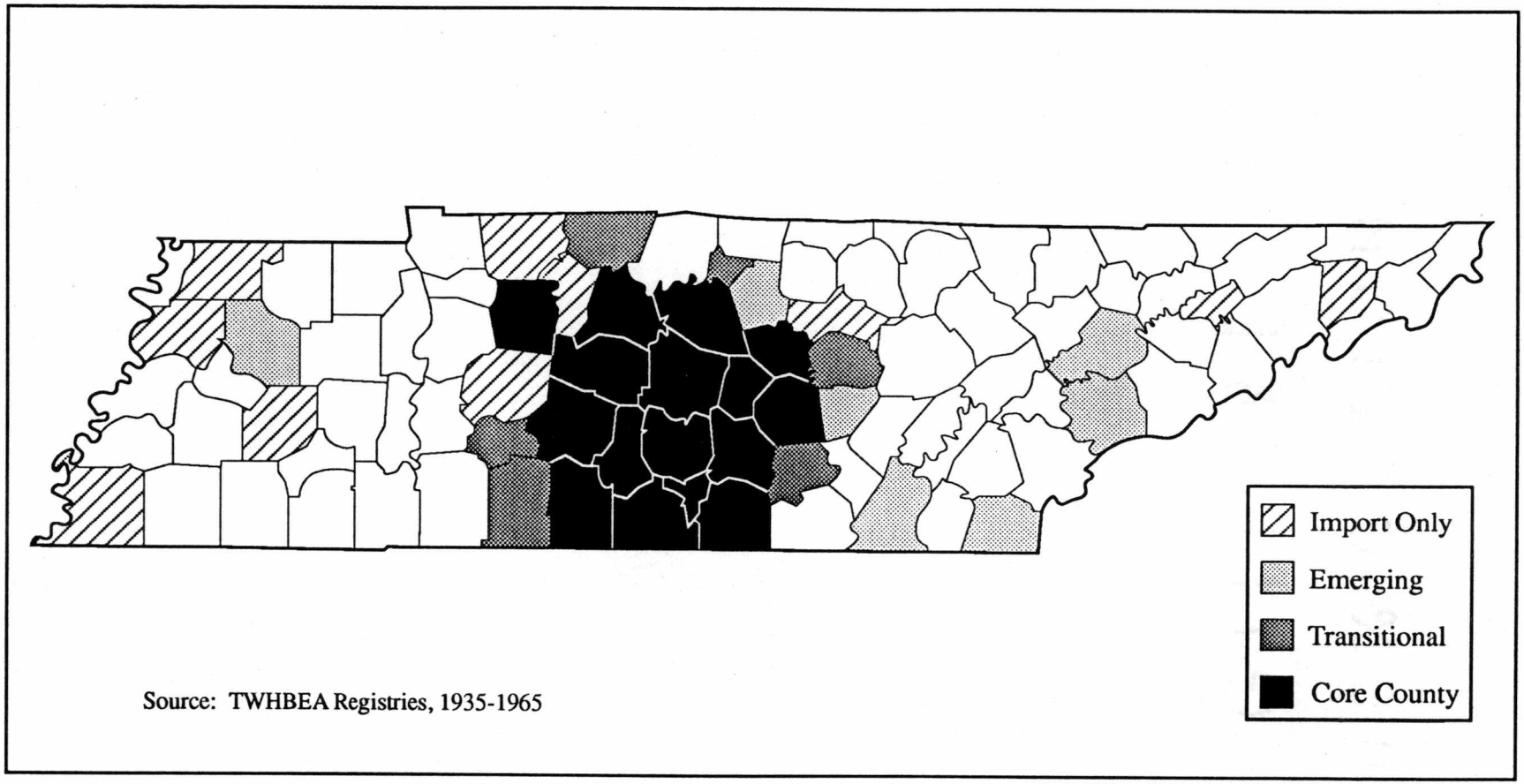

Figure 14: Walking Horse Marketing Patterns in Tennessee, 1935. The majority of Middle Tennessee counties developed as cores in 1935, creating an intensive breeding and marketing region in the Nashville Basin.

Lewis, Robertson and White counties were emerging counties during the 1920s and like Grundy were generally located on the outer limits of the historical Walking Horse hearth. Trousdale County did not produce any registerable Walking Horses during the 1920s, but was identified as an emerging county in the 19th century to 1919 period. Trousdale's marketing characteristics were similar to those of Grundy County, with both on the margins of the intensive core region, and neither ever achieving core county status.

Seven emerging Tennessee counties developed in 1935, five of which had previously never produced Walking Horses. Tennessee emerging counties included Blount, Gibson, Hamilton, Knox, Polk, Smith, and Van Buren. Of the seven, only Smith and Van Buren counties had produced Walking Horses during the 1920s. The remaining five emerging counties all had imported Walking Horses from Middle Tennessee between 1930 and 1935. Knox County's early growth and improved markets in East Tennessee can be attributed to the University of Tennessee's Agricultural School which developed a Walking Horse breeding program based on imports from Middle Tennessee core counties.

Gibson County was the lone West Tennessee emerging county in 1935. Registerable Walking Horses were foaled in Gibson County as early as 1931. Walking Horse production in Gibson may have been stimulated by existing interest in another pleasure horse breed, the American Saddlebred, which had been present in Gibson County since the early 1900s. Gibson County Walking Horse breeders may also have benefitted by proximity to neighboring Jackson County which produced and sold horses to other locations during the 1920s.

Eleven Walking Horse import/only counties developed in Tennessee in 1935, the same as in the 1920s. While the numbers were the same, the locations of import/only counties were different. In the 1920s, most of the import/only counties were found in East Tennessee, but by 1935, two of these counties, Hamilton and Knox, had progressed to emerging county status. The only East Tennessee counties that were import-dependent in 1935 were Hamblen and Washington. Hamblen County was an import/only county in the previous study period and Washington had no previous documented Walking Horse activity. Upper East Tennessee counties in general lagged behind other regions as a Walking Horse market due to distance from core areas which slowed the diffusion process.

The majority of 1935 import/only Walking Horse counties in Tennessee were in West Tennessee, including Dyer, Madison, Obion, Shelby and Weakley. Import/only counties Middle Tennessee were found around the outer edges of the hearth region. As in East Tennessee, the region was slow to develop Walking Horse markets due to distance from the Middle Tennessee hearth and a lack of urbanization which fosters interest in pleasure horse markets. Cheatham, Hickman, Montgomery and Putnam were import/only counties contiguous with the Middle Tennessee hearth, and fluctuated between producing and importing throughout the 1930s. The majority of Tennessee 1935 import/only counties obtained their Walking Horses from other counties in the state, especially from the Middle Tennessee.

1935 WALKING HORSE MARKETS OUTSIDE TENNESSEE

Decades of extra-regional Walking Horse exports resulted in the emergence of only two non-Tennessee core counties in the 1930s. Core counties outside of Tennessee were most likely to develop in the South where 19th century horse trading relationships had been established with Middle Tennessee. The lone non-Tennessee core county in 1935 was Wilkinson, located in the extreme southwest corner of Mississippi (Fig. 15). Walking Horses were present in numerous locations in Mississippi during the pre-1920s period but horses were more likely to be imported rather than homebreds. Wilkinson first experienced Walking Horses production in the 1920s when it became a transitional county. Walking Horses were imported from Middle Tennessee core counties (Bedford, Franklin, and Marshall) to the Wilkinson community of Centreville during the early 1930s when the county exhibited emerging and import/only marketing characteristics.

The Centreville area of Wilkinson County in the 1930s served as the focal point for southwest Mississippi and southeastern Louisiana Walking Horse breeding. In 1935, Wilkinson was surrounded by four emerging counties including Adams in Mississippi, East Baton Rouge, East Feliciana and West Feliciana in Louisiana.

Mississippi became on important Walking Horse market region during the 1930s. It was well served by breeding and sales activities in neighboring states and quality imports from Middle Tennessee. The only other Southern states that rivaled Mississippi in Walking Horse production were Alabama and Louisiana. All

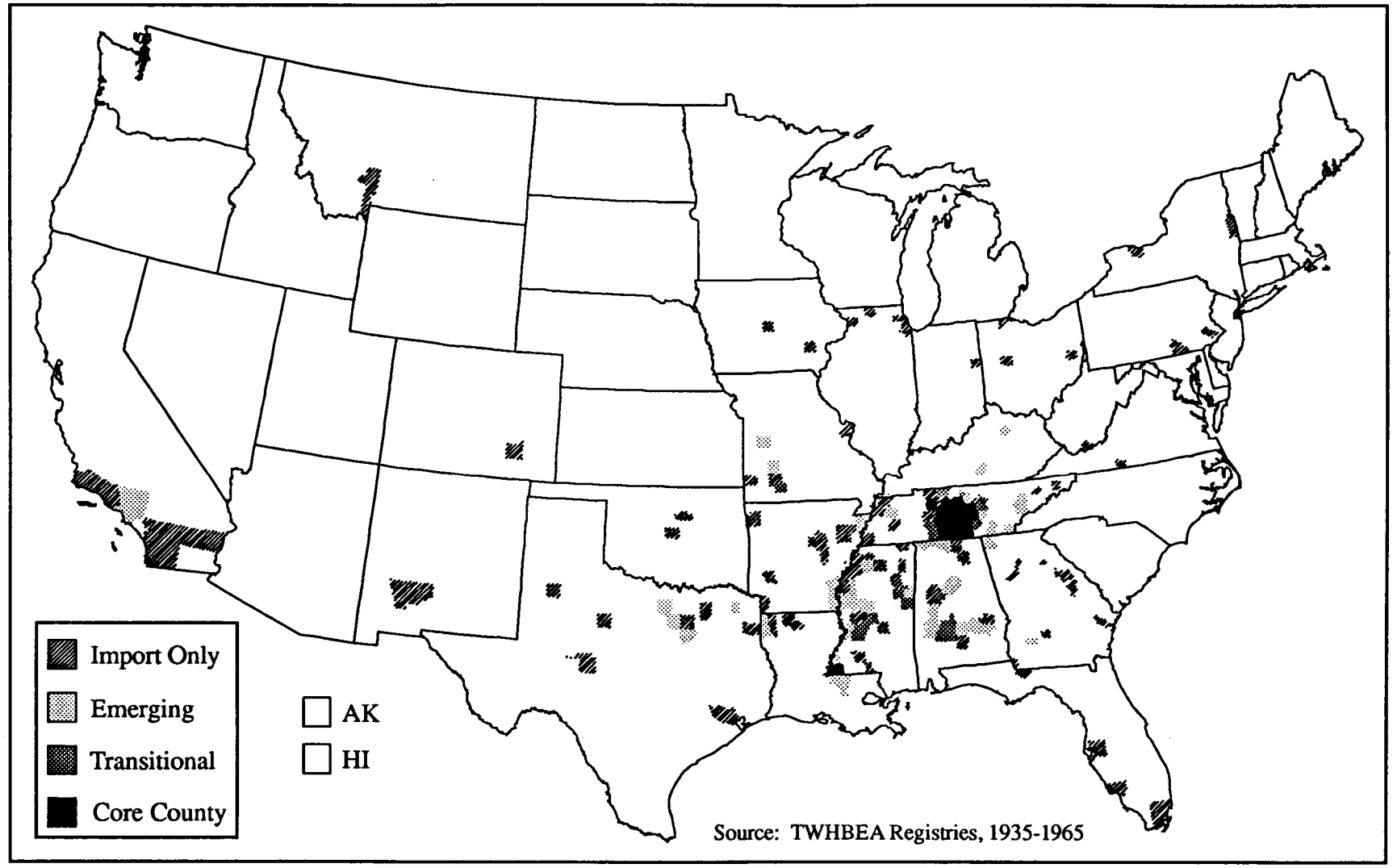

Figure 15: U.S. Walking Horse Marketing Patterns, 1935. Walking Horse breeding in the lower Mississippi Valley experienced tremendous spatial expansion in 1935, as did Alabama. However, most states remained import dependent for registerable Walking Horses.

three experienced similar market demands during the 1930s and had previously imported horses and mules from Tennessee.

Two states other than Tennessee developed transitional counties in 1935. Alabama and Mississippi each had transitional counties, the former with two and the later with one. Dallas and Wilcox counties in Alabama were classified as transitional in 1935 and were part of a south-central Alabama Walking Horse region which first appeared in the 1920s. Both of these Alabama counties were emerging counties during the 1920s and advanced their production and marketing levels during the 1930s. Hinds County, Mississippi, achieved transitional status in 1935. Hinds was not contiguous to the Wilkinson County, Mississippi core, but some Wilkinson-bred Walking Horses were sold to new owners in Hinds County. Hinds County Walking Horse breeding was also fostered by imports from Coffee County, Tennessee, during the 1930s.

The number of emerging counties outside of Tennessee decreased by 38% between the 1920s study period and 1935. By 1935, only eight states other than Tennessee produced Walking Horses in emerging counties. In 1935, Tennessee Walking Horses were foaled in emerging counties in Alabama, Arkansas, Georgia, Kentucky, Louisiana, Mississippi, Missouri, Texas, and California. While the number of states with emerging counties declined between the 1920s and 1935, the overall number increased, especially in states bordering Tennessee and Texas.

Walking Horse diffusion from Middle Tennessee core counties by 1935 had touched every state east of the Mississippi with the exceptions of Connecticut, Delaware, Maine, Maryland, Michigan, New Hampshire, New Jersey, Massachusetts, Rhode Island, Vermont, West Virginia, and Wisconsin (Fig. 16). The Northeast U.S. showed little interest in Walking Horses as other breeds and riding styles had been long entrenched in the region. In the Great Plains and Mountain West , where draft horses and Quarter Horse types dominated the equine population, horsemen continued to show little interest in acquiring Walking Horses..

WALKING HORSE PROGRESS BY 1935: CONCLUSIONS

By 1935, the Tennessee Walking Horse industry was breaking out of its historical Middle Tennessee market and gaining national recognition. Walking Horses foaled after 1935 had the opportunity to be included in an official registry, a factor which encouraged production and investment. Marketing was enhanced by the

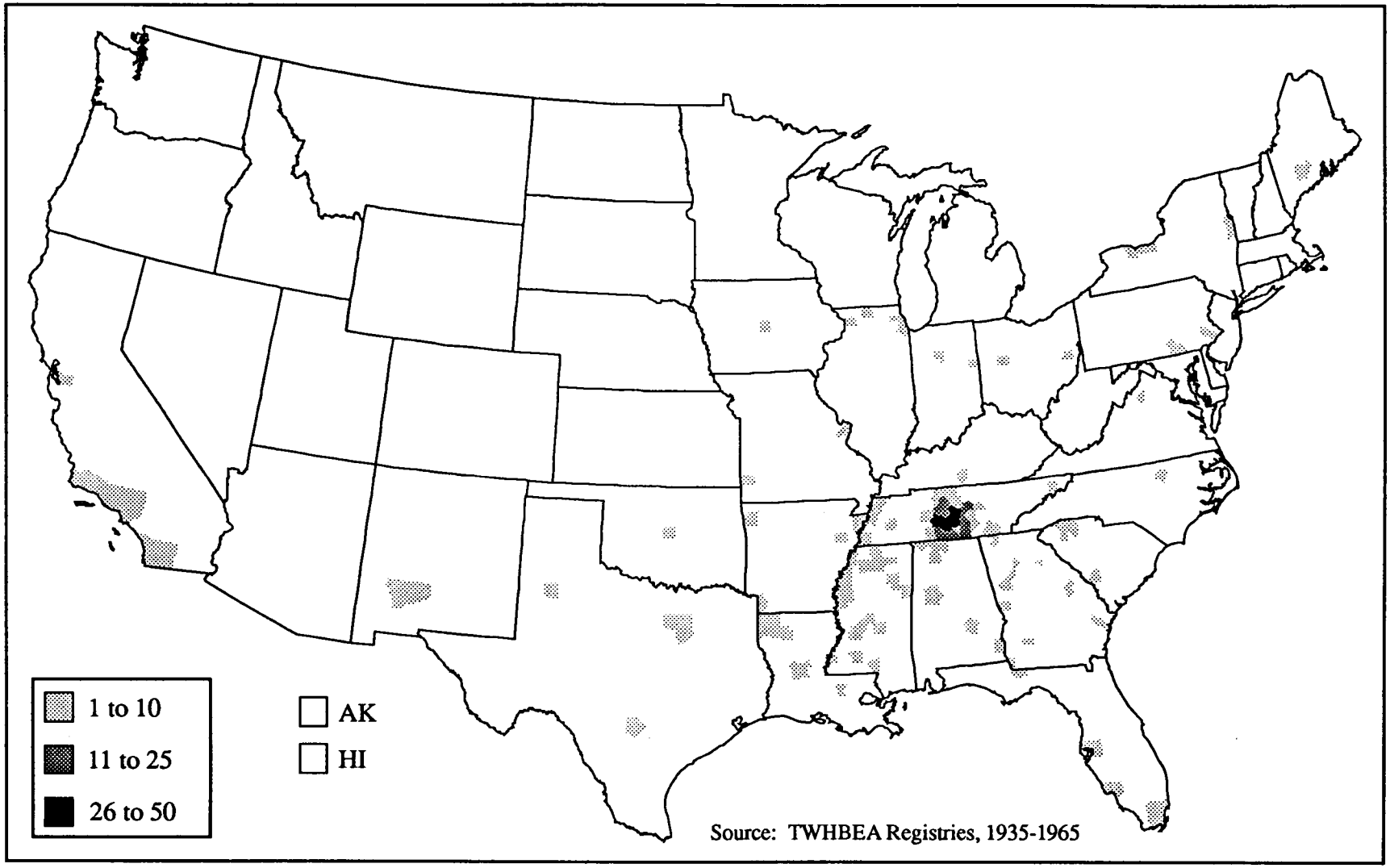

Figure 16: U.S. Walking Horse Sales from Tennessee Core Counties, 1935. Sales of Walking Horses from Tennessee core counties in 1935 differed from the 1920s in that Walking Horses were being sold to New England states and New York. Southern and western states continued to dominate as markets for Walking Horse exports.

establishment of a breed registry because the buyer could be somewhat assured of the product's integrity and know that the value of the animal will be heightened by its pedigree. The status of owning a "papered" animal undoubtedly helped Walking Horse breeders to promote their product. Increased production and marketing activities based on these factors were evidenced by the decline in home-bred retention and the increase in inter-state sales beginning in 1936.

