AN ENVIRONMENTAL HISTORY OF THE WICHITA RIVER VALLEYS

THESIS

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for the Degree

Master of ARTS

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By

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by

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CHAPTER 1: INTRODUCTION AND HISTORIOGRAPHY

An overview of historical work in the north-central Texas region reveals a lack of any real focus on the environment. Historical work on the region has thus far not detailed how cultures that traversed and occupied the region interacted with the land. Historians, from the midnineteenth century until the mid-twentieth century, presented an Anglo-centric version of history. It has been a history of the white man's conquest of the wilderness, of the removal of the indigenous people, and the creation of prosperous towns on the arid plains. Despite the recent rise of an environmental conscience within the historical profession generally, recent histories of the region have yet to address concerns of the environment or historical geography.

This work is a historical overview of the relationship between environment and culture on the north-central Texas plains. It addresses the many myths and stereotypes about culture and environment in the Wichita Falls region by exploring how first the Native American groups then the

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Euro-Americans of the nineteenth century, and then American residents of the twentieth and twenty-first centuries have interacted with the environment of the Big and Little Wichita River basins.

TABLE 1. Chronological periods in the development of the Lower Wichita River Valleys of Texas

PERIOD	POPOULATI ON	DOMINANT TRENDS	LAND USE	WATER
The Wichita River Wilderness (pre-1868)	Fewer than 2,000	Native American Settlement and Trade, Buffalo Freighting, Euro-American Exploration and Trade	Nomadıc/Buffalo Cultural Ecology, Wıchita Agrıcultural Vıllages	Low use, Holiday Creek, Little Wichita River, Gilbert Creek
The Rancher Invasion (1868- 1882)	Between 10,000 and 15,000 by 1882	Buffalo Exploitation, Cattle Ranching, Dry-Farming, Towns Established, Counties Formed	Large-Scale Cattle Ranching, Small-Scale Dry-Farming	High Use by cattle near all Rivers and Creeks
The Agrıcultural Transformatıon (1882-1917)	Growth to 100,000 by 1917	Railroad built, Land Development, Grain-Milling Development, Oil Discovery	Small-scale Cattle Ranching, Small and Large Scale Farming,	Lake Wichita Irrigation Project on Holiday Creek, Many Wells Dug
Modernity and 011 (1917-1944)	Surpasses 100,000	Oil Boom, Economic Boom, Modernization, Manufacturing Development	Mineral Extraction, Reservoirs Built, Irrigation Farming, Urban Growth	Wichita River Irrigation Project on the Big Wichita River, Damming of Lake Kemp and Lake Diversion on Big Wichita River
Post-war Amerıcan West (1944-present)	Surpasses 200,000	Industrial Development, Federal Government establishment of Sheppard Air Force Base, Commercial and Residential Expansion	Urban and Suburban Growth, Mixed Agricultural Economy, Drinking Water Reservoirs built	Lake Kickapoo and Lake Arrowhead built on the Little Wichita River, Provide Regional Cities with Drinking Water Supply

Cultural agency in the form of trade networks, hunting, agriculture, stock raising, raw materials extraction, the manipulation of rivers, and the subdividing of land for commercialization have impacted the muddy Red River valley. Efforts to incorporate the region into the national and international market economies have affected the environment in the Wichita valleys by stressing the implementation of complex irrigation works and reservoir systems and the aggressive development of commercial agriculture, with the attendant rise in population.

This thesis considers how agricultural and demographic strategies, community decision-making processes, and the increasing influence of markets have altered the landscape of the Wichita Falls region.¹ It stresses how these processes, particularly those which have had a negative impact on the environment, for instance in the form of species extinction, decreased biodiversity, massive erosion, loss of soil fertility, and pest infestation, need to form an integral part of regional history. It also considers how human responses to natural factors such as

¹ Karl W. Butzer, "The Realm of Cultural-Human Ecology: Adaptation and Change in Historical Perspective," in *The Earth as Transformed by Human Action: Global and Regional Changes in the Biosphere over the Past 300 Years*, ed. B.L. Turner II (Cambridge: Cambridge University Press, 1990).

droughts, flooding, and freezes should also be given more emphasis in understanding regional history.

Additionally, aside from studying the impact on the environment brought about by intentional alteration of the landscape, the act of assigning place-names to geographic features highlights cultural inter-relationships between people and environment. Consequently, consideration of the employment of place names is explored as a means of understanding how people relate to the land.

An Environmental Historiography of the North-Central Texas Plains (1850-2001)

Late nineteenth century and early twentieth century historians George P. Garrison (1835-1910), Eugene C. Barker (1874-1956), J. Frank Dobie (1888-1964), Frederick Jackson Turner (1861-1932), and Walter Prescott Webb (1888-1963), among others, all wrote about Anglo-Saxon males taming the wilderness and wresting Texas from savage Indians and nefarious Mexicans.² As they saw it, Anglo Americans

² Walter L. Buenger and Robert A. Calvert, "The Shelf Life of Truth in Texas," in Texas Through Time: Evolving Interpretations, eds. Walter L. Buenger and Robert A. Calvert (College Station, TX: Texas A&M University Press, 1991), xiv; Stephen Stagner, "Epics, Science, and the Lost Frontier: Texas Historical Writing, 1836-1936," Western Historical Quarterly 12 (April 1981): 165-81; George P. Garrison, Texas: A Contest of Civilizations (New York: Houghton Mifflin, 1903); George P. Garrison, "The First Stage of the Movement for the Annexation of Texas," American Historical Review 10 (October 1904): 72-76; William C. Poole, Eugene C. Barker: Historian (Austin: Texas State Historical Association, 1971); Eugene C. Barker, Life of Stephen F. Austin,

represented an irresistible tide that civilized western North America, finally conquering and closing the frontier by $1890.^3$

The biases contained in these early works stemmed from accepted nineteenth and twentieth century paradigms such as manifest destiny and environmental determinism. Manifest Destiny was a term coined by Americans in the 1840s to describe the zeal and righteousness with which they pursued their goal of expanding westward to spread American civilization and culture throughout North America. Anglo-Americans acting on this ideology permanently altered the North American environment because the belief centered on the idea that the Earth's land, plants, and wildlife existed only to benefit white civilization. By the early twentieth century, all parts of American society subscribed to the notion of Manifest Destiny.⁴

Only a handful of renowned naturalists, philosophers, and scholars challenged this perspective. Henry David

⁴ Buenger and Calvert, "The Shelf Life of Truth in Texas", xiv-xv; Benjamin Kline, First Along the River: A Brief History of the U.S. Environmental Movement (Boulder, Co.: Acada Books, 2000), 1.