The progress of the mid-1930s was tempered somewhat by a slowing in foaling rates after 1936. Between 1933 and 1936, foal production had been increasing at an average rate of 25%, but by 1937 that number had plummeted to a paltry seven percent, the lowest rate since 1932. The most likely explanation for this dramatic drop in production between 1936 and 1937 may be the increase in exports to historically non-Walking Horse producing regions, an unfortunate side-effect of selling horses to distant markets far from intensive breeding areas.

Import/only counties may have helped diffuse the Walking Horse from the Middle Tennessee hearth, but they also dispersed many mares far from available breeding stallions, reducing the number foals for the following year. Horses that were exported to locations where they were the only Walking Horse in the area, were unable to produce registerable foals. Not all exported horses were of breeding quality and some were geldings, incapable of siring offspring. Additionally, not all importers of Walking Horses purchased the horses for breeding stock. This problem was somewhat ameliorated as Walking Horse breeding populations become more established outside of the Middle Tennessee hearth. Another factor which may have contributed to the decline in foal production in the late 1930s may have been simply that the euphoria over establishing the breed organization and registry was over, and the realities of a weakened economy led some breeders to regroup and turn their attentions to other vocational ventures.

1938: STABILIZATION FOR WALKING HORSE MARKETS

If the uncertain economic times and foal rate fluctuations of the 1930s caused concern for the Walking Horse industry, the later years of the decade showed comforting signs of market stabilization and industry maturation. The Tennessee Walking Horse Breeders' Association published their first stud book registry in 1938 and the unheard of sum of $500 was awarded to the winner of a Walking Horse Stake Class at a horse

show in Smyrna, Tennessee (Womack, 1984, 290). Walking Horse events were being nationally publicized by journals, newspapers and sales catalogues. The famous "Murray Farm Sale" was established in Lewisburg, Tennessee, and horses were sold at auction to new owners in Alabama, California, Georgia, Illinois, Indiana, Louisiana, Mississippi, Montana, North Carolina, Ohio, Pennsylvania, South Carolina, Texas, and Virginia (Womack, 1984, 290). And, most important to breeders, show-quality Walking Horses were bringing prices in the thousands of dollars, a figure unprecedented for the times.

Of the 972 Tennessee Walking Horses foaled in 1938, breeder and owner locations were verified for 933, a 96% sample. Between 1937 and 1938, only five percent more foals were added to the Walking Horse population, the lowest rate since the 1920s, the result of exports to non-breeding regions.

The 1938 patterns of Walking Horse production and marketing in Middle Tennessee were virtually unchanged from previous years. The Middle Tennessee hearth remained fairly stable with only a few trade-offs between core and transitional county classifications. Tennessee core counties included Bedford, Cannon, Coffee, Davidson, Dekalb, Franklin, Giles, Lawrence, Lincoln, Marshall, Maury, Moore, Rutherford, Smith, Warren, and Williamson (Fig. 17).

Middle Tennessee transitional counties remained the same between 1935 and 1938 with the only Robertson and Trousdale declining to emerging and import/only status respectively by 1938. Grundy, Lawrence, Lewis, and White counties remained transitional over the three year period. Hamblen County was the only transitional county in Tennessee outside of the historical hearth area. In earlier study periods, Hamblen had been an emerging and import/only county.

Emerging counties in the Middle Tennessee Walking Horse hearth region in 1938 were located to the north and west of the core. Seven emerging counties developed in Middle Tennessee including Hickman and Humphreys on the western edge, and Macon, Montgomery, Sumner, and Robertson on the north. All of these counties with the exception of Humphreys had previously experienced Walking Horse activity prior to 1938. None of these emerging counties had achieved core county status except Hickman which was a core county in 1934. Outside of the Middle Tennessee hearth, Shelby in the west, and Hamilton and Bradley in the east, developed as emerging counties in 1938. Shelby County had not produced any registerable Walking Horses

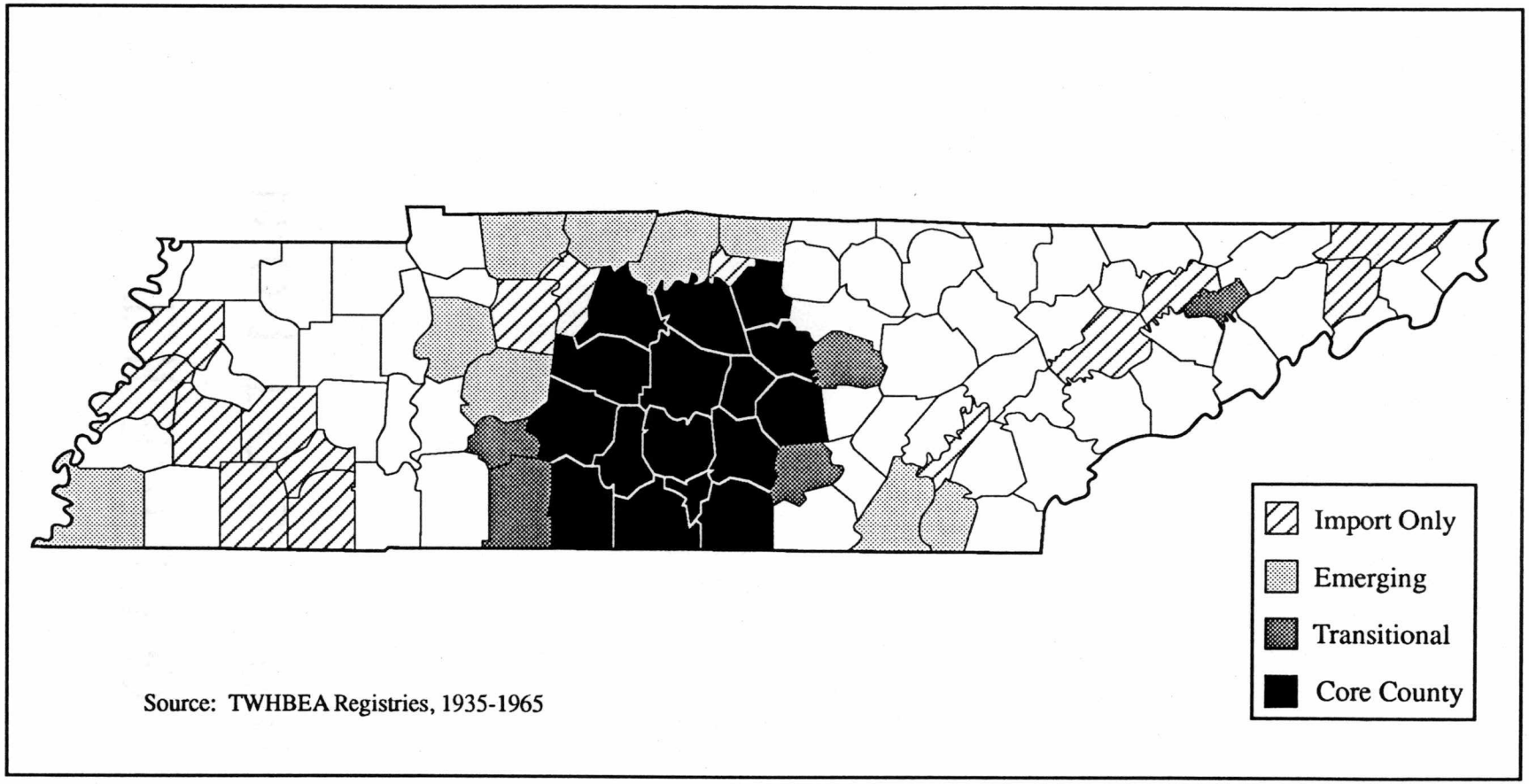

Figure 17: Walking Horse Marketing Patterns in Tennessee, 1938. The Middle Tennessee Walking Horse core region remained nearly unchanged between 1935 and 1938. Only Dickson County dropped out as a core county between the two years.

since the early 1930s, but beginning with 1938 it increased production and sales levels achieving core county status by the 1960s.

West Tennessee possessed the most import/only counties in Tennessee for 1938 continuing a trend established in previous years. Walking Horses were imported into non-producing counties, Chester, Dyer, Hardeman, Haywood, Lauderdale, Madison, McNairy, and Weakley. Virtually all the imports were Walking Horses foaled in Middle Tennessee core counties and sold to owners in the largest towns in the counties. Only three counties contiguous to the Middle Tennessee core were import-dependent in 1938 including Cheatham, Dickson, and Trousdale. Five East Tennessee counties were classified as import/only including Grainger, Knox, Meigs, Sullivan, and Washington.

Import/only counties provide valuable insight as to the nature of Walking Horse diffusion into non-traditional markets. Counties which depended on importations of Walking Horse stock were generally devoid of breeding farms and few newly purchased animals were assigned to breeding programs. Areas where imports were high and breeding activity low were also places where horses were being used almost exclusively for recreational purposes. Walking Horses in West Tennessee and other import/only regions were purchased by owners with little intention of breeding but rather relied on other foaling regions for sources of new stock.

1938 WALKING HORSE INDUSTRY ACTIVITY OUTSIDE TENNESSEE

The only core county outside of the Middle Tennessee hearth was Lowndes County, Alabama, one of the two non-Tennessee cores during the 1930s (Fig. 18). Lowndes evolution into a core was based on steady growth throughout the decade. It was classified as a transitional county in 1930, 1932, 1936, and 1937. Lowndes County served as the hub of south Alabama breeding activity throughout the 1930s, however, the region never reached foaling or sales rates to rival Middle Tennessee.

Transitional Walking Horse counties outside Tennessee exhibited more growth between 1935 and 1938 than counties within the historic Middle Tennessee hearth. Twelve transitional counties evolved in four states in 1938 including Alabama, Florida, Georgia, and Mississippi. Eight of the twelve counties were located in three regions within Mississippi. Lowndes, Noxubee, and Oktibbeha counties formed the nucleus of an east-central Mississippi Walking Horse region. Washington County, Mississippi served as the largest producer of

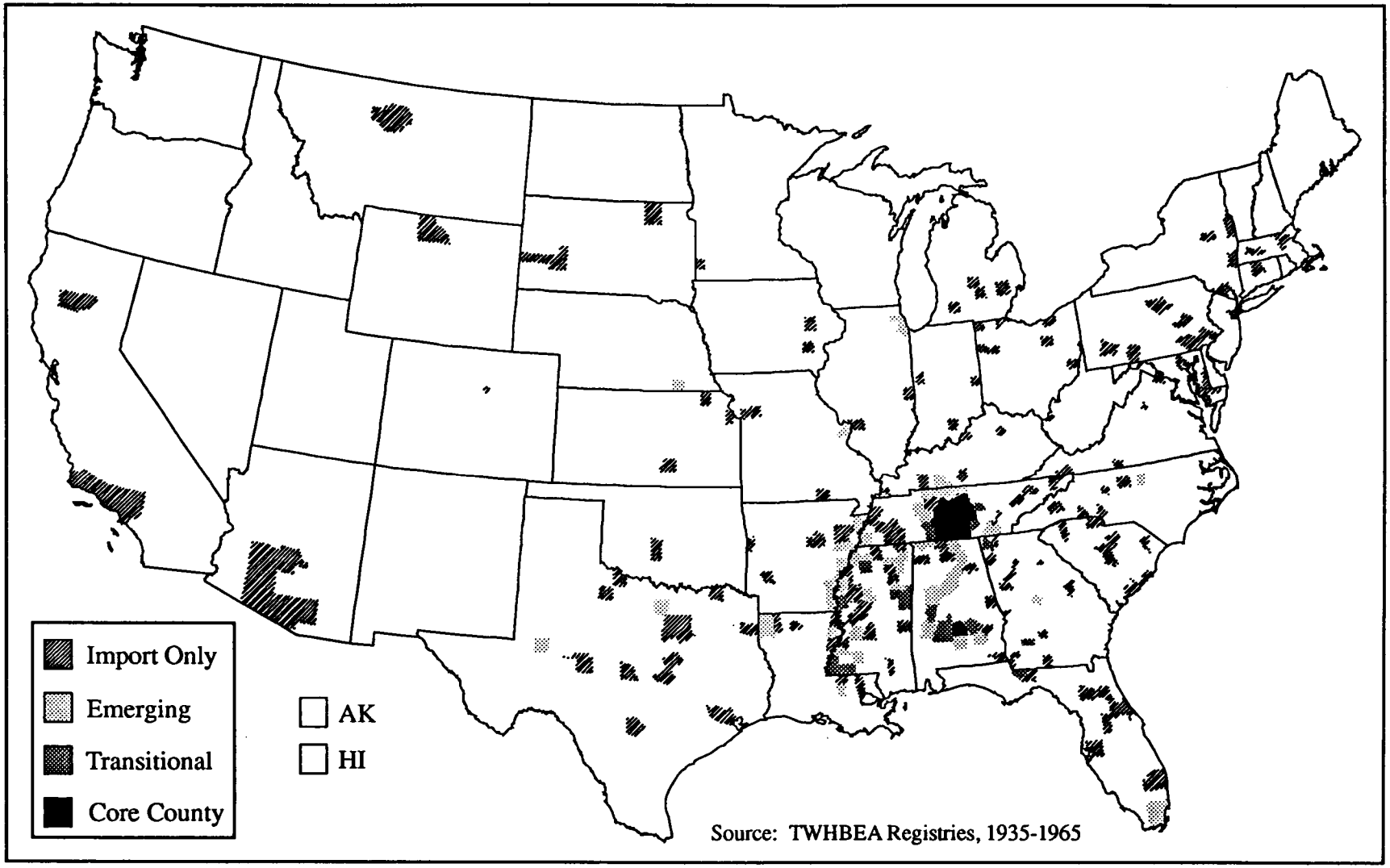

Figure 18: U.S. Walking Horse Marketing Patterns, 1938. The pattern of Walking Horse foaling and sales in the U.S. in 1938 was similar to the pattern for 1935 but with increased activity in the South and more imports in the Northeast.

Walking Horses in a string of counties bordering the Mississippi River beginning with Tunica in the north and ending with Issaquena in south. A third cluster of Mississippi transitional counties was located in the southwest corner of the state including Adams, Amite, and Wilkinson, a core county in 1935.

Three transitional counties evolved in Alabama in 1938 including Dallas, Hale, and Wilcox, all associated with the south-central Alabama Walking Horse region near the Lowndes County core. Florida and Georgia each experienced their first transitional counties in 1938. Gadsden County in the Florida panhandle, and Walker County in northwest Georgia developed a relatively high level of production by the late 1930s. Walker County produced more Walking Horses than Gadsden due to its close proximity to the Middle Tennessee hearth.

Outside of Tennessee, 1938 emerging counties evolved in nine states, Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, Missouri, and Texas, the same number as in 1935. The only difference in the 1938 and 1935 was the loss of California and the addition of Florida as a state with emerging Walking Horse counties. The states with the greatest concentrations of emerging counties continued to be Alabama and Mississippi. The south-central region of Alabama persisted in developing Walking Horse specialization. Mississippi River counties of Mississippi had the highest numbers of Walking Horses in 1938 followed by the east-central county cluster which was established by 1935.

Import/only counties outside of Tennessee for 1938 showed little change since 1935. The small export market improvements for Walking Horses were made in New Connecticut, Massachusetts, South Dakota, and Wyoming. Although only a few horses were exported to these areas from the Middle Tennessee hearth, however this diffusion was important as these counties would later produce some of the first Walking Horses foaled in their states.

WALKING HORSE DIFFUSION TO 1938: CONCLUSIONS

The diffusion pattern for Tennessee-bred Walking Horse sales 1938 was virtually unchanged from 1935 except for more horses being marketed. Sales of Walking Horses remained highest in the South and West with only a few states added to the market area such as Minnesota and Nebraska between 1935 and 1938

(Fig. 19). Sales to East and West Tennessee counties increased over the three year period but only at the lowest sales levels (Fig. 20).

If 1938 was such a good year for Walking Horse promotion, why did it fail to make significant gains in production? First, horses sold in 1938 through such venues as the Murray Sale, were probably bred several years earlier when production rates peaked between 1933 and 1936. declined during the 1930s in response to decreasing demand and increasing employment opportunities in the manufacturing sector. Womack contends that the pre-World War II years created great wealth and new markets for the Walking Horse as farmers left rural areas in search of urban-based manufacturing employment (1984, 292). Could pre-World War II manufacturing increases create enough disposable income for the average factory worker to pay thousands of dollars for a Walking Horse, not to mention the continuing expenses of board, shoeing and veterinarians' fees? This line of reasoning may be very questionable. First of all, Walking Horse production did not significantly break out of its regional constraints during the 1930s. The diffusion patterns of the late 1930s were similar to previous years, with the most favorable markets in the South and West. Second, those individuals who left "plows in the field" for war materials production, were far from being wealthy. It was more likely that only those of managerial level or above could afford the luxury of horse ownership in an urban environment. Although more Walking Horses were being exported to northern manufacturing centers during the late 1930s, this accounted for less than five percent of Walkers foaled in 1938. If the rural to urban migration during the late 1930s anything to do with the Walking Horse, it may have been a negative effect manifested in a decline in foal production.

The 1930s started out as a bleak decade for Walking Horse diffusion. The economic collapse beginning in 1929 and ensuing national depression hit the rural south with a cruel vengeance. Despite these external adversities, the Tennessee Walking horse came out of the 1930s with an official name, registry, breed organization and higher market values at a national level. Of the 5,011 Walking Horses foaled during the decade, over half were born between 1935 and 1938.

The major changes in the diffusion of the Tennessee Walking Horse between 1930 and 1938 were more a matter of intensity rather than of distribution. The Walking Horse did not break out of its regional mold as Womack asserts during the 1930s, but in reality further entrenched its production in the core regions of

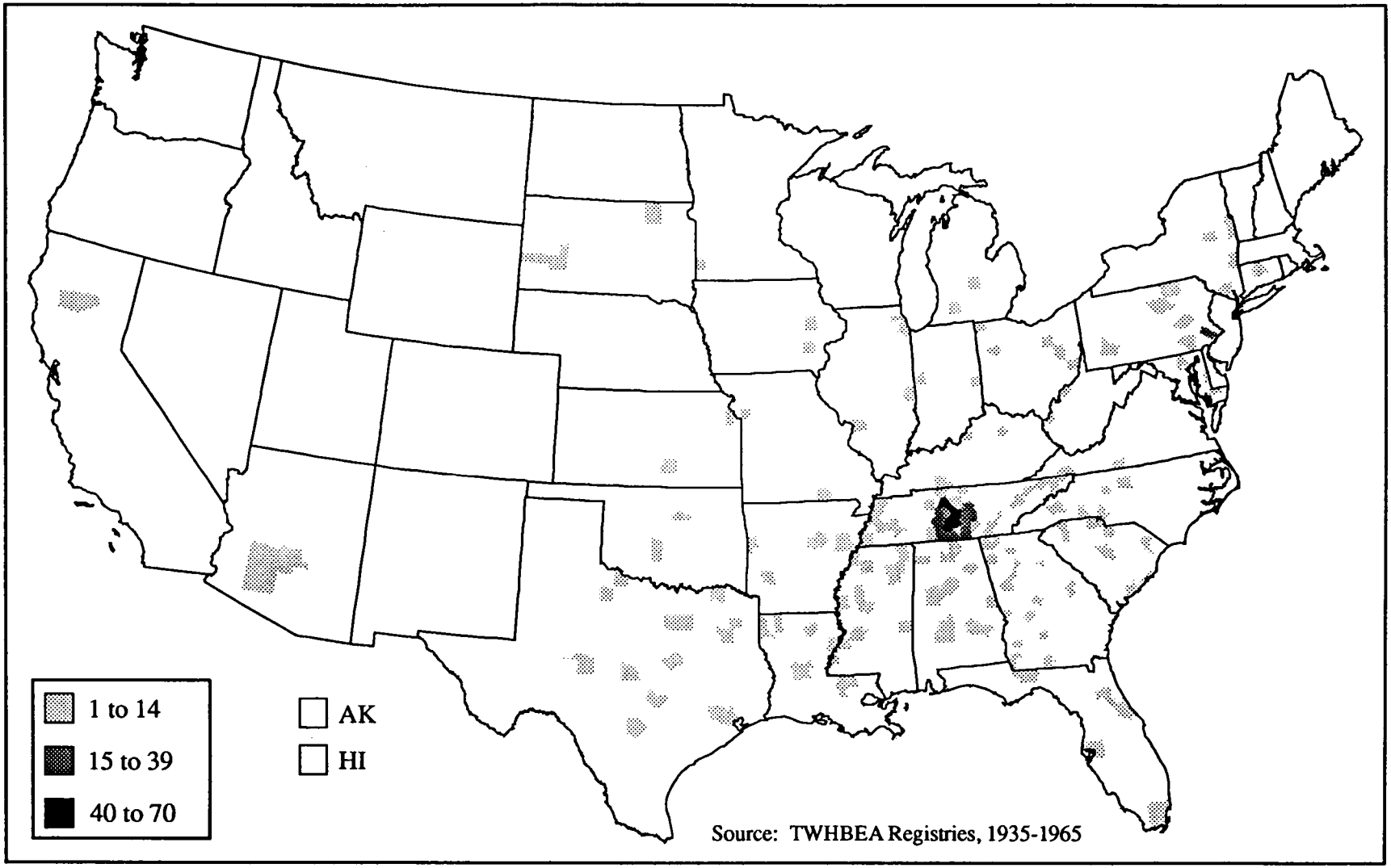

Figure 19: U.S. Walking Horse Sales from Tennessee Core Counties, 1938. The market for Tennessee Walking Horses in 1938 expanded into several new states such as South Dakota and Massachusetts, however, the South and West remained the region with the heaviest imports.

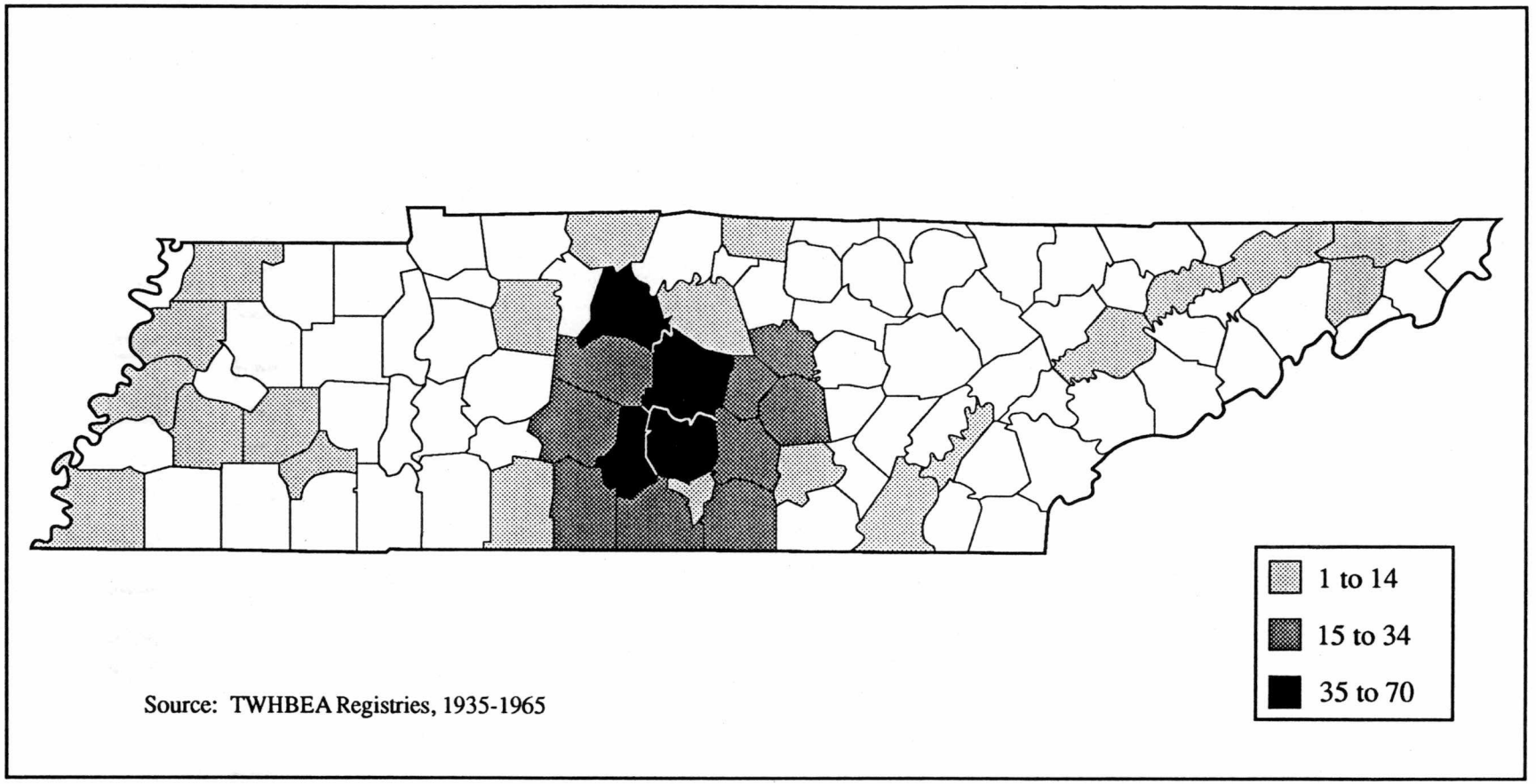

Figure 20: Walking Horse Sales from Tennessee Core Counties, 1938. The basic Middle Tennessee hearth pattern established in the 1920s persisted in 1938. The most notable change was the increased sales to East and West Tennessee counties.

Middle Tennessee, Alabama and the Lower Mississippi River Valley. In reality, Walking Horse diffusion patterns in the 1930s are similar to the 19th century to 1919 period.

The persistent core patterns and limited diffusion of the Walking Horse was influenced by historical inertia as well as economic factors. The Middle Tennessee core evolved as the hearth region for the Walking Horse as a result previous incarnations of equine activities including Thoroughbred racehorses and mules. The prior establishment of these production and marketing infrastructures during the 19th century, served the Walking Horse well a nearly 100 years later. The movement of Tennessee-bred equines to the south and west during the 1800s, persisted in the 1900s with Walking Horses.

The persistent lack of Walking Horse diffusion to the Northeast and Mountain West by 1938 was the result of long-standing prejudice against non-trotting horses in the north and in both regions competition from established breeds. The emergence of California and Texas as a western outposts of the Walking Horse was the result of human migration and perhaps by the popular Hollywood cowboy image perpetuated during the 1930s. Several silver screen cowpokes of the period were mounted on Walking Horses bringing greater public attention to the breed and horses in general.

What remained ahead for the Tennessee Walking Horse after 1938? Some may argue that the most significant event of the 1930s for the Walking Horse occurred in 1939 with the establishment of the Walking Horse National Celebration, an annual championship event held in Shelbyville, Tennessee. Another important promotional factor was the publication of the, "Blue Ribbon," which reported on the Celebration beginning in 1939 as well as Walking Horse news and advertising carried by other gaited horse magazines like, "The National Horseman." Certainly the 1930s were pivotal years in determining the future development of the Tennessee Walking Horse with the establishment of the TWHBA and the publication of stud books.

The significance of the 1930s to the future diffusion of the Walking Horse however was the establishment of breeding centers outside of the seminal Middle Tennessee core, and the further entrenchment of the marketing patterns established during the 1920s. Expansion of the Middle Tennessee core peaked in 1935 then experienced periods of retrenchment as breeding centers developed outside of the historical hearth. The growth of breeding activities outside the Middle Tennessee hearth is of particular significance because this will assist in further diffusion and adoption of Walking Horses outside of their traditional regional market. In

the future, breeding operations outside of Middle Tennessee would diminish the strength of the historical core as the single source for breeding stock and assist in establishing regional Walking Horse nurseries.

CHAPTER 4

THE POST-1938 YEARS:

A TEST OF THE CORE COUNTY APPROACH

FOR EQUINE REGIONAL SPECIALIZATION

WALKING HORSE DIFFUSION: 1950-1988

Walking Horse diffusion and marketing patterns initiated in the 1920s, and firmly established by the close of the 1930s, persisted into the 1980s with little significant variation. The greatest difference between the diffusion of Tennessee Walking Horses in the 1930s and the 1980s was the diminishing influence of the Middle Tennessee core as the primary supplier of young horse stock. This trend which was beginning to emerge by the late 1930s, represents the growing strength of local and regional Walking Horse breeding activities outside of the historical Middle Tennessee core.

Twelve years after the first stud books were published and 15 years after Walking Horse enthusiasts formalized the breed association, the national diffusion pattern of the Walking Horse in 1950 from the Middle Tennessee core was little changed. Walking Horses were still being bred and sold from Middle Tennessee but not with the intensity or numbers as in previous year. Up to the 1940s, the overwhelming trend was for the Middle Tennessee core counties to be the leading exporter of Walking Horses to other Southern or bordering states, but by 1950 that pattern began to change (Fig. 21). In the Post-World War II era, dramatic social and economic restructuration as well as the beginnings of Walking Horse nurseries outside of the historical hearth had a direct impact on the diffusion and marketing of the Tennessee Walking Horse.

By 1950, states which had previously been nearly import-dependent began producing and exporting their own registered Walking Horses. States such as Pennsylvania and Iowa developed their own specialized regions of intensive Walking Horse production and began marketing their horses on national, regional and local levels.

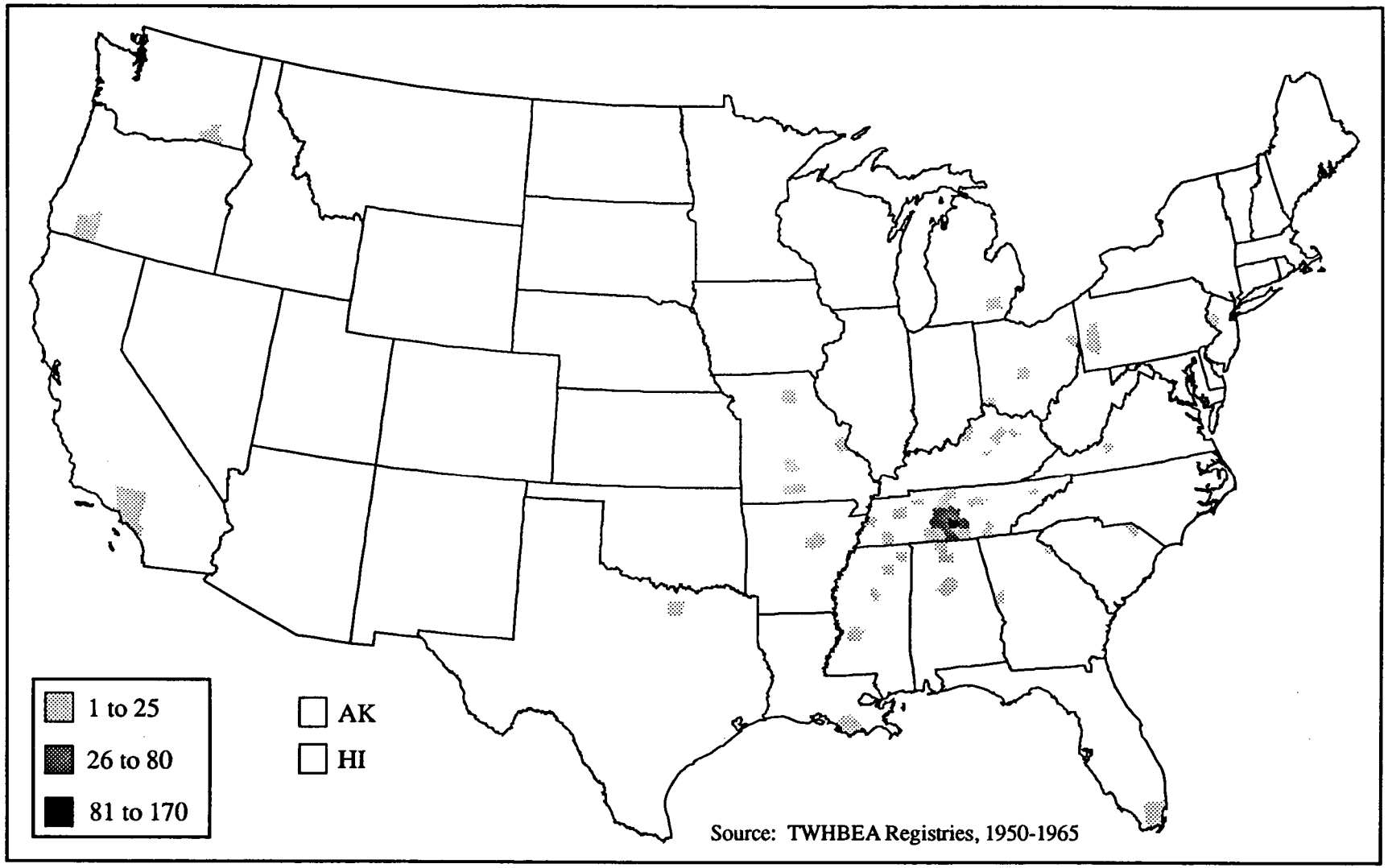

Figure 21: U.S. Walking Horse Sales from Tennessee Core Counties, 1950. Sales of Walking Horses from the Middle Tennessee hearth declined between 1938 and 1950. The pattern of Walking Horse sales in 1950 is more similar to that of the 1920s than of the previous study year. This was largely a delayed reaction to earlier economic depression and the diversion of economic and human resources to the war effort.

Perhaps one of the most dramatic differences in the diffusion pattern between 1938 and 1950 was the decline in demand for Tennessee-bred Walking Horses in the Southeast while exports remained relatively stable west and north. Concurrent with this trend was the increased likelihood that Walking Horses exported out-of-state from the Middle Tennessee core would be sold to owners in metropolitan areas. Owners with addresses in the Cincinnati, Ohio, Philadelphia, Pennsylvania, Pittsburgh, Pennsylvania, Detroit, Michigan, St. Louis, Missouri, and Los Angeles, California, metropolitan areas became more common .

Concurrent with softening national demand for Tennessee-bred Walking Horses, sales from Tennessee core counties dropped off sharply between 1938 and 1950 (Fig. 22). No longer were breed enthusiasts dependent upon the Nashville Basin as the primary source of registered foals. Even counties within the Tennessee were obtaining new horses from outside the historical core.