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Founder of Texas, 1793-1836: A Chapter in the Westward Movement of the Anglo-American People (Nashville: Cokesbury, 1925).

³ Frederick Jackson Turner, "The Significance of the Frontier in American History," in *The Turner Thesis: Concerning the Role of the Frontier in American History*, ed. George Rogers Taylor (Boston: D.C. Heath and Company, 1956).

Thoreau (1817-1862), Ralph Waldo Emerson (1803-1882), John Muir (1838-1914), George Catlin (1796-1872), and George P. Marsh (1801-1882) brought about a growing awareness of the American assault on nature by advocating the rejection of materialism and utilitarianism.⁵ John Muir, the father of the modern environmental movement, who helped to secure national parks in the American West, including Yosemite National Park, brought to the American people's attention the need for conservation and preservation of the western wilderness.⁶ George P. Marsh, philosopher, linguist, and US congressman, wrote Man and Nature in 1864 rewritten as The Earth as Modified by Human Action in 1874, which detailed the need for sustainable development based on the idea that supports "economic development of human cultures through the use of natural resources in ways, based on ecological principles, capable of being sustained indefinitely."7

⁵ Kline, First Along the River, 32-35; George Caitlin, Letters and Notes of the Manners, Customs, and Conditions of the North American Indians, Volume 2, (London, 1841); Henry David Thoreau, "Walking," Excursions, The Writings of Henry David Thoreau (Boston: Riverside Edition, 1893); Henry David Thoreau, Essay on the Duty of Civil Disobedience and Walden (New York: Lancer Books, 1968); Ralph Waldo Emerson, Nature, (Boston: J. Munroe and Company, 1836).

⁶ John Muir, *Our National Parks* (Boston: Houghton, Mifflin, and Company, 1901) and John Muir, *The Yosemite* (New York: The Century Company, 1912).

⁷ George P. Marsh, The Earth as Modified by Human Action: A New Edition of Man and Nature (New York: Scribner, Armstrong, and Company, 1874).

At the same time that American naturalists were expounding their beliefs, European intellectuals were also developing critiques of traditional positivist outlooks. Among the leading exponents of historical and social science ideas incorporating environmental factors as essential components of analysis were Karl Marx and Frederick Engels, who argued that natural, economic, and technological factors needed to be analyzed collectively. In particular, they argued that in modern capitalist societies the individual is divorced from nature, thus creating a situation in which nature itself becomes a commodity ripe for exploitation.⁸ As a consequence, both human culture and the natural world suffer great harm. Such Marxist critiques of capitalism were not applied to the Great Plains until a century and a half later. In the 1980s such scholars as Alan M. Klein and Donald Worster showed that natural, economic, and technological variables all played interlocking and viable roles in plains history.⁹

⁸ Frederic L. Bender, "Historical and Theoretical Backgrounds of the Communist Manifesto," The Communist Manifesto, (New York: W.W. Norton & Company, 1988), 26; Karl Marx and Friedrich Engels, "The German Ideology," in The Essential Writings, ed. Frederic L. Bender (Boulder, CO: Westview, 1986), 165-181; Friedrich Engels, Dialectics of Nature, ed. and trans. Clemens Dutt, (New York: International Publishers, 1940).

⁹ Alan M. Klein, "Plains Economic Analysis: The Marxist Compliment," Anthropology on the Great Plains, eds. W. Raymond Wood and Margot Liberty (Lincoln, Neb: University of Nebraska Press, 1980), 129-140; Donald Worster, Nature's Economy: The Roots of Ecology (New York:

Benjamin Kline, a respected United States environmental historian, states, "Ecology did not command public or private attention until the twentieth century when the frontier was gone and the need to conserve what wilderness and resources remained became a priority."¹⁰ This is true because in the twentieth century, Aldo Leopold and James C. Malin were the first to produce pioneering works in human/environmental relationships. James C. Malin was "the first historian to understand and make constructive use of ecological theory."¹¹ Through historical analysis of the Dust Bowl, Malin discovered that the relatively newly settled plains farmers would do better once they experimented with and understood environmental limitations.¹²

Doubleday, 1979); Donald Worster, Rivers of Empire: Water, Aridity, and the Growth of the American West (New York: Pantheon Press, 1985); Donald Worster, "The Dirty Thirties: A Study in Agricultural Capitalism," Great Plains Quarterly, 6, 2 (1986): 107-116; Donald Worster, The Ends of the Earth: Perspectives on Modern Environmental History, (New York: Cambridge University Press, 1988).

¹⁰ Kline, First Along the River, 2.

¹¹ Allan G. Bogue, "James C. Malin: A Voice from the Grassland," in Writing Western History: Essays on Major Western Historians, ed. Richard W. Etulain (Albuquerque, N.M: 1991).

¹² James C. Malin, "The Adaptation of the Agricultural System to Sub-Humid Environment," Agricultural History, 10 (1936): 339-72; James C. Malin, History and Ecology: Studies of the Grassland, ed. Robert P. Swierenga (Lincoln: University of Nebraska Press, 1984); Bogue, "James C. Malin: A Voice from the Grassland." Aldo Leopold (1887-1947) fused detailed observations of nature with philosophic speculation on the relationship between humans and their environment. Following in the footsteps of Gilbert White¹³ (1720-1793), Henry David Thoreau (1817-1862), and John Muir (1838-1914), Leopold wrote a scholarly regional case study in his *A Sand County Almanac*.¹⁴ He established the "Land Ethic" that depicted the need for humans to be stewards or citizens of the land and not conquerors of it. Although Leopold passed in 1947, his body of work was not widely read until the 1960s.¹⁵

Still, many scholars in the twentieth century sorely misunderstood societal-environmental relationships. Ellen Semple (1863-1932) popularized environmental determinism, which argued that the environment was the prime force for historical change.¹⁶ Many historians, including Frederick Jackson Turner (1861-1932) and Walter Prescott Webb, subscribed to environmental determinism and applied it to

¹³ Gilbert White was an English clergymen, naturalist, and writer.

¹⁴ Aldo Leopold, A Sand County Almanac (Reprint, 1948. New York: Oxford University Press, 1972).

¹⁵ Aldo Leopold, "The Land Ethic", in *Human Geography: An Essential Anthology*, eds. John Agnew, David N. Livingston, and Alisdair Rogers (Malden, Mass.: Blackwell Publishers, 1996).