Of the over 1,500 Walking Horses foaled in the United States in 1950, 87% were owned in the same county of their birth, 6% were sold to other counties within the state, and 7% were sold to out-of-state owners. Compared with the 1920s when only 18% of Walking Horses foaled were owned within their county of birth, 49% were sold to other owner's within the same state, and 33% were sold to out-of-state owners, Walking Horses foaled in 1950 entered a market marked by less mobility and greater localized market demand. The high percentage of Walking Horse retention was also the result of less lag time between foaling and registration with the TWHBEA which did not exist in the 1920s.

TENNESSEE WALKING HORSE MARKETING PATTERNS IN 1950

The Middle Tennessee hearth continued to assert its predominance as a Walking Horse producing region in 1950, but its role as the primary foaling region was beginning to diminish. Middle Tennessee core areas for 1950 included Bedford, Coffee, Giles, Franklin, Lincoln, Marshall, Maury, Rutherford, and Williamson counties (Fig. 23). The Middle Tennessee cores were the sources of 656 Walking Horse foals. Bedford County led the group with 28% of all Middle Tennessee core county foals, followed by Marshall (13%), Williamson (13%), Rutherford (12%), Maury (11%), Lincoln (9%), Coffee (7%), Franklin (9%), Giles (5%), and Franklin (3%).

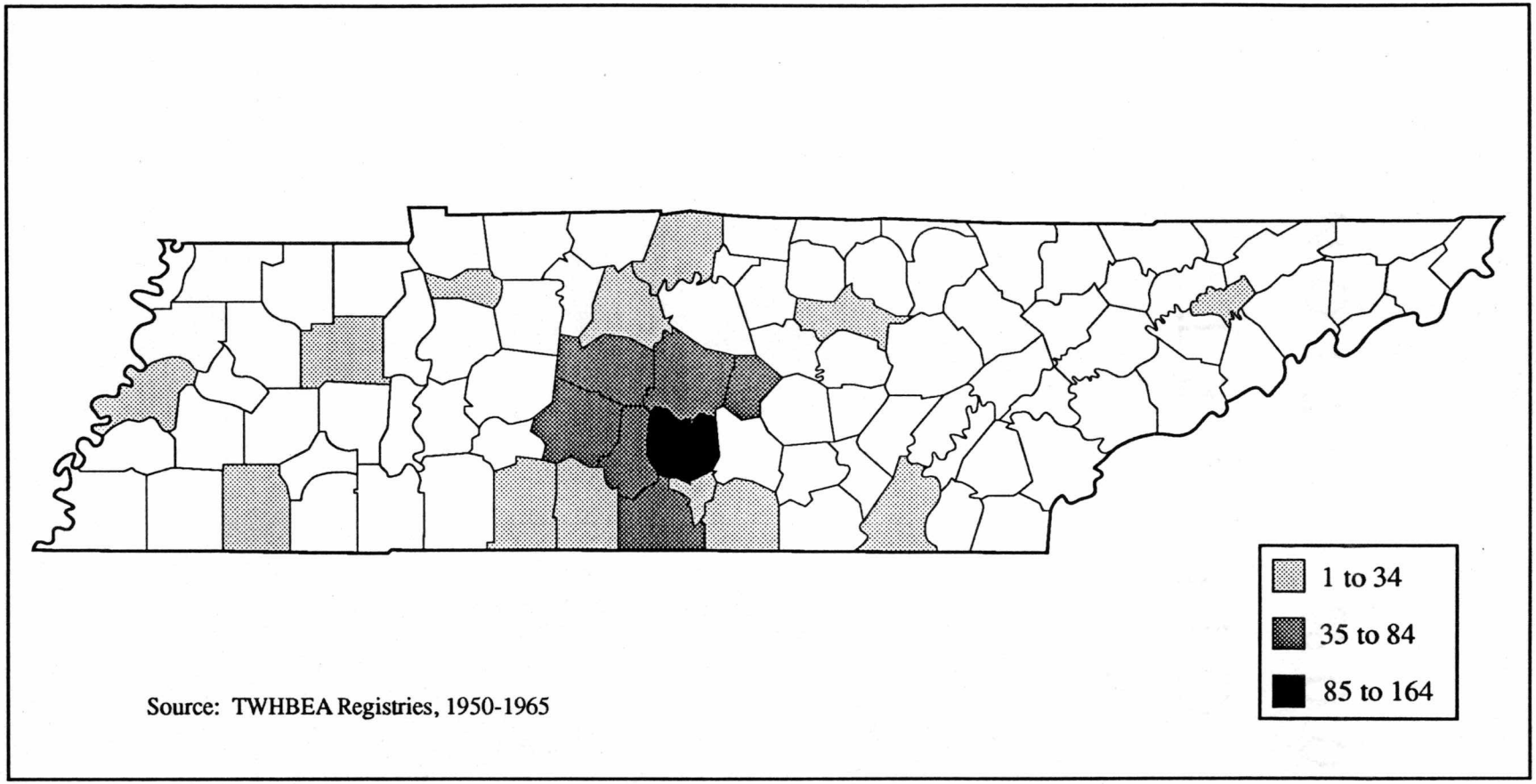

Figure 22: Walking Horse Sales from Tennessee Core Counties, 1950. The slowdown in sales of Walking Horses in Tennessee in 1950 was mirrored by the declines in the national market. Exports of Walking Horses were more limited in scope in 1950 than during the 1920s. Momentum was also lost in the Northeast and Midwest between 1938 and 1950.

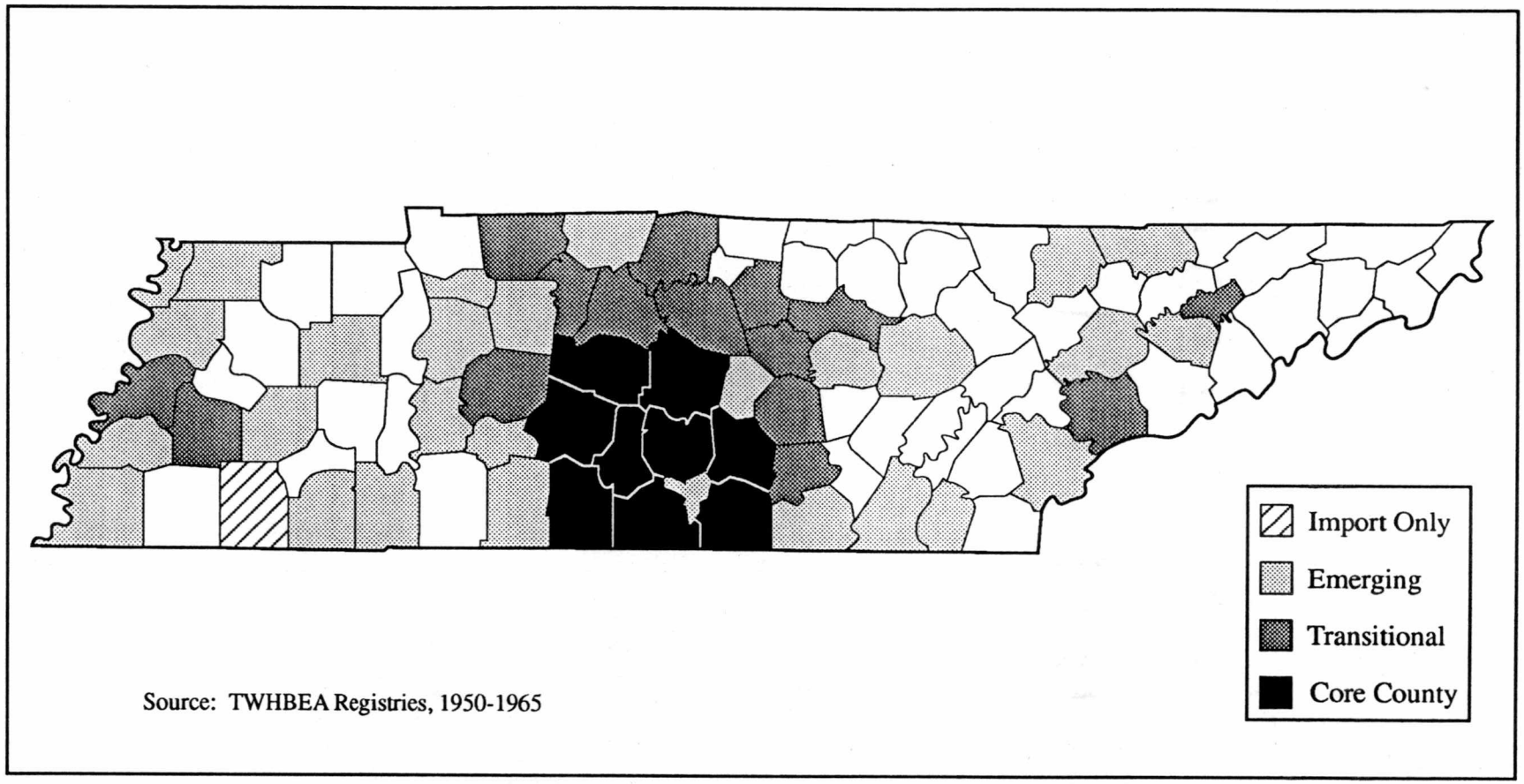

Figure 23: Walking Horse Marketing Patterns in Tennessee, 1950. The Middle Tennessee core began to weaken by 1950 with several former core counties reverting to emerging or transitional status.

There were more transitional Walking Horse counties in Tennessee in 1950 than in 1938. Eleven of the states's 15 transitional counties were located in the Middle Tennessee hearth. Middle Tennessee transitional counties included Cheatham, Davidson, Dekalb Grundy, Hickman, Montgomery, Putnam, Smith, Sumner, Warren, and Wilson. Nearly half of these 1950 transitional regions were core counties in the previous study period. Davidson, Dekalb, Smith, Warren, and Wilson counties qualified as cores in 1938. In the next 38 years, only Davidson, Smith and Wilson regained core county status. The increase in 1950 Middle Tennessee transitional counties was correlated with the loss of core counties for the same year. The retrenchment of intensive production and marketing to the oldest core counties continued through the 1980s.

Outside of Middle Tennessee, Blount and Hamblen in the east, and Haywood and Lauderdale in the west, were classified as transitional Walking Horse counties. Of these four counties, Blount was the only one which did not experience foaling production in 1938. Blount County had produced Walking Horses prior to 1938, achieving emerging status in 1935. Hamblen County was identified as a transitional county in 1938, and retained this marketing level through the 1980s. Haywood and Lauderdale counties were import-dependent counties in 1938 and began producing their own Walking Horse foals in the 1940s. Both later became important nodes in the development of Walking Horse marketing in West Tennessee.

There were nearly three-times as many emerging Walking Horse counties in Tennessee in 1950 than in 1938. Less than half were located in Middle Tennessee, and the remainder split between the East and the West. Thirteen emerging counties were contiguous to the Middle Tennessee core including, Bradley, Cannon, Cumberland, Dickson, Hamilton, Humphreys, Lawrence, Lewis, Marion, Monroe, Moore, Robertson, and White. Two emerging counties, Cannon and Moore, were classified as cores in 1938. Several of the 1950 transitionals tangent to core counties were on the extreme periphery of the region, such as Bradley, Cumberland, Hamilton, and Perry.

Fifteen of the remaining 18 emerging Walking Horse counties in Tennessee for 1950 were import/only or non-producing counties in 1938. Eight of these areas had not produced any registerable Walking Horses up to 1938, including Carroll, Hardin, Houston, Lake, Tipton counties in West Tennessee, and Campbell, Claiborne, and Monroe in the East. The development of foaling patterns in these historically non-producing Walking Horse counties contributed to the decline of the Middle Tennessee core. By 1950, many of

these non-Middle Tennessee counties were able to supply Walking Horses to local markets which previously had depended upon the Middle Tennessee as their primary source of Walking Horse foals.

Another indication that Middle Tennessee was losing its primacy as the source of Walking Horse foals within Tennessee was the dramatic decrease in import-dependent counties between 1938 and 1950. In 1938, there were 15 import/only Walking Horse counties in Tennessee. Among Tennessee counties with Walking Horse breeding and marketing activity in 1950, Hardeman County was the lone import/only county in the state. Hardeman was import-dependent in 1938, and did not experience any Walking Horse foaling activity up to 1950. With the exception of Hardeman County, all previously identified import/only counties were producing Walking Horses by 1950.

1950 WALKING HORSE MARKETS OUTSIDE TENNESSEE

Walking Horse breeding and sales activity outside of Tennessee between 1938 and 1950 mirrored the marketing behavior exhibited by the Middle Tennessee hearth region. States which had been dominated by import-dependent or non-producing counties in 1938, were actively exporting Walking Horses to areas which had previously been dependent upon Middle Tennessee as a source of Walking Horse foals. In 1950, only 13 states failed to experience any Walking Horse breeding or marketing activity. Areas which lacked Walking Horse production or marketing in 1950 were New England, Delaware, the Mountain West, the Dakotas, and Wisconsin.

Core counties developed in Marshall County, Iowa, and Cumberland County, Pennsylvania. While neither of these two states previously marketed any Walking Horses, both had benefited by Walking Horse imports during the 1920s. In 1950, Marshall and Cumberland were surrounded by two emerging counties, Hardin and Story in Iowa, Perry and York in Pennsylvania. The developing southern Pennsylvania Walking Horse region also included a contiguous import/only county, Franklin, which imported one Walking Horse, bred in neighboring Cumberland County.

Fifteen states other than Tennessee possessed transitional Walking Horse counties in 1950. The vast majority of transitional counties were located in Southeastern states with the exceptions of Arizona, Oregon, Pennsylvania, Texas, and Washington. In 1950, for the first time, all states which border Tennessee developed

transitional Walking Horse counties. Alabama led the region with five transitional counties, two of which were tangent to the Middle Tennessee hearth.

The proliferation of non-Tennessee emerging counties in 1950 was directly related to the decline of import/only areas. Thirty states had counties which were classified as emerging in 1950 compared with nine in 1938. In most instances, 1950 emerging counties were import/only in 1938 such as Bexar County, Texas, Cabell County, West Virginia, Kalamazoo County, Michigan, and Los Angeles County, California. With few exceptions, most Walking Horse foals born in emerging counties were owned or sold to owners in the horses' birth county, lessening dependency on importing Middle Tennessee-breds.

The diffusion pattern for 1950 was similar to that of the 1920s and early 1930s, with Walking Horses being sold from the Middle Tennessee core to virtually every U.S. region except New England (Fig. 24). The Northeast in general received few 1950 Middle Tennessee-bred Walking Horses other than New Jersey and Pennsylvania. Conditions in Pennsylvania were apparently more favorable for the Walking Horse than in New Jersey. Cumberland County was the Pennsylvania's core county in 1950. Cumberland was the only 1950 core county to develop east of the Mississippi River, outside of Middle Tennessee. Six additional Pennsylvania counties were producing Walking Horses in 1950, with areas of concentrations in Southeast, South-central and Western Pennsylvania.

Of the 17 1950-bred Walking Horses in Pennsylvania, only four were foaled outside of the state, and only one of those was imported from the Middle Tennessee hearth. The only Walking Horse activity in New Jersey in 1950 was the importation of one Walking Horse from Lincoln County, Tennessee, into Hunterdon County. No New Jersey-bred Walking Horses could be located for 1950.