¹⁶ Ellen C. Semple, "Influences of Geographic Environment", in Human Geography: An Essential Anthology, eds. John Agnew, David N. Livingston, and Alisdair Rogers (Malden, Mass.: Blackwell Publishers, 1996). Semple's ideas were influenced by German scholar Friedrich Ratzel (1844-1904) author of Anthropogeographie (1881).

the southern plains. Frederick Jackson Turner's The Frontiers in American History supposed that the environment determined Anglo-American preference for settlement because forested areas were preferred and prairies were avoided. Environmental determinism was also apparent in Walter Prescott Webb's classic The Great Plains.¹⁷

Anglo-centric philosophies and deterministic ideologies emanating from the University of Texas at Austin heavily influenced the first historical works on the Wichita Falls region. Scholars such as Turner and Webb undoubtedly influenced Johnnie Morgan, the author of *History of Wichita Falls*. She cites the well-known scholars throughout her work. Her study is biased in favor of Anglo culture, and paints an almost folkloric Eden filled with romantic representations of frontier cowboys, pioneering farmers, wildcat oilmen, and the positive wonders of urban growth.

Morgan saw the frontier rapidly moving westward and the site on the Big Wichita River that would eventually

¹⁷ Terry G. Jordan, "Pioneer Evaluation of Vegetation in Frontier Texas", Southwestern Historical Quarterly 76 (January 1973): 232-254; Walter Prescott Webb, The Great Plains, (Boston, 1931); and Frederick Jackson Turner, The Frontier in America History, (New York, 1921), 134-136. Stephen Harriman Long designated the region as the "Great American Desert." Long's expedition was the first Anglo-American venture across the Panhandle and the first scientific survey of the region. H. Allen Anderson, "Stephen Harriman Long," The Handbook Of Texas Online, http://www.tsha.utexas.edu/handbook/online/articles/view/LL/flo13.html (Accessed 19 April 2004)Updated 4 December 2002.

become Wichita Falls as a vast, empty, limitless, lonely spot on the endless stretches of prairies, while ignoring a rich native and Euro-American history and the numerous, fragile, and complex ecosystems that thrived on those prairies.¹⁸ Writing in the late 1920s and early 1930s, Morgan's study of Wichita Falls did not focus on environmental conditions in the Wichita River valley. In fact the intention of Morgan's "authoritative" work on Wichita Falls history was no more than a seventh grade civics lesson. Morgan states in a letter to anthropologist Dr. J.E. Pearce, "We are compiling the book for the seventh grade as a sort of basis for Community Civics. This is our contribution to the "city that faith built through public spirited citizens."¹⁹ To be fair to Mrs. Morgan, there was not much information about the environment or the native and European cultures to assemble because archeological, anthropological, and historical geographical work had not taken place in the area before the 1950s.

In the 1920s and 1930s many other regional historians resounded the biases and paradigms imposed from the higher

¹⁸ Johnnie Morgan, *History of Wichita Falls* (Wichita Falls, TX: Nortex, 1931), 11.

¹⁹ Johnnie Morgan, to Dr. J.E. Pearce, 1931, Wichita County Folder, Texas Archeological Research Laboratory, University of Texas at Austin, Austin, Texas. Dr. J.E. Pearce was a professor in the Department of Anthropology at the University of Texas at Austin.

educational centers. Katherine Douthitt in the 1930s wrote Romance and Dim Trails: A History of Clay County, in which she explains,

It is customary I believe to lament the passing of the Buffalo, but I think differently. I feel that under the circumstances it was unavoidable. The enormous herds of buffalo would have been detrimental to the expansion of western settlement. They could not be tamed like cattle, and it was well for the settlers pushing west in Texas, that the government and military leaders undertook to subdue the Indians and rid the country of buffalo. While the Indians had the buffalo to depend upon for food they disregarded all treaties and the results were many bloody battles and stealthy massacres that halted the westward expansion of the settlement. The government permitted the slaughter of the buffalo, and I think rightly so.²⁰

Although these views would not be directly challenged until the 1960s, by the late 1940s and early 1950s regional historians and archeologists had begun piecing together a tangible history of the southern plains that was not based in folklore or Anglo triumphalism. Specifically in the north-central Texas region, Jesse Wallace "J.W." Williams, Rupert Norval Richardson, Kenneth Franklin Neighbours, Jack O. Loftin, Jack T. Hughes, and Marvin Tooley began to collect evidence about past human presence on the landscape.

²⁰ Katherine Douthitt, *Romance and Dim Trails: A History of Clay County* (Dallas: William T. Tardy Publishers, 1938), 58.

Regional archeologists, Marvin Tooley and Jack T. Hughes, in the 1960s and 1970s started filling in the blanks in the archeological record. Marvin Tooley found evidence for human presence on the landscape at lithic sites in Wichita County. Tooley found arrows, axes, stone balls for games, bison skulls, and lithic debris of potter's chert flakes.²¹ In the 1970s Jack T. Hughes made comprehensive archeological surveys of the Wichita Rivers of north-central Texas.²² Historian Rupert N. Richardson collected field evidence and labored in archives, paying close attention to human migratory patterns, the hunting of buffalo, the cattle trade that came after the Civil War, and the pacification of Native American tribes.²³ Richardson, a

²³ Rupert N. Richardson, The Frontier of Northwest Texas, 1846-1876 (Glendale, CA: Arthur H. Clark, 1963) and Rupert N. Richardson, The Comanche Barrier to South Plains Settlement, A Century and a Half of Savage Resistance to the Advancing White Frontier (Glendale, Ca: The Arthur H. Clark Company, 1933).

²¹ Trinomial 41WC6, Wichita County Folder, Texas Archeological Research Laboratory, University of Texas at Austin, Austin, Texas.

²² Jack T. Hughes, Archeological reconnaissance in the Wichita River drainage of north-central Texas (Canyon, TX: Archeological Research Laboratory, Killgore Research Center, West Texas State University, 1972); Jack T. Hughes, Archeological reconnaissance in the upper Red River drainage of Oklahoma and Texas (Canyon, TX: Archeological Research Laboratory, Killgore Research Center, West Texas State University, 1973); Jack T. Hughes, Prehistory of the Caddoanspeaking tribes (New York: Garland Publishing, 1974); and Gerald Meeks Etchiesen, Roberta D. Speer, and Jack T. Hughes, Archeological investigations in the Crowell Reservoir area, Cottle, Foard, King, and Knox Counties, Texas (Canyon, TX: Archeological Research Laboratory, Killgore Research Center, West Texas State University, 1979).

childhood friend of J.W. Williams, was more scholarly than Williams, but it is certain that Williams was more thorough. While Richardson labored in the archives, Williams went out in the field and surveyed actual routes.