1950 WALKING HORSE DIFFUSION: CONCLUSIONS

The diffusion pattern for Walking Horses in 1950 represents several decades of market development and adoption. In virtually every case, Walking Horses exported from the Middle Tennessee core were sold to counties which had previously experienced Walking Horse production or importations. The popularity of the Walking Horse was increasing which was a two-edged sword for the Middle Tennessee hearth. On one side was the expansion of markets for Walking Horses outside of the South. On the other side was the weakening

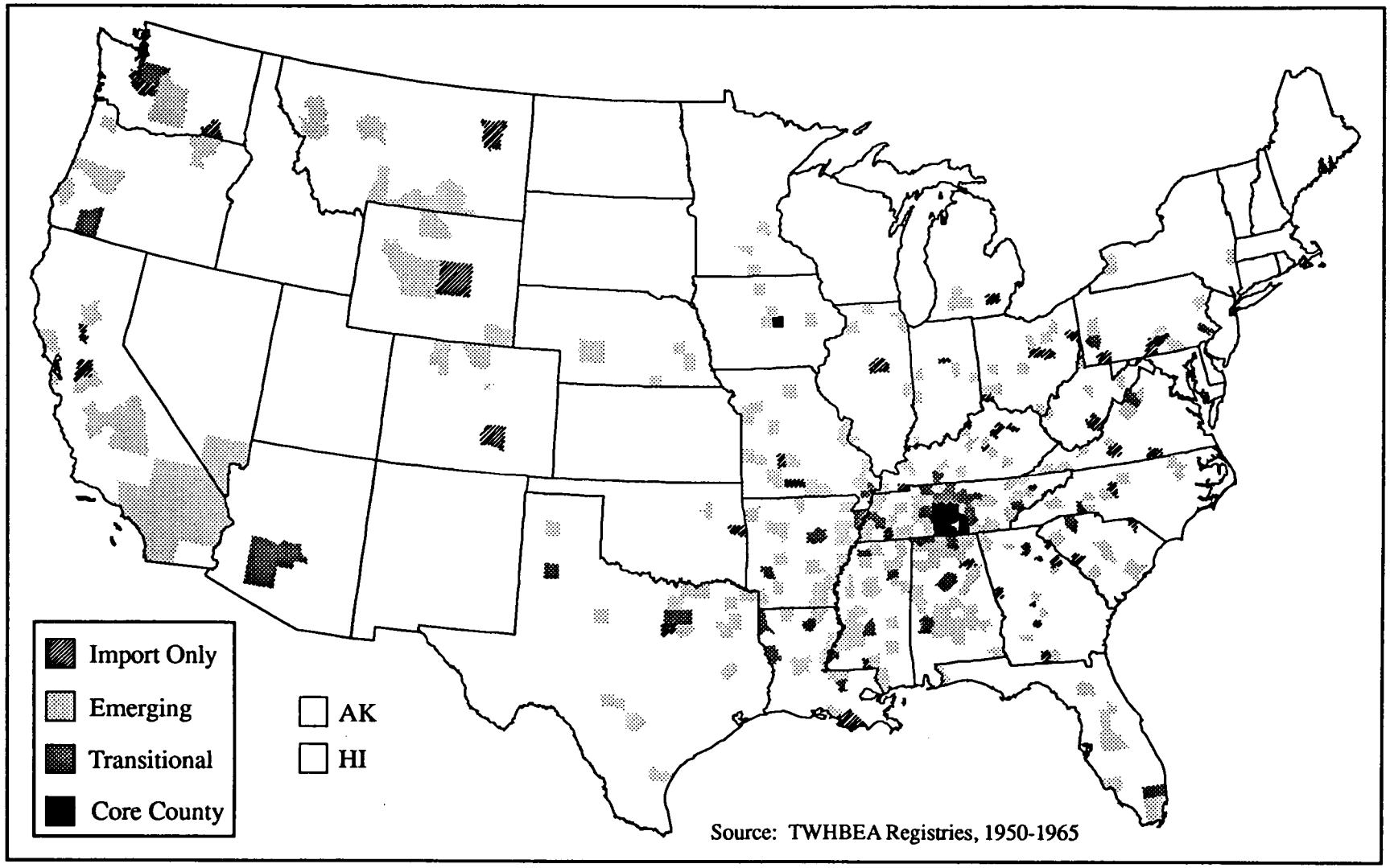

Figure 24: U.S. Walking Horse Marketing Patterns, 1950. The basic Middle Tennessee hearth pattern established in the 1920s persisted in 1938. The most notable change was the increased sales to East and West Tennessee counties.

position of Middle Tennessee as the primary source of Walking Horse foals. As import/only and non-producing counties evolved into Walking Horse foaling counties, Middle Tennessee producers found themselves for the first time in direct competition with extra-regional producers.

WALKING INTO SUBURBIA: WALKING HORSE DIFFUSION IN 1965

By the mid-1960s, suburbanization of the United States and American horses was in full swing. The Walking Horse had experienced this shift from rural to non-metropolitan ownership as early as the 1920s. The Walking Horse which began as a multi-purpose horse to serve rural populations, fully evolved into a pleasure horse with its strongest markets off the farm by the mid-1960s.

The early strength of the Middle Tennessee hearth was based on strong local and regional demand for Walking Horses. The most favorable markets for Walking Horses by the 1960s however, were outside of Middle Tennessee in metropolitan areas such as Pittsburgh, Phoenix, St. Louis, and San Francisco, which by the 1950s were producing, training, showing, and marketing their own Walking Horses.

Fourteen Walking Horse core counties were present in Tennessee in 1965, ten of which were located in Middle Tennessee, and the remaining four in the west (Fig. 25). Middle Tennessee core counties for 1965 included Bedford, Cannon, Coffee, Davidson, Giles, Lincoln, Marshall, Maury, Rutherford, and Williamson. Core counties in Middle Tennessee experienced some changes since 1950. Cannon and Davidson counties regained core status while sales declined in Franklin County. Bedford County which clearly dominated other Middle Tennessee core counties in 1950, was in second place behind Rutherford County in 1965 in foal production. Rutherford led the Middle Tennessee core with 120 new foals in 1965 (19%), Bedford followed with 15%, then Maury (13%), Marshall (12%), Davidson (11%), and Giles (10%). The remaining counties all experienced less than 10% of the Middle Tennessee core county production.

The greatest growth in Middle Tennessee Walking Horse production in 1965 occurred in counties closest to the Nashville metropolitan area and West Tennessee, while declining production was experienced in counties farthest from urban and suburban influences. For example, Lincoln County had historically been a significant producer of Walking Horse foals. As late as 1950, Lincoln County maintained at least nine-percent of Middle Tennessee core production. By 1965, only 1% of all Walking Horses foaled in the Middle

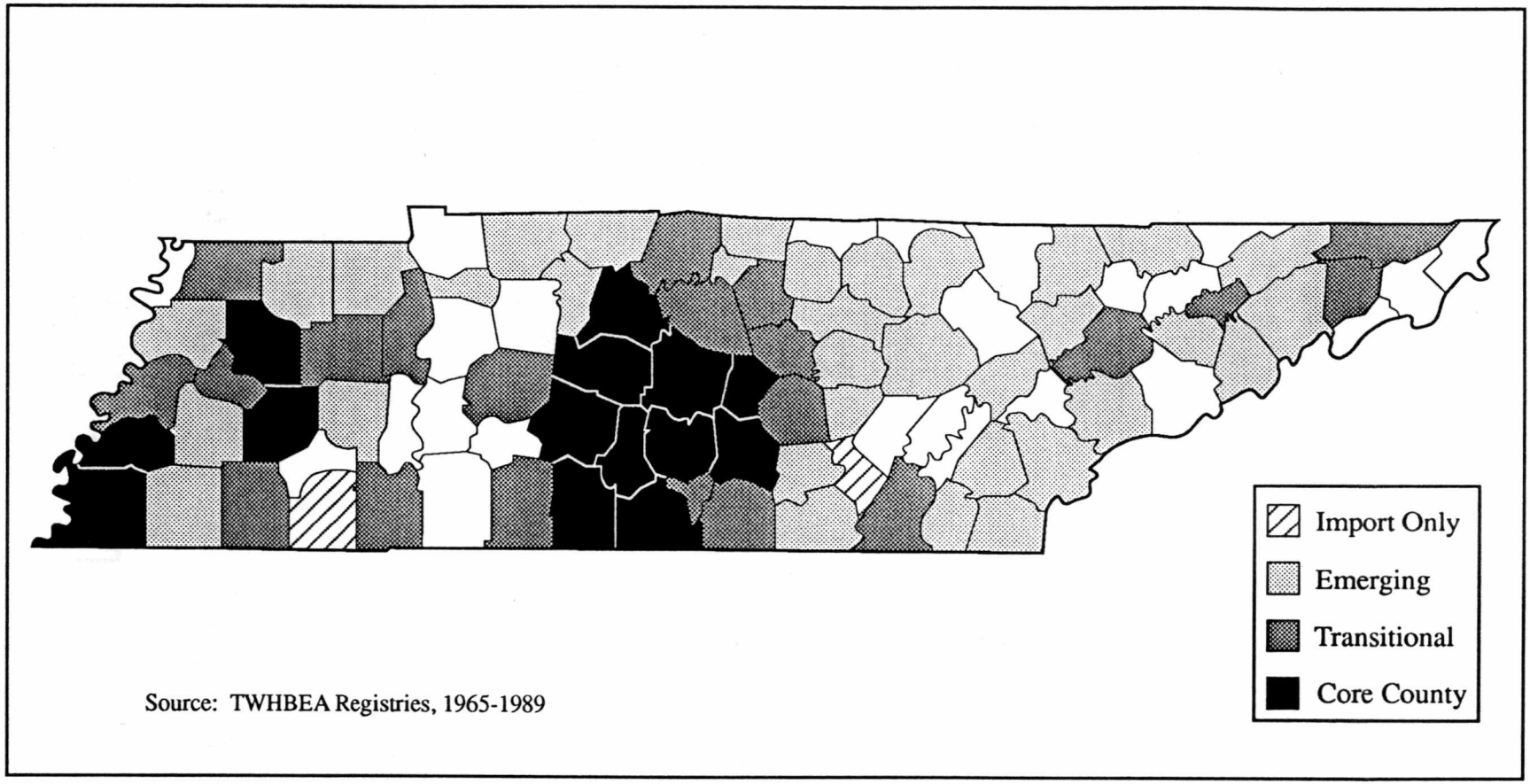

Figure 25: Walking Horse Marketing Patterns in Tennessee, 1965. The primacy of the Middle Tennessee hearth was challenged by other counties in the state and negatively impacted by production in other national regions.

Tennessee core were born in Lincoln County while neighboring Franklin County slipped from core to emerging county status.

The 1965 Middle Tennessee core for the first time was challenged for Walking Horse breeding supremacy by a developing West Tennessee core region centered on Madison, Shelby, Tipton, and Gibson counties. Madison County actually led all of Tennessee in 1965 in Walking Horse production with 148 foals, 95% of which were owned within the county. Two of these counties, Gibson and Shelby, exported Walking Horse foals to Middle Tennessee core counties in 1965. This is an example of a reverse diffusion pattern which began to appear during the 1960s. Areas which had at one time been import-dependent upon the Middle Tennessee hearth, returned the favor by selling the offspring of previous imports back to Middle Tennessee.

Shelby County, the most urbanized of the West Tennessee cores, produced the most Walking Horses in West Tennessee in 1965. Of the 45 Walking Horses foaled in Shelby County in 1965, 39 remained in Shelby, one was sold to Benton County, Arkansas, three were sold to new owners in Halifax County, North Carolina, and one each were shipped to Rutherford and Williamson counties in Middle Tennessee. Shelby County outproduced Cannon County, a non-metropolitan Middle Tennessee core county in 1965. Only two Walking Horses foaled in Middle Tennessee core counties were imported into Shelby during the same period.

There were 21 transitional Walking Horse counties in Tennessee in 1965, a 29% increase since 1950. Nine transitional counties were located in Middle Tennessee, five in East Tennessee, and seven in West Tennessee. There were nine transitional Walking Horse counties in Middle Tennessee in 1950, however, only Hickman, Smith, Sumner, Warren, and Wilson counties repeated their performances in 1965. Lawrence and Moore counties advanced from emerging to transitional between 1950 and 1965, while Franklin County dropped from core to transitional marketing levels in 1965. Cheatham, Grundy, Montgomery, and Putnam counties were classified as transitional in 1950, but fell to emerging status in 1965 and were located on the outermost edges of the historical Walking Horse hearth.

The most significant change in county-level Walking Horse marketing patterns in Tennessee for 1965 was the location of emerging counties relative to the Middle Tennessee hearth. Thirty-four emerging counties were identified in Tennessee in 1965, six more than in 1950. Emerging counties were distributed throughout the state with a slight majority located in east Tennessee. Many 1965 emerging counties had failed to produce

Walking Horses in any of the previous study periods such as Anderson, Cocke, Fayette, Fentress, Greene, Hawkins, Henderson, Henry, Jackson, McMinn, Overton, Roane, and Weakley.

The increase in Tennessee 1965 emerging county numbers, and wider spatial distribution of emerging Walking Horse areas, created a contiguous pattern of Walking Horse production from Sullivan in the East to Shelby in the west. For the first time, counties producing Walking Horses in Tennessee were bordered by other foal producing counties. By 1965, only 12 of Tennessee's 95 counties failed to experience any level of Walking Horse production or marketing.

In 1965, Tennessee possessed two import/only counties, McNairy in the West, and Sequatchie in the East. McNairy County had previously been classified as import/only in 1938, moving up to emerging status in 1950. Prior to the 1965 study period, Sequatchie County did not experience any Walking Horse breeding or marketing activity. By 1988, both produced Walking Horses, but due to their distance from the Middle Tennessee hearth and major metropolitan areas, neither developed into major breeding or marketing centers.

1965 WALKING HORSE MARKETS OUTSIDE TENNESSEE

Between 1950 and 1965, the intensity of Walking Horse breeding outside of Tennessee increased dramatically with the development of core counties in seven other states. In 1965, core counties were identified in Alabama, Florida, Georgia, Kentucky, Mississippi, Missouri, and Virginia (Fig. 26). Alabama and Georgia each had three core counties, Missouri developed two cores, while the remaining three states each possessed one core county.

The proliferation of cores outside of the historical Middle Tennessee hearth was as important as the location of the core counties themselves. Core counties were developing in areas where residential land-use was supplanting agricultural land use, especially along the rural-urban fringe. For example, the Atlanta metropolitan area of Fulton County, Georgia produced 14 Walking Horses, and the Orange County, Florida, communities of Orlando and Winter Garden were home to 15 Walking Horse foals in 1965.

Transitional Walking Horse counties outside of Tennessee experienced little change in numbers or distribution between 1950 and 1965. The basic trend was for a production trade-off between transitional and

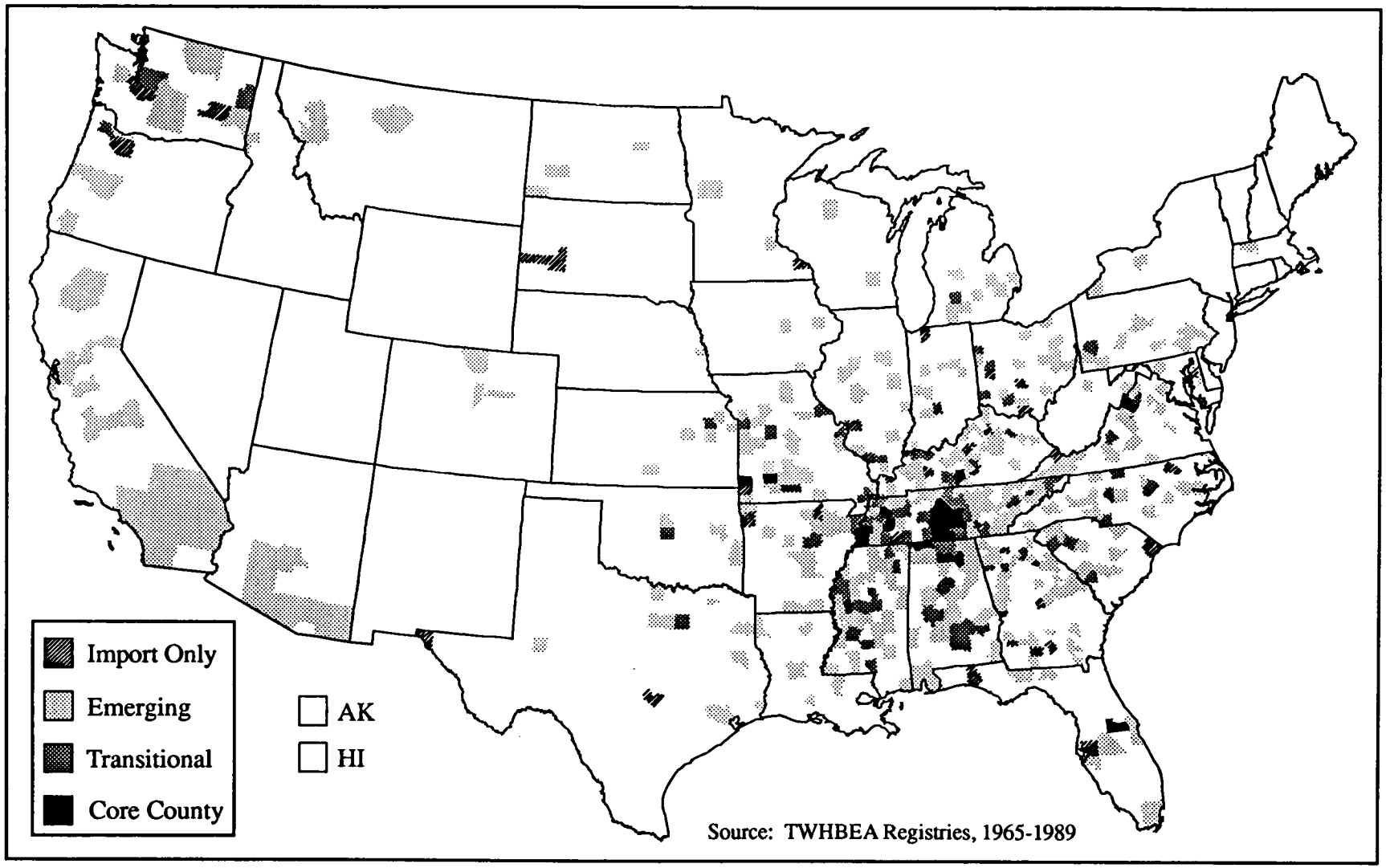

Figure 26: U.S. Walking Horse Marketing Patterns, 1965. National marketing patterns for Walking Horses in 1965 showed similar regional characteristics as 1950 but at higher levels of activity.

emerging counties. Some counties which were classified as emerging in 1950, such as Anderson, South Carolina, and Page County, Virginia, gained transitional status in 1965. Similarly, many 1950 transitional counties, such as Montgomery County, Pennsylvania, and Washington County, Oregon, fell to the emerging county level in 1965. Shifts in county-level marketing activity was expected and continued into the 1980s. County breeding activity fluctuated with changing Walking Horse market conditions as well as with competition from other regional pleasure horse breeds.

There were fewer import/only counties in states other than Tennessee in 1965 than in 1950. By 1965, the Walking Horse was nationally known and marketed. Patterns of regional adoption established as early as the 1920s had generally remained the same. Most 1950 import/only counties developed into producing counties in 1965. The future value of the breed was less speculative in the 1960s than in the 1930s and the demand for Walking Horses could be met by locally-bred horses rather than imports from Middle Tennessee. By 1965, some of the most valuable Walking Horse breeding stock was no longer located exclusively in Middle Tennessee. Amateur breeders and non-Tennessee based trainers had access to many quality mares and stallions which allowed them to produce foals without relying on Middle Tennessee bloodstock.