J.W. Williams wrote many works on the north-central Texas plains.²⁴ He was a historian of early Texas transportation who used an interdisciplinary approach to identify and retrace the trails across the prairies and high plains. Williams used mathematics, astronomy, botany, zoology, and years of fieldwork and analysis to thoroughly understand human transport networks across Texas. Williams's knowledge of the regional topography is still unmatched.²⁵

Jack Orbin Loftin who worked with J.W. Williams was a historian and collector in Archer County who shed light on the history of the region with his research, fieldwork, and

²⁴ J.W. Williams, Old Texas Trails, ed. Kenneth F. Neighbours (Burnett, TX: Eakin Press, 1979); Kenneth F, Neighbours, "Jesse Wallace Williams: Man, Teacher, and Writer," West Texas Historical Association Yearbook, 56 (1980): 49-57, J.W. Williams, The Big Ranch Country, Wichita Falls, TX; Nortex, 1954); J.W. Williams, "Marcy's Road from Dona Anna," West Texas Historical Association Yearbook, 19 (October 1934): 128-152; J.W. Williams and Ernest Lee, "Marcy's Exploration to Locate the Texas Indian," West Texas Historical Association Yearbook, 23 (October 1947): 107-132; J.W. Williams, "The Butterfield Overland Mail Road Across Texas," Southwestern Historical Quarterly, 61 (July 1957): 1-19.

²⁵ Williams, *Old Texas Trails*, ix; Neighbours, "Jesse Wallace Williams," 55.

writing on the region. In fieldwork on the Little Wichita River in Archer County, he located the site of the 1870 battle of the Little Wichita River between Chief Kicking Bird's Kiowas and Captain C.B. McClellan's U.S. 6th Calvary. Through historical records and archeological fieldwork, Loftin pieced together many important events of the northcentral Texas past.²⁶

Kenneth Neighbours, who worked with J.W. Williams, edited and compiled Williams's posthumous *Old Texas Trails*. Neighbours spent his early career researching and writing about the life of Plains Indian agent Robert S. Neighbours.²⁷ Kenneth F. Neighbours's work on Robert S. Neighbours (no relation) adds a political and biographical element to the study of the north-central Texas Plains, but little input about environmental conditions. Neighbours's work on the upper Wichita River, however, does add another dimension to the story of north-central Texas exploration.²⁸

²⁶ Jack O. Loftin, *Trails Through Archer* (Austin, TX: Eakin Press, 1979).

²⁷ Earl H. Elam, "Kenneth Franklin Neighbours: A Texas Original," West Texas Historical Year Book, 1996, 72:193-200; Kenneth F. Neighbours, "Robert S. Neighbors in Texas, 1836-1859: A Quarter Century of Frontier Problems" (Ph.D diss., University of Texas at Austin, 1955); Kenneth F. Neighbours, Robert Simpson Neighbors and the Texas frontier, 1836-1859 (Waco, TX: Texian Press, 1975).

²⁸ Kenneth F. Neighbours, "The Marcy-Neighbours exploration of the Headwaters of the Brazos and Wichita Rivers in 1854," *Panhandle-Plains Historical Review*, Volume 27 (1954): 24-46.

Neighbours contributed much to the history of the southern plains and his leadership in the restoration of Old Fort Belknap led to a rekindled interest in the history of the region.²⁹

Despite the progress, through the 1970s the history of north-central Texas suffered from the persistence of many myths concerning the environmental and historical realities of the region. Local historians such as Glenn Shelton and Ione Parfet perpetuated folklore and myth in their work.³⁰ Stories about prohibition, shootouts, heists, hangings, wealthy families, and famous visitors (Babe Ruth, Jesse and Frank James, Bonnie and Clyde, etc) and citizens (Lloyd Ruby, Eddie Hills, etc) filled the pages of these superfluous, undocumented, and romanticized histories.

Since the 1930s, scholars and local citizens have studied the history of the Wichita river valleys region through many different lenses. Many biographical, economic, county, church, railroad, and school histories have been written, but this portion of the southern plains has not

²⁹ Earl H. Elam, "Kenneth Franklin Neighbours: A Texas Original," West Texas Historical Year Book 72 (1996): 199 and Kenneth F. Neighbours, A History of Fort Belknap on the Upper Brazos (Fort Belknap, TX: Post Office, Newcastle: The Fort Belknap Society, 1962).

³⁰ Glenn Shelton, Wichita Falls: A Lady with a Past (Wichita Falls, TX: Western Christian Foundation, 1978) and Ione Parfet, The Diamond trail: Published on the occasion of the 75th anniversary Diamond Jubilee Celebration of Wichita County, Texas, 1882-1957 (n.p. 1957).

received modern analytical and historical scholarship

focused on the environment.³¹

³¹ Morgan, The History of Wichita Falls; Douthitt, Romance and Dim Trails; Gladys Van Horn, "The History of the Roads in Wichita County, Texas" (MA Thesis, University of Texas, 1936); Margueritte Sandefer, "The Development of the Oil Industry in Wichita County" (MA Thesis, University of Texas, 1938); Homer C. Laxson, Economic Survey of Wichita County, Texas (Wichita Falls, TX: Bureau of Business and Economic Research at Midwestern State University, 1958); Lloyd Neely, "History of Wichita Falls" (MA Thesis, Southern Methodist University, 1962); J.P. Earle, History of Clay County and Northwest Texas (Austin, TX: Brick Row Book Shop, 1963); Claude A. Beesley, An Ever Rolling Stream: The Chronicle of the Parish of the Good Shepherd, Wichita Falls, Texas, (Wichita Falls, TX: n.p., 1964); J. Howard Morgan, "The History of Banking in Wichita Falls, Texas" (Ph.D Dissertation, Southwestern Graduate School of Banking, Dallas, TX, 1964); Dorothy Louise Allen, The Kemp Public Library: A History, 1896-1963 (Austin, TX: University of Texas Press, 1965); Hazel Kilpatrick, A History of Floral Heights Methodist Church, Woman's Society of Christian Service, 1919-1965 (Wichita Falls, TX: Floral Heights Methodist Church, 1966); Clint Leland Smith, "A History of Call Aviation Field" (MA Thesis, Midwestern State University, 1970); Minnie King Benton, Boomtown, A Portrait of Burkburnett (Quanah, Texas: Nortex Offset Publications, 1972); William Charles Taylor, A History of Clay County (Austin: Jenkins Publishing Co., 1972); Flavis Greer, History of the Church of Christ in Wichita Falls, Texas, 1908-1973 (Wichita Falls, TX: Western Christian Foundation, 1973); Nancy Hansen, Wichita Falls: Where Enterprise and Opportunity Meet (Wichita Falls, TX: Anniversary 100, 1982); Flavis Greer, History of the Church of Christ in Wichita Falls, Texas, 1908-1973 (Wichita Falls, TX: Western Christian Foundation, 1973); Donald Hofsommer, "Townsite Development on the Wichita Falls and Northwestern Railway," Great Plains Journal 16 (Spring 1977): 107-22; Jack Loftin, Trails Through Archer (Austin: Eakin Publications, 1979); Norman W. Spellmann and Betty B. Spellmann, History of First Methodist Church, Wichita Falls, Texas: A Century of Faith 1881-1981 (Wichita Falls, TX: Heritage Committee of First Methodist Church, 1981); Michael Duty, Wichita Falls: A Century of Photographs (Wichita Falls: Midwestern State University Press, 1982); Louise Kelly, Wichita County Beginnings (Burnett, TX.: Eakin Press, 1982); Steve Wilson, Wichita Falls: A Pictorial History (Norfolk, Va.: The Donning Co., 1982); Lorene D. Williams, A History of Lamar Baptist Church the First 75 years: February 11, 1912 through February 11, 1987 (Wichita Falls, TX: Lamar Baptist Church, 1987); Gary Goldberg and Louis J. Rodriguez, Midwestern State University in Photographs (Wichita Falls, TX: Midwestern State University Press, 1995); Max Kinter, Sacred Heart Parish: 100 Years of Growth and Service (n.p., 1992); Elizabeth Perkins Prothro, Building Our Legacy: First United Methodist Church, Wichita Falls, Texas (Wichita Falls, TX: Humphrey Printing Company, 1999); Nick Gholson, Hail to Our Colors: A Complete History of Coyote Football (Wichita Falls, TX: n.p., 1999); Everett William Kindig, Midwestern State University: The Better Part of a Century (Wichita Falls, TX: Midwestern State University Press, 2000); and Everett William Kindig and Jodie