The national diffusion pattern for Walking Horse exports from the Middle Tennessee core in 1965 narrowed considerably from the previous study period (Fig. 27). The most noticeable change was the loss of export markets to northern states such as Ohio, Michigan and Kentucky which may have been precipitated by the availability of locally raised stock. In 1950, Michigan had three emerging Walking Horse counties (Barry, Calhoun, and Kalamazoo) and one import/only county (Washtenaw). By 1965, Barry County had progressed to transitional status while six new emerging counties were added (Genesee, Ingham, Montcalm, Oakland, St. Clair, and St. Joseph). Similar conditions existed in Ohio and Kentucky. By 1965, Ohio could claim three transitional counties (Butler, Highland, and Shelby) and a dozen more emerging counties. Kentucky had one core county (Barren) in 1965 and 30 counties producing Walking Horse foals. Of the three previously mentioned states, Kentucky experienced the greatest amount of growth since 1950 and these increases in production occurred in counties where other purebred horse production previously existed, especially the closely related American Saddlebred.

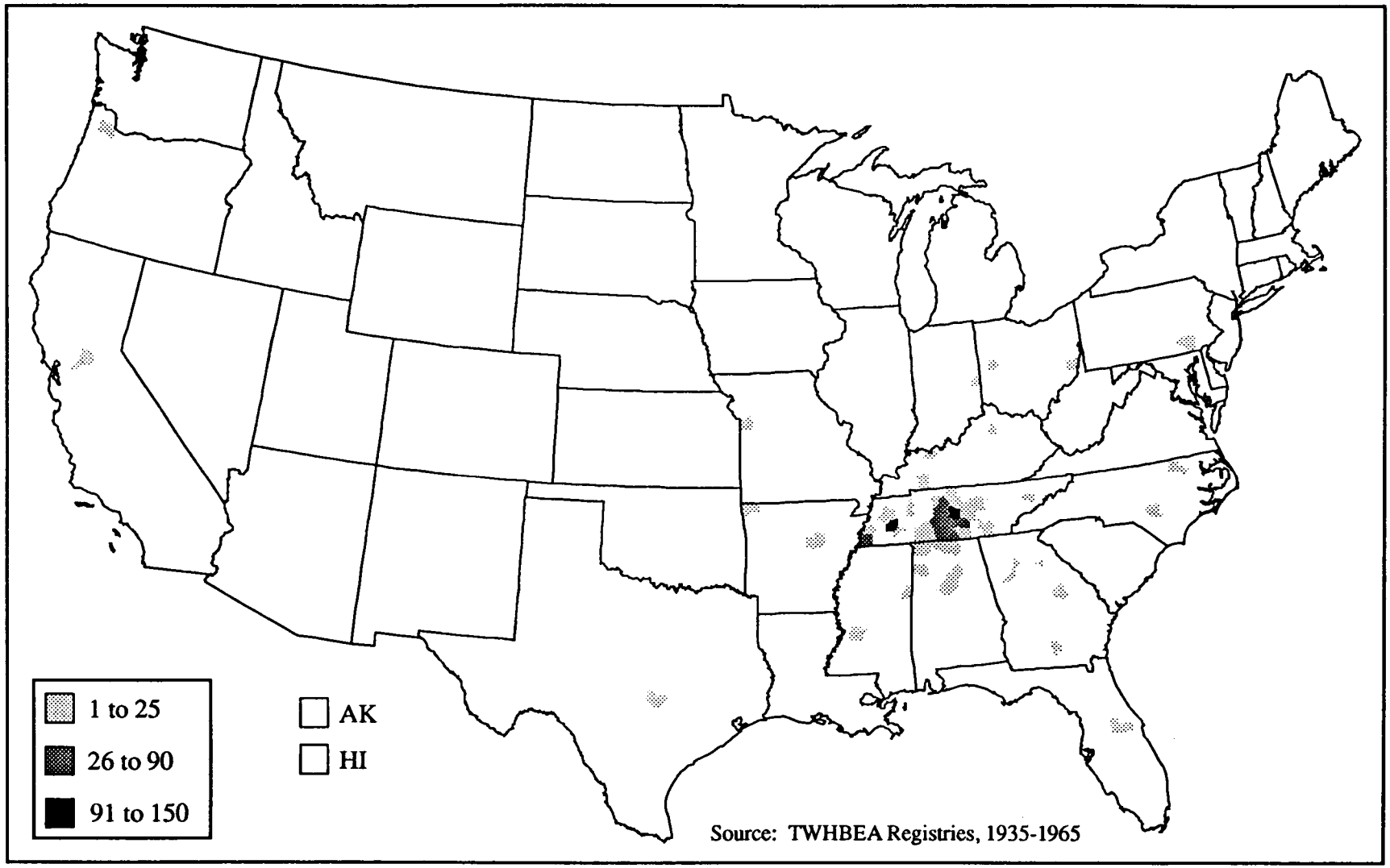

Figure 27: U.S. Walking Horse Sales from Tennessee Core Counties, 1965. While sales of Walking Horses within Tennessee expanded between 1950 and 1965, the national market did not experience such growth. The Northeast and Midwest remained weak export regions, and diffusion to the West also declined.

WALKING HORSE DIFFUSION IN 1965: CONCLUSIONS

Sales of Tennessee-bred Walking Horses within Tennessee increased spatially between 1950 and 1965, however, the numbers of horses being sold declined over the 15 year period (Fig. 28). The slowing demand for young Walking Horses outside the Middle Tennessee core by 1965 was more a function of increasing production and marketing sophistication outside of traditional production regions than a slowing national demand for Walking Horses themselves.

In 1965, Tennessee Walking Horses were foaled in non-traditional Walking Horse areas such as in New York and Massachusetts. Walking Horse foals were produced in Chatauqua, Ontario, and New York counties in New York. One registered Walking Horse was foaled in Massachusetts in 1965 in the Franklin County town of Ashfield. Although the numbers of horses were small, their presence in the region was important. These New York and Massachusetts counties continued to influence Walking Horse diffusion into the 1980s and served as a nucleus for Walking Horse interest in the Northeast.

STILL THE "TENNESSEE" WALKING HORSE IN 1988?

The strength of the Middle Tennessee core on the diffusion of the Walking Horse made modest gains between 1965 and 1988, with exports from the core increasing in Kentucky and western states such as Montana and California (Fig. 29). No Walking Horse marketing improvements were seen in the Northeast nor in the Great Lakes states for foals exported from the Middle Tennessee hearth. The trend for increased external production and decreased reliance on the Middle Tennessee core for young bloodstock was firmly established in this final study period.

All but two of Tennessee's 95 counties experienced some level of Walking Horse production by the late 1980s (Fig 30). Twenty Walking Horse core counties were identified in Tennessee for 1988, a 30% increase over 1965. The increases did not benefit Middle Tennessee breeders as much as other regions in the state. The greatest increase in Tennessee cores was in East Tennessee which in 1988 developed its first four core counties, Blount, Knox, Monroe, and Sevier. With the exception of Monroe County, all of the aforementioned East Tennessee cores are part of the Knoxville metropolitan area.

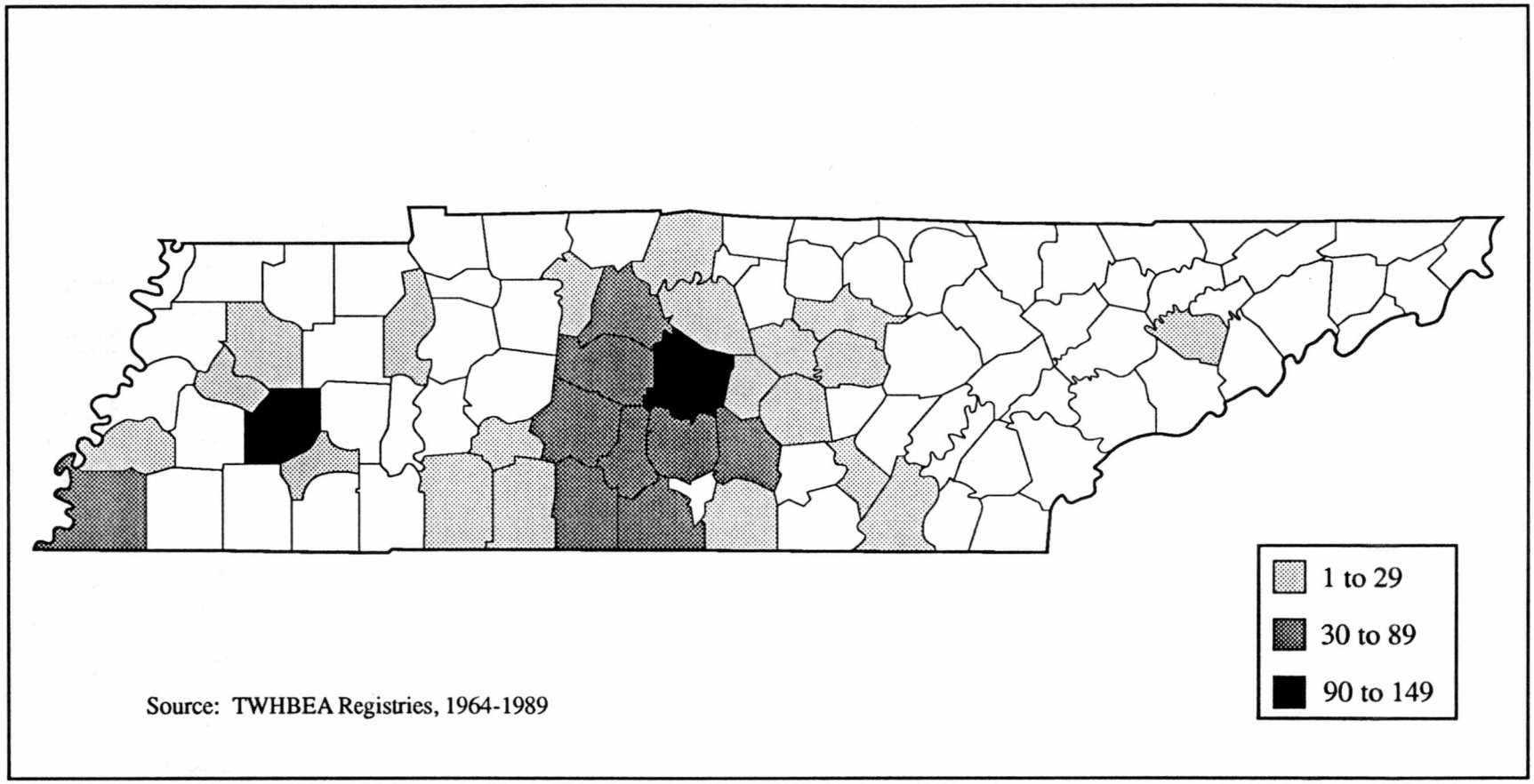

Figure 28: Walking Horse Sales from Tennessee Core Counties, 1965. By 1965, the Walking Horse industry had made up for its losses experienced in the 1940s and 1950s. The most noticeable changes were the increases in sales to West Tennessee counties, such as Madison, whose sales levels were equivalent to that of Davidson County, located within the Nashville Basin.

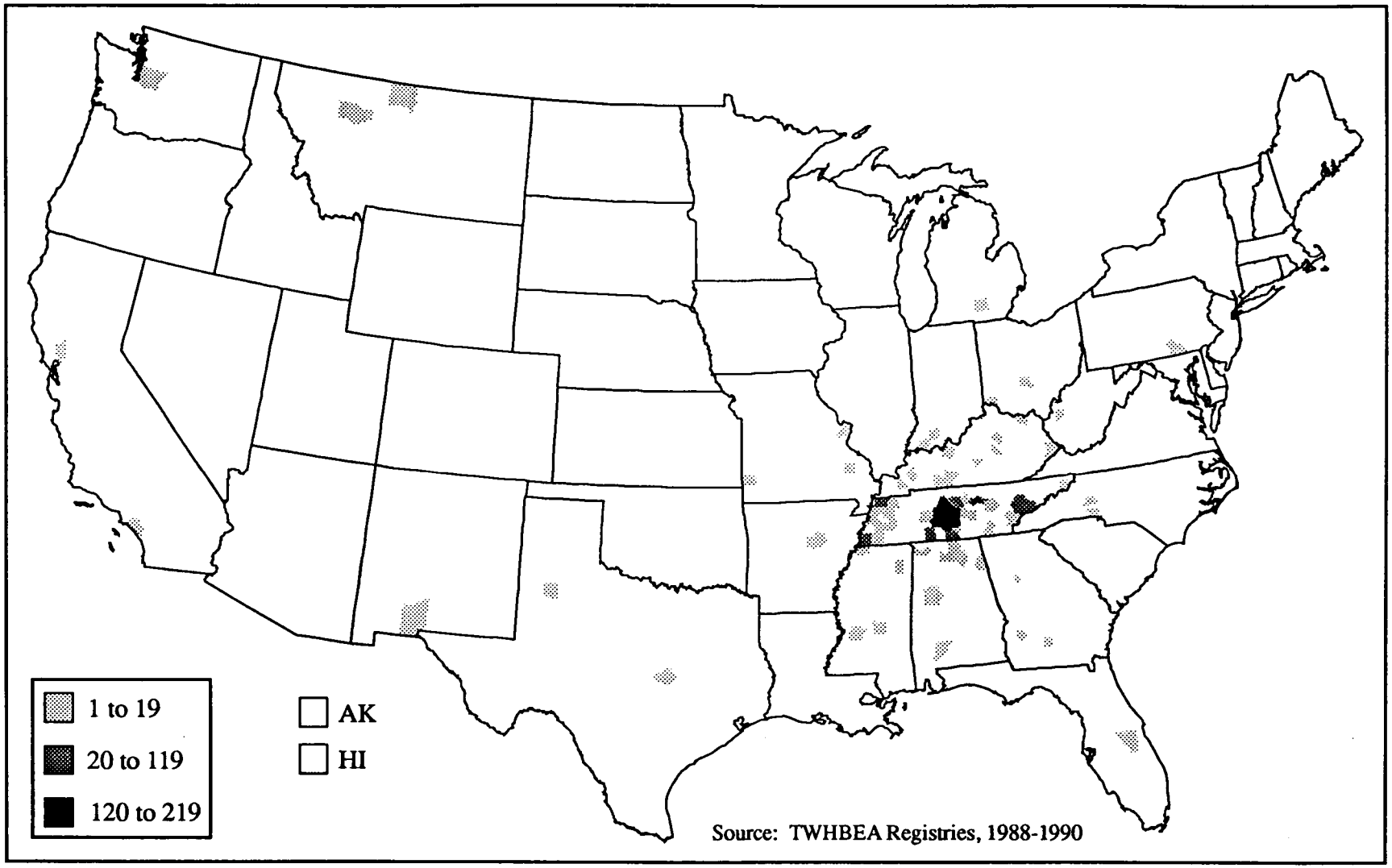

Figure 29: U.S. Walking Horse Sales from Tennessee Core Counties, 1988. By the 1980s, the power of the Middle Tennessee hearth as the main supplier of Walking Horse foals for the national market had declined. Nashville Basin producers now found themselves in competition with breeders in other regions.

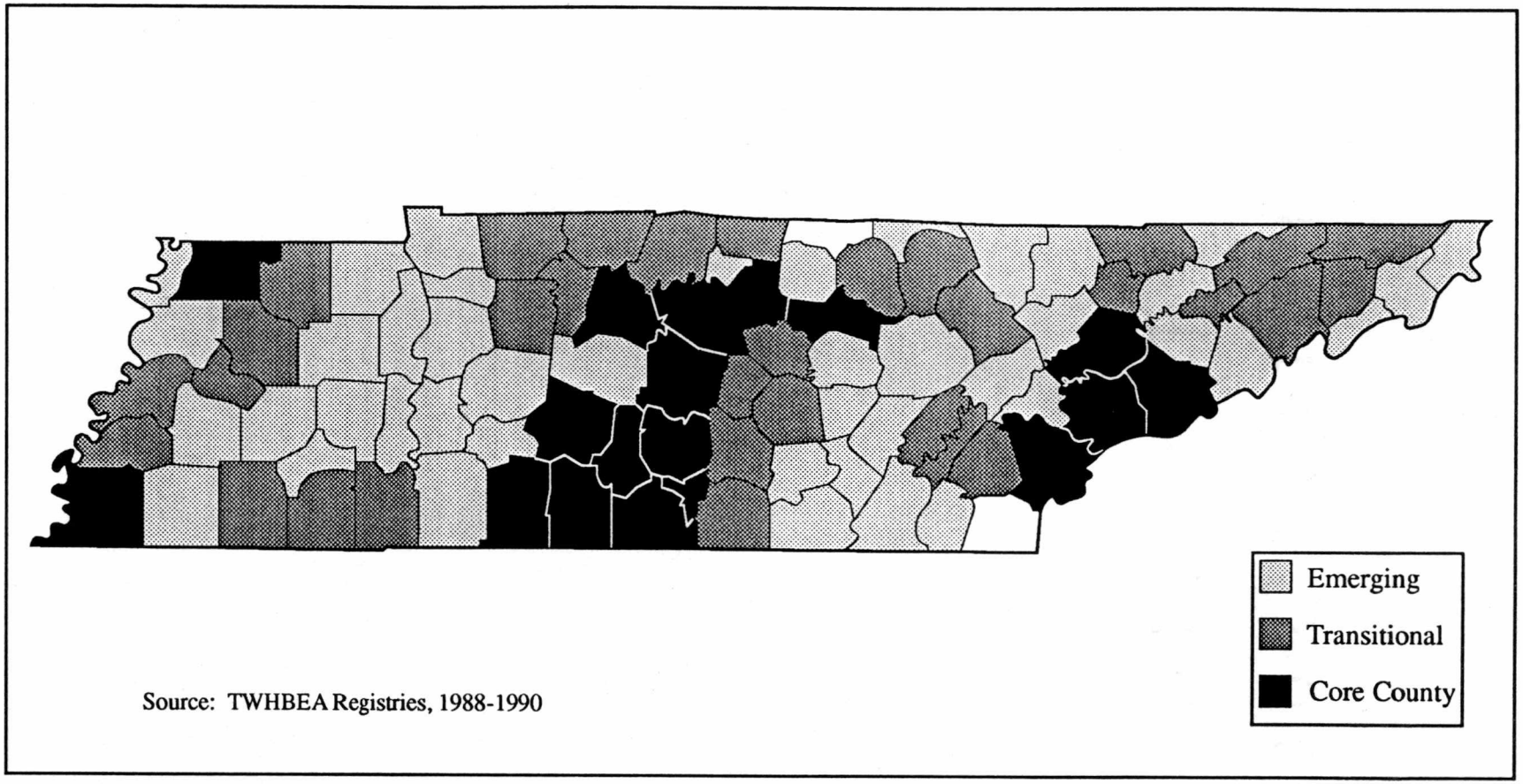

Figure 30 : Walking Horse Marketing Patterns in Tennessee, 1988. By 1988, every county in Tennessee with the exception of Polk and Pickett were actively producing, selling, or purchasing Walking Horses.

In 1988, Middle Tennessee was home to thirteen core Walking Horse counties. This core region experienced few changes between 1988 and 1965. Middle Tennessee core counties in 1988 included Bedford, Davidson, Giles, Lawrence, Lincoln, Marshall, Maury, Moore, Putnam, Rutherford, Smith, Williamson, and Wilson. Of the group, Lawrence and Putnam were the only counties which had never been classified at the core county level. Cannon and Coffee counties which were identified as cores in 1965, dropped out of this category in 1988. Ironically, each of these counties were important as historical Walking Horse nurseries in the earliest study periods.

Rutherford County continued to dominate the Middle Tennessee core production with over 200 Walking Horses foaled in 1988, 18% of the region's production. Bedford ranked second in foaling as it did in 1965, with 15% of Middle Tennessee's Walking Horse foals. Davidson County was third in production in 1988 with 12%, followed by Marshall, Maury and Williamson, each with an 11% share. The remaining core counties, Giles, Lawrence, Lincoln, Moore, Putnam, Smith and Wilson each had less than 6% of the total Middle Tennessee core foal production for 1988.

Three West Tennessee core counties developed in 1988, only one of which was a core in 1965. Haywood, Obion, and Shelby counties qualified as cores for 1988, with Shelby being the only repeating core from 1965. By 1988, every West Tennessee county experienced some level of Walking Horse production. The greatest concentrations of production were in the Memphis metropolitan area including Shelby and Tipton counties in Tennessee, and emerging DeSoto County in Mississippi. Another area of intensifying Walking Horse production in West Tennessee was the corridor along U.S. Route 51, linking Obion and Shelby counties, both cores for 1988.

Approximately one-third of all Tennessee counties were identified as transitional Walking Horse regions in 1988. The state's 32 transitional counties were virtually equally divided between the East, West and Middle regions. The Middle Tennessee core was surrounded by transitional counties on all sides except along the western Highland Rim which was dominated by emerging counties.

In 1988, 41 emerging Walking Horse counties loosely formed a dividing line between areas of intense production in Middle and East Tennessee along the Cumberland Plateau. Walking Horse production and markets in the rugged plateau was marginal and shows little promise of improving. The Highland Rim and

Cumberland Plateau regions of Tennessee possess some of the state's poorest agricultural land and lowest income groups, two factors which would inhibit the diversion of limited disposable incomes to luxury items such as a Walking Horse.

There were no import/only counties in Tennessee in 1988. The disappearance of import-dependent counties can be attributed to the nearly complete adoption of Walking Horses in the state and the ability of non-Middle Tennessee breeders to successfully market their Walking Horses at local and extra-regional levels. Another important result of lack of import-dependent counties was transition from imports to localized production. Walking Horses were being bred, albeit a small scale, in areas in Tennessee which historically relied on the Middle Tennessee hearth as a source for registered stock.

Walking Horse diffusion in Tennessee was nearly state-wide by the late 1980s with only two Tennessee counties lacking any marketing or breeding activity. Clay and Polk counties failed to produce or import any Walking Horses registered in 1988. Neither of these counties is located within a metropolitan area, and of the two, only Polk had previously produced Walking Horse foals. No registerable Walking Horses were found in Clay County in any of the selected time periods. None of Clay's bordering counties experienced high levels of production or importations. Clay never shared a border with a core county and only once with a transitional county, Macon, in 1988. Polk County did produce a foal during the 1930s and again in 1965, but was not actively importing registered stock to sustain breeding programs.

The number of Walking Horse core counties outside of Tennessee nearly doubled between 1965 and 1988 (Fig. 31). There were 13 core counties in states other than Tennessee in 1988, the same number as in the 1988 Middle Tennessee hearth. The difference in core county location between 1965 and 1988 was the development of cores north and west of Tennessee. Kentucky led in the cores grouping as it did in 1965. In 1988, Kentucky was home to 10 core counties, eight of which were situated along the Interstate 75 corridor connecting Covington, Kentucky, in the north with London, Kentucky in the south. The only two Kentucky cores which did not fall into this central region were Lewis County in the northeast, and Fulton County in the extreme southwestern corner of the state. Of the two, Fulton County was the only one with a notable track record in Walking Horse production. Fulton County, Kentucky was producing Walking Horse foals as early as

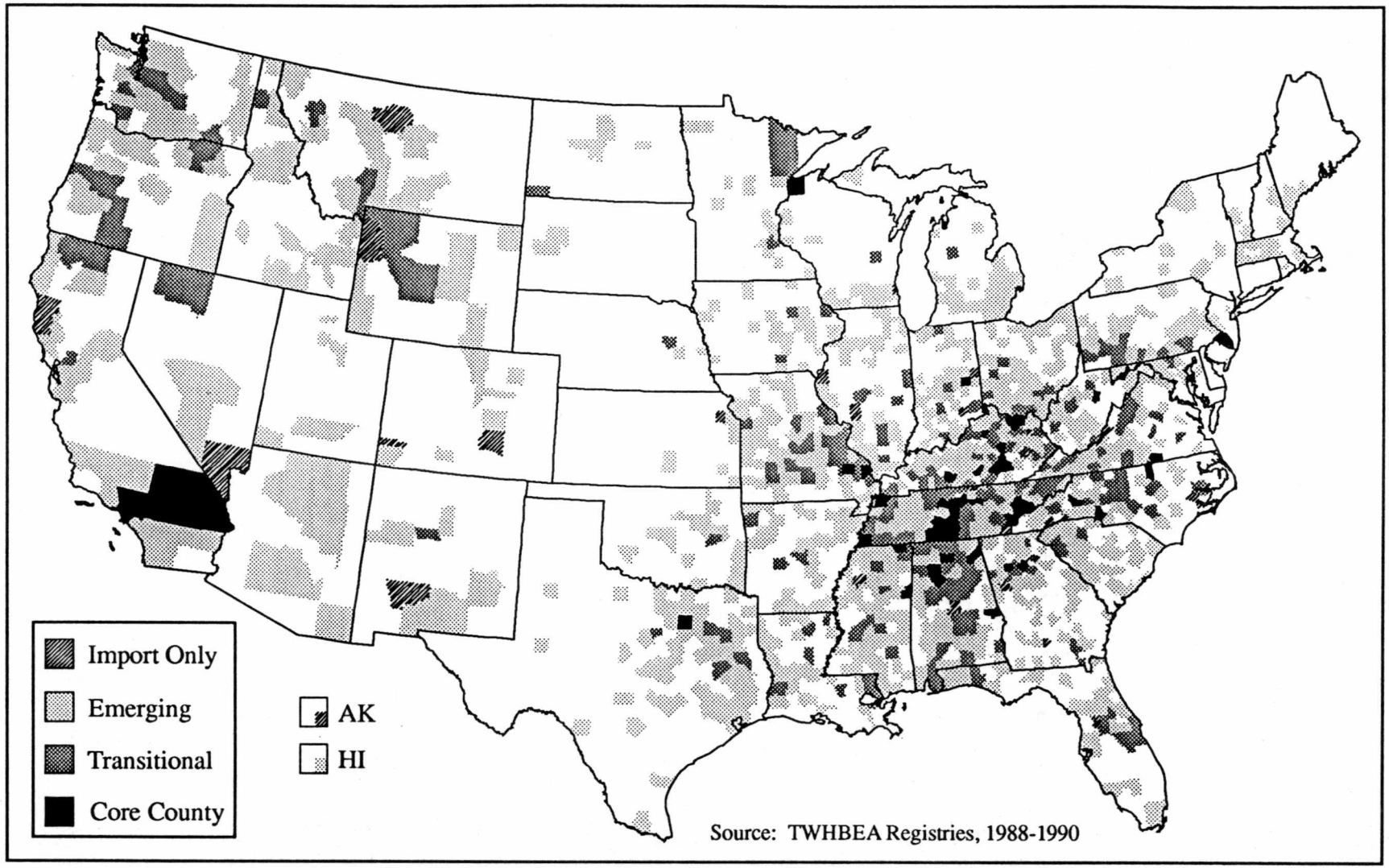

Figure 31: U.S. Walking Horse Marketing Patterns, 1988. Walking Horse diffusion by 1988 had matured to a national scale with every state except Connecticut and Delaware actively participating in the Walking Horse market.

1914 and was classified as emerging in the 19th century to 1919 period. Fulton County graduated to transitional status in 1965 and finally achieved the core county marketing level in 1988.

Core counties in 1988 developed for the first time in such diverse geographic locations as Burlington County, New Jersey, Douglas County, Wisconsin, and San Bernadino County, California. Without exception, every core county outside of Tennessee, was bordered by another Walking Horse producing county, and each core was a part of, or contiguous to, a metropolitan statistical area.

Less than two-dozen Walking Horse import/only counties existed in 1988, none of which were located in Tennessee. The sharp decline, and virtual disappearance of import-dependent counties illustrates that by 1988, the Tennessee Walking Horse may have reached the limits of regional market and breed diffusion in the United States. The future of Walking Horse diffusion will most likely be a process of infilling since all U.S. regions were producing Walking Horse foals by the late 1980s. Walking Horses were born in Alaska and Hawaii by 1988, areas quite far from the Middle Tennessee hearth. Delaware and Connecticut were the only states which did not experience any level of Walking Horse breeding or marketing activity in 1988.

Walking Horses foaled in 1988 diffused from the Middle Tennessee core in a similar yet less extensive pattern than experienced in the three previous study periods (Fig. 32). The Middle Tennessee hearth was no longer the primary source of Walking Horse foals for the national or statewide markets. In 1988, only 17% of Walking Horse foals were born in core counties compared to the 1920s when 76% of all Walking Horses were foaled in Middle Tennessee.

The majority of Walking Horse foals in 1988 were sold from the Middle Tennessee hearth region to out-of-state owners in Kentucky which had developed 10 core counties. Exports to the Northeast were limited to York County, Pennsylvania which was an emerging county in 1988 and had a prior history of Middle Tennessee imports and local production. The only core county in the Northeast was Burlington, New Jersey which borders on two Pennsylvania counties which also produced Walking Horse foals in 1988.

The small advances Walking Horses made in Northeastern and New England states in 1965 continued into 1988. Massachusetts and New York possessed emerging counties in 1965, an more than doubled their number of producing counties by 1988. The heaviest concentration of activity occurred in Massachusetts where almost half of the state's counties produced Walking Horse foals. Walking Horses were also foaled in

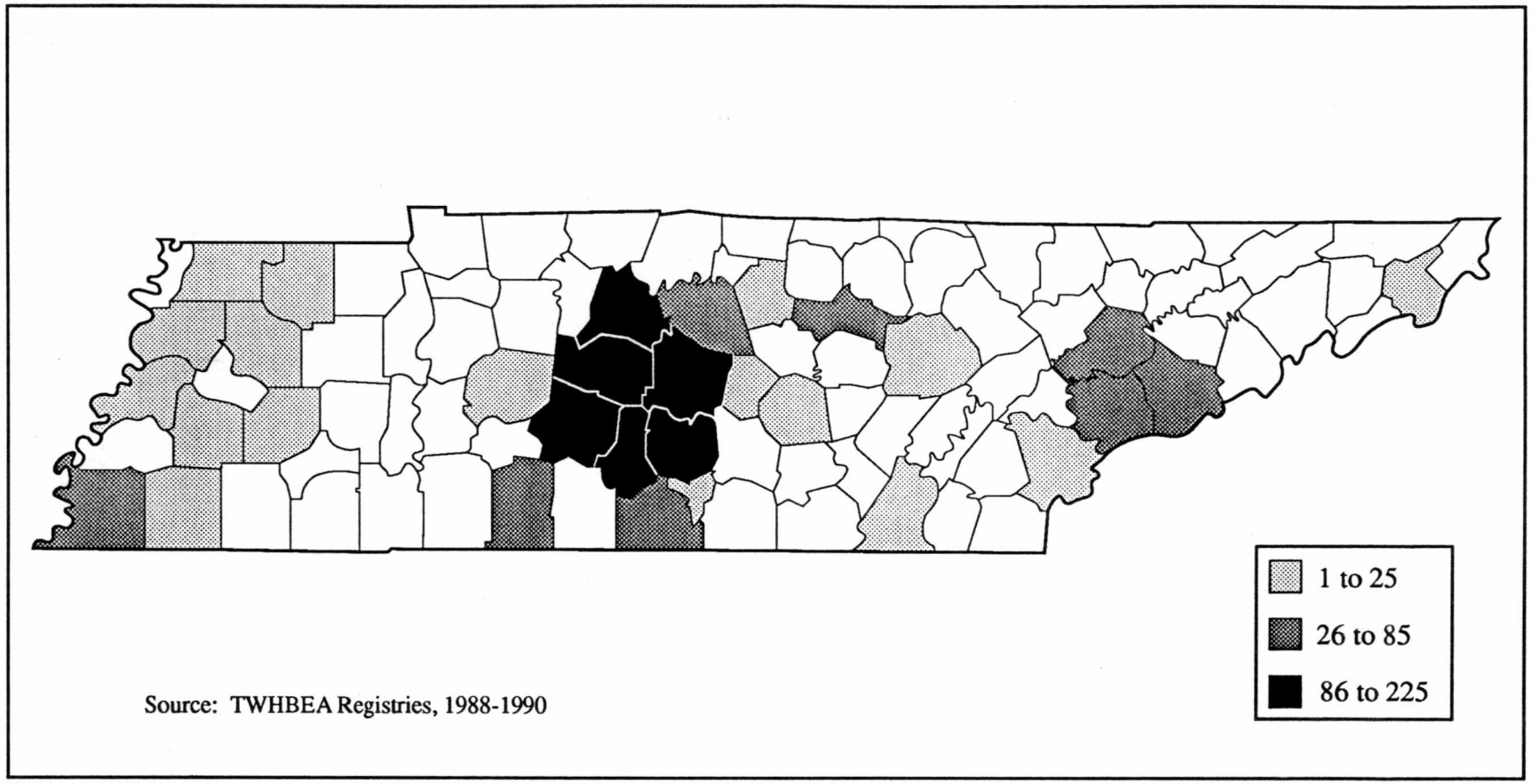

Figure 32: Walking Horse Sales from Tennessee Core Counties, 1988. Late in the 1980s, Middle Tennessee was not only the historical hearth for Walking Horse breeding, but also the primary market for sales. East and West Tennessee sales increased especially in metropolitan counties such as Knox and Shelby.

Maine, New Hampshire, Rhode Island, and Vermont in 1988. Connecticut was the only New England state without Walking Horse production in 1988. The majority of the breeding stock for these northeastern states was obtained from regionally rather than imported from the Middle Tennessee core.

Why have Walking Horses failed to diffuse into New England and the Northeast with the same intensity experienced in virtually every other U.S. region? This question is key to understanding the adoption of the Walking Horse and its contemporary distribution. The answer may be found in the previous discussion of the Walking Horses' ancestry and conditions of horse breeding in the Northeast during the 18th and 19th centuries. The prejudice against non-trotting horses in the Northeast was clearly indicated by livestock fanciers of the times and the firm establishment of trotting-types such as the Thoroughbred and Morgan Horse by the close of the 19th century precluded any major influx of alien breeds.

The predominance of trotting-types, and the lack of interest in gaited horses in the Northeast was further re-enforced by equine institutions such as agricultural extension agents, horse shows and exhibitions and pre-existing marketing infrastructure. Regional preference for trotters can be traced back to the early 19th century and carried through to the automobile age. Why then, in an era in which horses were no longer used exclusively for transportation and utility purposes, did the preference for trotters and a prejudice against gaited horses persist?

The bias towards trotting horses persists in the Northeastern U.S. due to the types of equine exhibitions which promote interest in breed types and riding style. New England and the Northeast equine activities are dominated by riding styles imported from England, in particular, fox hunting. The popularity of, "hunt seat," riding styles continues today and dominates the major horse shows and sales. The types of horses recommended for hunt or English-style riding would include such trotting types as Thoroughbreds, Morgans, Quarter Horses and any other non-gaited horses.