In the 1980s many county and photographic histories appeared. Louise Kelly wrote a comprehensive history of Wichita County that begins in 1841 and explores deeply the prominent family histories of the region. Her work is insightful for factual reference, but lacks focus on conditions of the environment.³² Michael Duty's Wichita Falls: A Century of Photographs and Steve Wilson's Wichita Falls: A Pictorial History both were published the same year, 1982, alongside Kelly's Wichita County Beginnings because of the city's centennial anniversary. These works provide good overviews of the region's general history.³³

These works appeared at a time when environmental concerns were beginning to affect the way Western history was being written. Beginning in the late 1980s, modern works on southern plains and western environmental history focused on the interaction of environment and history with the largest focus on natural disasters and environmental tragedies, such as the Dust Bowl of the 1930s or the blizzard of 1866.³⁴ Donald Worster, an environmental

- ³² Kelly, Wichita County.
- ³³ Duty, Wichita Falls; Wilson, Wichita Falls.

³⁴ David L. Wheeler, "The Blizzard of 1866 and Its Effects on the Range Cattle Industry," Southwestern Historical Quarterly, 69, 3 (January 1991): 415-432; Donald Worster, Dust Bowl: The Southern Plains

Moon, A Brief History of Midwestern State University's Sikes House (Wichita Falls, TX: n.p., 2001).

historian of the west and southern plains, called on environmental historians to focus primarily on three levels of analysis, including the recreation of natural ecologies, an examination of human cultural values, and an analysis of economics.³⁵ However, some recent critics such as Dan Flores believe Worster and other modern environmental historians following recent trends in materialist Marxist theory and cultural relativism have set environmental history on another one-track methodology. Flores states,

In other words, what has really pushed Western environmental history so far is the story of how people and place have been integrated into the global capitalist economy, a narrative that has become almost formulaic: start with pristine nature, add noble primitives who coexist blissfully with the world, introduce the white capitalist and watch nature and natives go shitbang in nothing flat.³⁶

Dan Flores, instead, advocates the baseline ecology approach in his studies of environmental history. He believes that natural or pristine ecologies are impossible

in the 1930s (New York: Oxford University Press, 1979); Worster, Rivers of Empire, 64; and John Mack Faragher, "The Frontier Trail: Rethinking Turner and Reimagining the American West," American Historical Review, 98 (February 1993): 17-29.

³⁵ Donald Worster, "Doing Environmental History", The Ends of the Earth: Perspectives on Modern Environmental History, ed. Donald Worster (New York: Cambridge University Press, 1988), 289-307; Donald Worster, "Seeing beyond Culture" Journal of American History 76 (March 1990): 1132-1136; and Dan Flores, "Nature's Children: Environmental History as Human Natural History", The Natural West: Environmental History in the Great Plains and Rocky Mountains (Norman, OK: University of Oklahoma Press, 2001), 9-28.

³⁶ Flores, "Nature's Children," 12-13.

to define when one considers geologic time. For instance on the southern plains through geologic time the land has gone through rash climatic, vegetative, and geologic changes; therefore, to study both environment and history, temporal constraints must come into play when determining environmental change and sustainability. Flores believes that baseline ecologies should be re-created so that environmental change can be viewed between two fixed temporal points. Flores researches and writes this type of environmental history focusing on northern Texas and the southern plains. He focused on northeast Texas and Louisiana with his work on the Custis/Freeman Red River exploration during the Jeffersonian Era, and he focused on northwest Texas and New Mexico in his environmental history of the Llano Estacado (High Plains).37

Alongside modern environmental historians, cultural geographers have made ground in studying society and environmental relationships. According to cultural geographer Carl Sauer, culture is the agent, the natural area is the medium, and the cultural landscape is the

³⁷ Dan Flores, Caprock Canyonlands: journeys into the heart of the Southern Plains (Austin: University of Texas Press, 1990); Dan L. Flores, ed. Jefferson and Southwestern Exploration: The Freeman and Custis Accounts of the Red River Expedition of 1806 (Norman: University of Oklahoma Press, 1984); Dan Flores, "The Ecology of the Red River in 1806: Peter Custis and Early Southwestern Natural History," Southwestern Historical Quarterly 88 (July 1984): 122-140.

result. Under the influence of a given culture, itself changing through time, the landscape undergoes development, passing through phases, and possibly reaching ultimately the end of its cycle of development. With the introduction of an alien culture, a rejuvenation of the cultural landscape sets in, or a new landscape is superimposed on remnants of an older one. Sauer's works on landscape development were essentially exercises in 'culture history,' which involved appreciation of the 'natural environment,' reconstruction of past landscapes, and processes of change through human agency. The Berkley School, the collective term applied to a group of geographers influenced by Sauer at the University of California at Berkley in the Department of Geography have used the ideology to provide major works of scholarship, which enrich scholarly understandings of the impacts of human agency on the environment.³⁸

³⁸ Carl Sauer's work in geography defines the cultural landscape. In his Morphology of Landscape, he states, "Geography is based on the union of physical and cultural elements of the landscape." Sauer's works on landscape development were essentially exercises in 'culture history', which involved appreciation of the 'natural environment', reconstruction of past landscapes and processes of change through the spread of human agency. The Berkley School, the collective term applied to a group of geographers influenced by Sauer at the University of California at Berkley in the Department of Geography have used the ideology to provide major works of scholarship, which enrich our understandings of the impacts of human agency on the environment. Carl O. Sauer, "The Morphology of Landscape," Human Geography: An Essential Anthology, eds. John Agnew, David N. Livingston, and Alisdair Rogers (Malden, Mass.: Blackwell Publishers, 1996).