The preference for trotters and rejection of gaited horses as suitable hunt seat mounts is re-enforce by the major horse show governing body, the American Horse Show Association (AHSA). The AHSA in their guidelines for exhibitors clearly dictate that gaited types are unacceptable and riders will be disqualified or severely penalized for utilizing non-trotting horses in many divisions. Equestrian handbooks also reenforce this

bias against non-trotting types and often label the Walking Horse as unsuitable for hunt seat riding activities (Stoneridge, 1963, 57).

The dominance of hunt-seat types in the Northeast and the established infrastructure to support and perpetuate hunters is the most likely reason why Walking Horses have failed to become a significant player in the Northeastern horse market. The traditional way that new breeds are introduced and adopted has been through exhibitions and horse shows. If the region's equestrian events are limited largely to trotting types, little opportunity exists for new breeds to gain a wide audience.

Where Walking Horses have become locally popular in the Northeast, and generally outside of the Southeast, the Plantation-Pleasure types have been most successful while the heavily padded, "big-lick," Walkers have had little significant success. This may be best explained by the difference between the two types. The Plantation or, "flat-shod," horses are more similar in form and function to the established hunter-types in the Northeast while the big lick Walkers with their artificial appliances are least like the popular hunter.

What may further impede the adoption of all Walking Horses outside the traditional market areas is the negative press the breed received during the late 1980s and early 1990s. Humane societies and various horse organizations have protested and in certain cases sought court action over the use of artificial training aids on Walking Horses. The majority of Walking Horses never see the show ring or are subjected to controversial training methods, however the greatest media attention has been focused on this segment of the industry.

Public perception that all Walking Horses are subjected to weighted shoes and severe training practices created serious image problems for the TWHBEA. Reports detailing alleged and actual cases of abuse have created a public relations nightmare for the entire Walking Horse industry. Failure of the TWHBEA to police its own ranks may have been their greatest shortcoming. When the United Stated Department of Agriculture intervened in the 1980s and began mandatory inspection of Walking Horses entering the ring to detect illegal training devices or lameness, the TWHBEA should have seen the potential damage to the Walking Horses' image. The greatest damage to the breed's image may have occurred in fringe or marginal Walking Horse market areas such as the northeastern United States. An examination of Tennessee

Walking Horse diffusion and breeding activity into the early 21st century may reveal the extent of any loss of adoption momentum in fringe markets.

CHAPTER 5

CONCLUSIONS

The specialized Tennessee Walking Horse hearth in Middle Tennessee evolved as a result of the diffusion of horses and horsemen in Anglo-America, established equine marketing infrastructures, environmental resources of the Nashville Basin, and the changing function of horses from farm work to suburban recreation animal. Walking Horse regional specialization and diffusion patterns in Tennessee were firmly established in the 1920s. This spatial pattern persisted into the late 1980s. Diffusion of foundation horses and historical inertia had the greatest impact on the development and diffusion of the Walking Horse up to the late 1930s. After 1938, the Walking Horse experienced new markets and broader diffusion as the recreational aspects of horse ownership became more popular among suburbanites. The changing role of the horse in society, and increases in income and leisure time assisted in the diffusion of the Walking Horse in the post-World War II era.

The strongest markets for Walking Horses outside the Middle Tennessee hearth were to the south, north and west, especially in those states historically dependent on equine imports such as Alabama, Mississippi, and Louisiana. Adoption of the Walking Horse was weakest in the Northeastern U.S., where historical consumer bias against non-trotting types and the presence of established breeds, posed impressive barriers to Walking Horse diffusion. Public perception of the Walking Horse in these areas may be the greatest impediment to diffusion. Improved public relations and the development of regional sales strategies would improve opportunities for greater markets in Northeast.

Has the Walking Horse reached its maximum diffusion in the United States? The 1920s regional specialization and diffusion pattern well into the 21st century. The pleasure horse market that evolved by the mid-20th century and regional breed preferences and riding styles are slow to change. The Northeast will most likely remain the weakest region for Walking Horse diffusion, but has the potential for growth in the Plantation-type Walker as long as it is not confused with the controversial big-lick show Walking Horse. The

negative public image of the Walking Horse, combined with a lack of experience with the breed will inhibit future diffusion into areas which traditionally have been weak markets for the Walking Horse. The areas with the greatest potential for growth in the Walking Horse industry are in the Pacific Coast states, where the Walking Horse has made the greatest gains outside of traditional market areas in the Southeast.

The development of and diffusion of the Tennessee Walking Horse could serve as a model for regional equine specialization and diffusion. The classification of core, transitional, emerging, and import/only counties for other breeds would be used to identify regions of intensive specialized activity. An interesting test of this methodology would be to apply the county marketing level patterns to the development and diffusion of the Rocky Mountain Horse, a breed registry established in eastern Kentucky in 1986. The Rocky Mountain Horse shares several similarities with the Tennessee Walking Horse in terms of genesis and utility, and the relative youth of the registry may yield some interesting data for geographic study. This approach could be used to study the breeding and marketing patterns of other pleasure horses as well as draft breeds, the latter of which is developing its own recreational following.

The Walking Horse is only one American horse breed which presents an interesting problem for the geographer. Each equine type has its own unique history and development as well as its own market niche. The nature of the data kept by virtually all breed registries is intrinsically geographic, as it includes both temporal and spatial aspects of production and consumption. So little has been done in geography on equine topics that the possibilities are virtually endless. Certainly a complete geography of equine types has yet to be accomplished and such an endeavor would be a significant contribution to the literature.

Perhaps the most fertile ground for future research would be in the re-evaluation of the horse as part of the growing recreation market. The urbanization and suburbanization of the American horse has contributed greatly to the increased recreational use of the horse. The automobile age and the farm tractor forever sealed the horses' role to one of a pleasure animal owned largely by a non-farm population.

The role of the horse in contemporary agriculture has also been underestimated as the horse has become suburbanized. The Census of Agriculture has failed to recognize that while fewer horses are found on working farms, horses are a major consumer of farm products such as grains and forage. Since the Census of Agriculture only includes data on horses that are kept on farms, horse populations are severely undercounted in

many metropolitan areas (Gripshover, 1992). The Walking Horse and other breeds are less likely to be found on the modern farm, but they remain an integral part of the agricultural economy and landscape.

BIBLIOGRAPHY

BIBLIOGRAPHY

American Saddle-Horse Breeders' Association 1902-1909. The Register of the American Saddle-Horse Breeders' Association. Louisville: the Association for Entry of Pedigrees of the Saddle-Horses in America.

Anderson, David L. 1970. "A Simple Growth Model for the Diffusion of Hybrid Corn," Proceedings of the Association of American Geographers 2: 1-3.

Anderson, James D. 1916. Making the American Thoroughbred. Norwood, MA: Plimpton Press.

Baker, O.E. 1925. "Geography and Wheat Production," Economic Geography 1: 15-52.

_____. 1926. "Agricultural Regions of North America, Part I: The Basis of Classification," Economic Geography 2:459-493.

_____. 1927. "Agricultural Regions of North America, Part II: The South," Economic Geography 3: 50-87.

_____. 1927. "Agricultural Regions of North America, Part III: The Middle Country Where South and North Meet," Economic Geography 3: 309-340.

_____. 1927. "Agricultural Regions of North America, Part IV: The Corn Belt," Economic Geography 3: 447-466.

Bauer, F.H. 1959. "Sheep Raising in Northern Australia," The Australian Geographer 7: 169-179.

Benson, O. H., and George Herbert Betts 1924. Agriculture: A Text for the School and Farm. Indianapolis: Bobbs-Merrill Company.

Brinkman, Leonard W. 1964. The Historical Geography of Improved Cattle in the United States to 1870. Unpublished Ph.D. dissertation, University of Wisconsin.

Brown, Lawrence A., and Barry Lentnek 1973. "Innovation Diffusion in a Developing Economy: A Mesoscale View,"Economic Development and Cultural Change 21: 66-70.

Carlyle, W.J. 1975. "Livestock Markets in Scotland," The Annals of the Association of American Geographers 65: 449-460.

Castleman, John B. 1910. "The American Saddle Horse," The Nineteenth Annual Report to the Commissioner of the United States Department of Agriculture. Washington, D.C.: Government Printing Office.

Chamberlain, Richard 1992. "The Legend of Steel Dust," The Quarter Horse Journal 9:36,126,128.

Clark, Andrew H. 1962. "The Sheep/Swine Ratio as a Guide to a Century's Change in the Livestock Geography of Nova Scotia," Economic Geography 38: 38-55.

Cole, Arthur H. 1926. "Agricultural Crazes," American Economic Review 15: 622-639.

Corlew, Robert E. 1981. Tennessee: A Short History. Knoxville: University of Tennessee Press.

Crowell, Pers. 1951. Cavalcade of American Horses. New York: McGraw Hill

Dillon, Jessie M. 1937. "Normal and the Norman Horse Industry: Percherons of Today," Journal of the Illinois State Historical Society 2: 364-402.

Danhof, Clarence H. 1969. Change in Agriculture: The Northern United States, 1820-1870. Cambridge: Harvard University Press.

Dodd, Donald B. 1974. Historical Atlas of Alabama. University, Alabama: University of Alabama Press.

Durand, Loyal Jr., 1947. "Recent Market Orientations of the American Dairy Industry," Economic Geography 23: 32-40.

_____. 1951. "The Lower Peninsula of Michigan and the Western Michigan Dairy Region: A Segment of the American Dairy Region," Economic Geography 27: 163-183.

_____. 1963. "The Major Milksheds of the Northeastern Quarter of the United States," Economic Geography 40: 9-33.

Finch, V.C. and O.E. Baker 1917. Geography of the World's Agriculture. Washington: Government Printing Office.

Flint, C.L. 1861. "The Horses of New England," Patent Office Report for 1861, Senate Executive Document, 37th Congress. Washington: Government Printing Office.

Frederic, Paul B. 1973. "The Changing Role of Dairying in a Cash Grain Environment," Proceedings of the Association of American Geographers 5: 66-70.

Goff, Emmet S. and D. D. Mayne, First Principles of Agriculture. New York: American Book Company.

Gripshover, Margaret M. 1992. "Census of Agriculture Equine Undercounting: The Case of West Virginia Horse Populations," The Proceedings of the Conference on Appalachian Geography (Concord, West Virginia: Concord College Department of Geography).

_____. 1989. "The Rise of Mules and Demise of Thoroughbreds in Middle Tennessee," Proceedings of the Association of American Geographers .

Hagerstrand, Torsten 1966. "Aspects of the Spatial Structure of Social Communication and the Diffusion of Information," Papers of the Regional Science Association 16: 27-42

Haines, Francis 1971. Horses in America. New York: Thomas Y.Crowell, Co.

Hartman, Ora M. 1973. The Origin and Dispersion of Domestic Fowl: A Study in Cultural Diffusion. Unpublished M.A. Thesis, University of Oregon.

Harvey, David 1963. "Locational Change in the Kentish Hop Industry and the Analysis of Land Use," Transactions and Papers of the Institute of British Geographers 33: 123-44.

Henlein, Paul C. 1959. Cattle Kingdom in the Ohio Valley, 178-1860. Lexington: University of Kentucky Press.

Herbert, Henry W. 1857. Frank Forester's Horse and Horsemanship of the United States and British Provinces of North America. vol. I. New York: Henry Herbert.

Hervey, John 1944. Racing in America, 1665-1865. New York: Scribner Press.

Hiatt, James M. 1881. "The General History of the Horse-Kind: Comprising an Account of the Five Primeval Races," The National Register of Norman Horses, vol. I. Bloomington: The National Norman Horse Register.

Hollingsworth, Kent 1985. The Kentucky Thoroughbred. Lexington: University of Kentucky Press.

Huntington, Ellsworth 1925. "The Distribution of Domesticated Animals," Economic Geography 1: 143-172.

Jakle, John A. 1977. Images of the Ohio Valley: A Historical Geography of Travel, 1740-1860. New York: Oxford University Press.

Johansen, Harley E. 1971. "Diffusion of Strip Cropping in Southwestern Wisconsin," Annals of the Association of American Geographers. 61: 671-683.

Jones, Robert L. 1947. "The Old French Canadian Horse: Its History in Canada and the United States," The Canadian Historical Review. 28: 125-155.

Jordan, Terry G. 1970. "The Origin of Anglo-American Cattle Ranching in Texas: A Documentation of Diffusion from the Lower South," Economic Geography 45: 63-87.

_____. 1981. Trails to Texas. Lincoln: University of Nebraska Press.

_____. 1993. North American Cattle-Raising Frontiers: Origins, Diffusion and Differentiation. Albuquerque: University of New Mexico Press.

Kniffen, Fred 1958. "The American Agricultural Fair: Time and Place," The Annals of the Association of American Geographers 41: 42-57.

Lamb, Robert B. 1963. "The Mule in Southern Agriculture," University of California Publications in Geography 15: 1-99.

Langdon, John 1984. "Horse Hauling: A Revolution in 12th and 13th Century England," Past and Present 10: 37-66.

Livingston, George 1915. Field Crop Production. New York: MacMillan and Company.

MacMaster, Richard K. 1990. "The Cattle Trade in Western Virginia." In Mitchell, ed. Appalachian Frontiers: Settlement, Society, and Development in the Preindustrial Era. Lexington: University of Kentucky Press. pp. 127-149.

Meinig, Donald W. 1965. "The Mormon Culture Region: Strategies and Patterns in the Geography of the American West," Annals of the Association of American Geographers 55: 191-220.

National Livestock Journal 1881. 7: 192-193.

Peet, Richard J. 1969. "The Spatial Invasion of Commercial Agriculture in the Nineteenth Century: A Von Thunen Interpretation," Economic Geography 45: 283-301.

Perry, P.J. 1972. "Agricultural History: A Geographer's Critique," Agricultural History 46: 259-267.

Raitz, Karl B. 1975. "Gentleman Farms in Kentucky's Inner Bluegrass: A Problem in Mapping," Southeastern Geographer 15: 31-46.

_____. 1987."Kentucky Bluegrass," Focus 37: 6-11.

Reeds, Lloyd G. 1964. "Agricultural Geography: Progress and Prospects," The Canadian Geographer 8: 51-63.

Report on the Committee on Agriculture of the House of Representatives 1848. Washington, D.C.: Government Printing Office.

Rutherford, J.G. 1909. "The French Canadian Horse," Report of the Select Standing Committee on Agriculture and Colonization. Ottawa: Canadian Agricultural Ministry.

Smith, Charles W. 1983. "A Case Study of Structuration: The Pure-Bred Beef Business," Journal for the Theory of Social Behavior 13: 1-18.

Sanders, J. H. 1893. Horse-Breeding: Being the General Principles of Heredity. Chicago: J. H. Sanders Publishing

Smith, Wallace 1942. "The Family Tree of the Narragansett Pacer," The Western Horseman 1: 29,58.

Spencer, J.E. and R.J. Horvath 1963. "How Does An Agricultural Region Originate," Annals of the Association of American Geographers 53: 78-92.

Stoneridge, M.A. 1963. A Horse of Your Own. Garden City: Doubleday.

Tennessee Department of Agriculture 1906. Annual Report to the Commissioner of Agriculture. Nashville: Tennessee Department of Agriculture.

_____. 1945 The Horse in Tennessee. Nashville: Tennessee Department. of Agriculture.

Tennessee State Agricultural Bureau 1858. Tennessee State Agricultural Bureau Annual Report. Nashville: Tennessee State Agricultural Bureau.

Tennessee Walking Horse Breeders' and Exhibitors' Association 1938-1992. The Register of the Tennessee Walking Horse Breeders' and Exhibitors' Association Lewisburg: TWHBEA.

Tym, Alice Luthy and James R. Anderson, "Thoroughbred Horse Farming in Florida," Southeastern Geographer 7: 50-61.

United States Department of Agriculture 1863. Report of the Commissioner of Agriculture. Washington, D.C.: Government Printing Office.

_____. 1899. Yearbook of the United States Department of Agriculture, 1898. Washington, D.C.: Government Printing Office.

United States Department of Commerce 1890-1987. The United States Census of Agriculture. Washington, D.C.: Government Printing Office.

United States Patent Office 1854. U.S. Patent Office Report for 1853, Senate Executive Document No. 27. Washington, D.C.: Government Printing Office.

Wallace, Louis D. 1951. The Horse and Its Heritage in Tennessee. Nashville: Tennessee Department of Agriculture.

Walton, John R. 1983. "The Diffusion of Improved Sheep Breeds in Eighteenth and Nineteenth Century Oxfordshire," Journal of Historical Geography 9: 175-95.

Weaver, John C. 1954. "Crop-Combination Regions in the Middle West," The Geographical Review 44: 175-200.

Wills, Ridley, II 1987. "The Eclipse of the Thoroughbred Industry in Tennessee," Tennessee Historical Quarterly 46: 157-171.

Winsberg, Morton D. 1970. "The Introduction and Diffusion of the Aberdeen Angus in Argentina," Geography 55: 187-195.

Wisconsin Experiment Station. 1910. Wisconsin Experiment Station Bulletin 186. Madison: Wisconsin Experiment Station.

Womack, Robert 1984. The Echo of Hoofbeats. Shelbyville: Dabora Publishing.

VITA

Margaret M. Gripshover was born in Cincinnati, Ohio, on August 22, 1957, to parents Robert Bernard and Alice Joyce Gripshover. She graduated from Upper Merion Area High School in King of Prussia, Pennsylvania in June, 1975. Her Bachelor of Science (1979) and Master of Science (1985) degrees in geography were earned at Marshall University in Huntington, West Virginia. In August, 1986, she entered the University of Tennessee, Knoxville and received a Doctorate of Philosophy degree in geography in May, 1995. She is presently employed an Assistant Professor in the Department of Geography at Marshall University.