Modern cultural geographer and geo-archeologist, Karl W. Butzer, on the heels of Carl Sauer, began studying, researching, and writing about cultural landscapes around the world in order to understand societal and environmental relationships. His research of local community case studies focuses on the interface of archival documentation and historical archeology in order to determine the human relationship with the environment and the implications of the relationship.³⁹ Butzer asserts that agricultural and demographic strategy, community decision-making, and the increasing influence of market prices on economic decisions impact ecological behavior.⁴⁰ He states, "Like most larger problems confronting human society today, ecological issues are sufficiently complex to demand a new and greatly expanded medium of interdisciplinary interaction and

⁴⁰ Butzer, "The Realm of Cultural-Human Ecology."

³⁹ Butzer, "The Realm of Cultural-Human Ecology"; Karl W. Butzer, "Ecology in the Long View: Settlement Histories, Agrosystemic Strategies, and Ecological Performance," Journal of Field Archeology, 23 (1996): 34-56; Karl W. Butzer, "Cattle and Sheep from Old to New Spain: Historical Antecedents," Annals of the Association of American Geographers, 78 (1988): 29-56; Karl W. Butzer, "Diffusion, Adaptation, and Evolution of the Spanish Agrosystem," in The Transfer and Transformations of Ideas and Material Culture, eds. P.J. Hughill and D.B. Dickson (College Station, Tx: Texas A&M University Press, 1988), 91-109; Karl W. Butzer, "A Human Ecosystem Framework for Archeology," in The Ecosystem Approach in Anthropology, ed. E.F. Moran, (Ann Arbor: University of Michigan Press, 1990), 91-130; Karl W. Butzer and Elisabeth K. Butzer, "The Sixteenth-Century Environment of the Central Mexican Bajio: Archival Reconstruction from Colonial Land Grants," in Culture, Place, and Form, ed. K. Mathewson (Baton Rouge, La: Geoscience and Man, 1993), 89-124.

collaboration." For example, biologists are not qualified to deal with the human side of the cultural landscape, and their studies of the relationship demand collaboration with historians, anthropologists, and human geographers, who consider the human side of things to be an integral part of their studies.⁴¹

This thesis intends to follow the scholarly tradition established by J.W. Williams, Kenneth F. Neighbours, and Jack Loftin, relying on hard evidence from the historical and archeological record. It adheres, however, to the more modern societal/environmental theoretical framework developed in the late 1980s and 1990s by those environmental historians and cultural geographers discussed above.⁴² This type of work is important, not only because it is an historical overview of ecological change, but also because it discards many myths about the region's history and environment. It provides a more compelling portrayal of the region's development and offers a more rigorous

⁴¹ Butzer, "Ecology in the Long View," 142.

⁴² Other modern influential environmental historians include John Opie, Nature's Nation: An Environmental History of the United States, (Ft. Worth, TX: Harcort and Brace, 1998); William Cronon, Nature's Metropolis: Chicago and the Great West, (New York: W.W. Norton, 1991); Alfred W. Crosby, Columbian Exchange Biological and Cultural Consequences, (New York: Greenwood Publishing, 1973); and Alfred W. Crosby, Ecological Imperialism: The Biological Expansion of Europe, 900-1900, (New York: Cambridge University Press, 1993).

assessment of the environmental consequences of human interaction with the landscape.

The focus of the thesis is on environmental change over the last 300 years in the north-central Texas region that can be ascertained through historical and archeological records. A baseline ecology is constructed by researching records such as archeological reports from the Texas Archeological Research Laboratory, notes and journals taken during early explorations, and reports from early naturalists. These baseline ecologies, when compared to the present-day environmental condition, can showcase environmental change in the last 300 years.

The theoretical framework of this thesis meshes Dan Flores's base ecology approach with Karl Butzer's cultural landscape approach in order to determine the human relationship with the environment and the implications of the relationship. The environment is the medium, and humans are just one of the agents of environmental change. Native Americans are not treated as noble primitives, but instead they are objectively viewed as the early human agents on the environment. The Anglo American culture is not bashed with socio-economic or political theory, but instead the white capitalistic society is examined objectively as the modern human agency on the environment. Thus the work is a

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case study of the Wichita River valleys, which utilizes historical, archeological, and geographical records to interpret human adaptation on the southern plains and human impact on ecological behavior using the base ecology approach to determine that change. It is a historical overview of societal/environmental relationships, which showcases humans as part of the rolling plains ecosystem.

This approach raises many relevant questions arise, such as: How has the landscape of the lower Big Wichita River Valley changed in the last 300 years? How did coadaptation between Euro-Americans and Native Americans impact ecological behavior on the north-central Texas prairies? Why did the numerous modern settlements of the lower Wichita valley, such as Wichita Falls, Petrolia, Iowa Park, and Holiday arise out of desolate, mesquite infested, red-clayed plain? How has stock raising, irrigation, and urbanization transformed the valley? Why do various landforms and settlements in the region carry the place names imposed on them? This research is important because we need less stereotyping and more community-based studies of environmental behavior by environmental historians in

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order to more fully understand prevailing attitudes toward the natural environment. $^{\rm 43}$

⁴³ Karl W. Butzer, review of *Human Impacts on Ancient Environments*, by Charles Redman, *Science* 287(March 2000), 2427.

CHAPTER 2: THE LAND BEFORE ANGLOS

Contemporary ecosystems are the product of several millennia of co-adaptation between humans and environment. In the Wichita River valleys, this co-adaptation was at first driven by the basic subsistence needs of the early hunting and gathering and semi-sedentary Indian inhabitants. From the seventeenth to mid-nineteenth century, a cultural system driven by mercantile capitalism was laid atop this ancient cultural landscape. More recently, Anglo Americans developed a new landscape over the remnants of this older cultural landscape. The transition abruptly changed and in some cases harmed the environment.

This chapter presents a brief overview of prehistoric human interaction with the land, Native American land use, Euro-American impacts on pre-existing patterns of production and trade, and the roots of Anglo-American colonization in the region. With the aid of archeological reports, Euro- and Anglo-American travel accounts, archival resources, maps, and United States Government documents, a

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A base ecology of the Wichita rivers is presented so that environmental change in the late nineteenth and twentieth centuries can be understood.¹

The Little Wichita River, the Big Wichita River, and their tributaries cut across the rolling "Mesquite Plains" and across sections of the "Western Cross Timbers" to empty their red sediment loads into the Red River. The primary tributaries of the Big Wichita River include Holiday Creek, McGrath Creek, and Beaver Creek. The Big Wichita enters the Red upstream from the Little Wichita. The Wichita basins are bordered to the south by the Brazos River and to the north by the Red River.²

² Terry G. Jordan,, John L. Bean, and William M. Holmes, *Texas: A Geography* (Boulder, Co.: Westview Press, 1984), 9; David D. Diamond, David H. Riskind, and Steven L. Orzell, "A Framework for Plant Community Classifications and Conservation in Texas," *The Texas Journal of Science* 39 (1987): 203-221, S. Alan Skinner, Archeology Survey of the Wichita Falls Landfill Expansion, Wichita County, Texas, Texas Archeological Research Laboratory (TARL), University of Texas at

¹ Karl W. Butzer, "A Human Ecosystem Framework for Archeology," 91-130; Karl W. Butzer, "The Indian Legacy in the American Landscape," in The Making of the American Landscape, ed. M.P. Conzen, (Boston: Unwin Hyman, 1990); Dan Flores, "Bison Ecology and Bison Diplomacy: The Southern Plains from 1800-1850," The Journal of American History, 78, 2 (September 1991): 465-485; H.H. Birks, et. al., The Cultural Landscape: Past, Present, and Future (Cambridge: Cambridge University Press, 1988); Alfred W. Crosby, Columbian Exchange Biological and Cultural Consequences (New York: Greenwood Publishing, 1973); Alfred Crosby, Ecological Imperialism: The Biological Expansion of Europe, 900-1900 (New York: Cambridge University Press, 1993); Fernando Gonzales Bernaldez, "Western Mediterranean Land-Use Systems as Antecedents for Semiarid America," in Global Land Use Change: A Perspective From The Columbian Encounter, ed. B.L. Turner II (Madrid: Consejo Superior de Investigaciones Cientificas, 1995), 131; Karl W. Butzer, "The Realm of Cultural-Human Ecology"; Karl W. Butzer, "Ecology in the Long View: Settlement Histories, Agrosystemic Strategies, and Ecological Performance," Journal of Field Archeology, 23 (1996): 142.



Austin, Austin, Texas, 4; W.F. Blair, "The Biotic Provinces of Texas," Texas Journal of Science 2, 1 (1950): 82-117.
The mesquite plains produce native buffalo grass, wheat grass, Indian grass, scattered mesquites, and other xerophytes.³ The western cross timbers extend onto the mesquite plains in the form of small island stands of post oak, blackjack oak, and bands of gamas and bluestem grasses.⁴ Humans over time have shared the valleys of the Wichita rivers with various fauna, including coyotes, wolves, black bears, black-footed ferrets, badgers, various pocket mice, black-tailed jackrabbits, cottontail rabbits, bobcats, skunks, raccoons, opossums, squirrels, bison, deer, cougars, prairie dogs, armadillos, and various turtles, lizards, snakes, and birds - some species of which are now extinct, endangered, or forced to migrate to small eco-niches on preserves.⁵

The first evidence of humans in the Wichita River valleys consists of artifacts in the form of crude stone points excavated seven miles northeast of Wichita Falls on a low terrace of the Wichita River. The 12,000-year-old

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 $^{^{\}rm 3}$ Xerophytes are plants that are adapted to dry environments such as arid and semi arid regions.

⁴ Jordan, *Texas*, 29.

⁵ Blair, "The Biotic Provinces of Texas" 82-117.

artifacts were located in the company of Pleistocene mega fauna such as ancient mammoths, camels, bison, and among small game such as badgers, cottontail rabbits, prairie dogs, and pocket gophers. Paleoindians (10,000 BC - 5,000 BC) hunted large roaming mammals, but found additional sustenance in smaller game.⁶ These Pleistocene huntergatherers led a highly mobile existence because they followed seasonal vegetation resources that coincided with the migratory patterns of large mammals over expansive areas.⁷

Early in the Archaic period (5,000 BC - 50 BC), it is believed that major environmental disturbances and climatic shifts caused bison populations to dwindle. Megafauna

⁷ Burson and DeYoung, Endangered Species and Cultural Resources Survey, TARL, 8; J.L. Hofman, R.L. Brooks, J.S. Hays, D.W. Owsley, R.L. Jantz, M.K. Marks, and M.H. Manhein, From Clovis to Comanchero: Archeological Overview of the Southern Great Plains, Research Series no. 35, (Fayetteville, Ark: Arkansas Archeological Survey, 1989); E.A. Schroeder and B. F. Rader, Archeological Survey Report of the Texas Department of Criminal Justice, James V. Allred, Wichita County, Texas, TAC Permit #1397, (Austin, TX: Horizon Environmental Consultants, March 1995), n.p., TARL.

⁶ Arthur J. Jelinek, "A Late Pleistocene Fauna from Texas," Journal of Paleontology, 34, 5 (1960): 933-939; Arthur J. Jelinek, "An Artifact of Possible Wisconsin Age," American Antiquity, 31, 3, (January 1966): 433-435; Walter W. Dalquest, "The Little Horses (Genus Equus) of the Pleistocene of North America," American Midland Naturalist, 101, 1, (January 1979): 241-244; Leonard T. LaVareda, A Cultural Resources Investigation of the Oklaunion to Iowa Park Transmission Line, Wichita and Wilabarger Counties, Texas, (Dallas, TX: North American Consultants, 1985), 4-4,; "Bone of Mammoth Is Discovered in Gravel Pit Here," Wichita Daily Times, 5 May 1929, Fossil Section, Book 16, Wichita County Archives, Wichita Falls, Texas; and Elizabeth Burson and Donna DeYoung, Endangered Species and Cultural Resources Survey of the Proposed Crude Storage Facilities and Pipeline, Wichita and Montague County, Texas (Plano, TX: Geo-Marine Inc., 2000), 8.

mammals had become completely extinct. Humans adapted to these ecological circumstances by creating diffuse forage economies. The movements of people became less expansive and less dependent on the migratory patterns of herds. A general increase in the number of archeological sites, frequent and intensive reoccupation of sites, and abundant use of local resources indicate human adjustments away from intensive big game hunting and towards intensified hunting and gathering. Archaic diets saw large increases in small game animals, fish, and wild plant foods, but bison, despite a general decrease in numbers, continued to be an integral food.⁸ When the bison returned in quantity, late in the archaic, people capitalized on the fusion of nomadic big game hunting and hunting and gathering strategies to maximize subsistence.⁹

⁸ Flores, "Bison Ecology and Bison Diplomacy," 469; Jerry McDonald, North American Bison: Their Classification and Evolution (Berkley: University of California Press, 1981), 250-263; Mark J. Lynott, "A Model of Prehistoric Adaptations in Northern Texas," Plains Anthropologist 26, 92 (1981): 97-110; Mark Lynott, "Prehistoric Bison Populations of Northcentral Texas," Bulletin of the Texas Archeological Society 50 (1980): 89-101; Burson and DeYoung, Endangered Species and Cultural Resources Survey, 10-12; C. Vance Hayes, Jr., "Carbon 14 Dates and Early Man in the New World," in Pleistocene Extinctions: The Search for the a Cause, ed. P.S. Martin and H.E. Wright, Jr. (New Haven, Connecticut: Yale University Press, 1967); B. Kurten and E. Anderson, Pleistocene Mammals of North America (New York: Columbia University Press, 1980).

⁹ Burson and DeYoung, Endangered Species and Cultural Resources Survey, 12; F. Todd Smith, The Caddos, The Wichitas, and the United Sates, 1846-1901 (College Station, TX: Texas A&M University Press, 1996), 7.

The main cultural adaptations to regional ecology from 50 BC to 1300 AD came in the form of technological innovations. Tools of stone, shell, and bone recovered from many archeological sites of the period suggest the earliest use of horticulture as a way to supplement hunting and gathering. At about the same time, the bow and arrow for hunting developed.¹⁰ In the twelfth century a group of people labeled by archeologists as members of the Gibson Aspect began a migration out of northeast Texas towards the "Mesquite Plains." In the thirteenth century a group from the Gibson Aspect, the Henrietta Focus settled in the Wichita River valleys. Archeological sites located along the Wichita rivers indicate that the people of the Henrietta Focus were sedentary and practiced hunting, gathering, agriculture, and fishing. They are the first people known to have experimented with agricultural life ways in the region. Primary evidence for agriculture

¹⁰ J.L. Hofman and R.L. Brooks, "Prehistoric Culture History -Woodland Complexes in the Southern Great Plains," in From Clovis to Comanchero: Archeological Overview of the Southern Great Plains, (Fayetteville, Ark: Arkansas Archeological Survey, 1989); Burson and DeYoung, Endangered Species and Cultural Resources, 12; Thomas P. Barr, The Pruitt Site: A Late Plains Woodland Manifestation in Murray County, Oklahoma, Oklahoma River Basin Survey, (Fayetteville, Ark: Arkansas Archeological Survey, 1966); Tyler Bastian, The Hudsonpillar and Freeman Sites North-Central Oklahoma, Oklahoma River Basin Survey, (Fayetteville, Ark: Arkansas Archeological Survey, 1969); Robert J. Burton and Susan Sasse Burton, An Archeological Survey of the Lake Altus Shoreline, Greer and Kiowa Counties, Oklahoma River Basin Survey, (Fayetteville, Ark: Arkansas Archeological Survey, 1969); Lathel Duffield, "The Brewer Site: A Preliminary Report," Bulletin of the Oklahoma Anthropological Society 1 (1963): 61-68.

includes hoes made from bison scapulae, skulls, and large perforated mussel shells. Other evidence includes charred corncobs and digging sticks.¹¹

The fifteenth century witnessed a significant return of bison to the southern plains. A dwarf species of bison with higher reproductive capabilities than its ancestors evolved to repopulate the American plains. The bison filled eco-niches vacated by extinct Pleistocene megafauna. Dan Flores, a southern plains environmental historian, writes, "In an ecological sense, bison were a weed species that had proliferated as a result of major disturbance." In the late-sixteenth century European introduction of Old World species, a process referred to as the Columbian Exchange, brought Spanish horses and other livestock that began to fill the rest of the vacant eco-niches on the plains. The resulting Native American hybrid plains-horse cultures thrived on this environmental situation.¹²

¹¹ Robert E. Bell, "Relationship Between the Caddoan Area and the Plains," Bulletin of the Texas Archeological Society 31 (1961): 53-64 and 57-58; Leonard T. LaVareda, A Cultural Resources Investigation of the Oklaunion to Iowa Park Transmission Line, Wichita and Wilabarger Counties, Texas (Dallas, TX: North American Consultants, 1985), TARL 4-12; Alex Krieger, Culture Complexes and Chronology in Northern Texas (Austin, TX: The University of Texas Publication, 1946); and Margaret Rohrt, James Garber, and Nancy Woolley, Assessment of Archeological and Historical Resources in the Lake Wichita Area, North Central Texas, TARL.

¹² Flores, "Bison Ecology and Bison Diplomacy" 469; McDonald, North American Bison, 250-263.

On the Great Plains from the seventeenth to the nineteenth centuries, three-dozen Native American groups adopted horse-based, bison-hunting cultures. Horses dramatically altered ecological and economical interests by bringing new forms of hunting and commerce to the plains. The horse not only enhanced communication and transportation among the Wichitas, Kiowas, Pueblos, and Caddos, but it also brought the fearless Shoshone-Comanches out of the Rockies and onto the Southern Plains. With the adaptation of the horse into native cultures came a reshaping of tribal ranges in the Trans-American West. It also necessitated whole new concerns for native groups, such as the need for pasturage for their animals.¹³

¹³ Flores, "Bison Ecology" 466; Meredith, Dancing on Common Ground, 34-35.



The Wichita Indians, actually a number of independent tribes that share the same language and culture, ranged between the Arkansas and Brazos rivers.¹⁴ Agricultural

¹⁴ The origin of the name Wichita comes from a mistake made by U.S. officials who met with the tribe in 1835 to negotiate the Treaty of Camp Holmes. In this document, American diplomats inexplicably used the name of a minor band, the *Guichatas*. The Anglo-Americans rationalized changing the name to Wichita because it was the closest thing to the Spanish pronunciation of Guichata. The broad group of people known as the Wichita in fact called themselves the *Kitikitish*, or "raccoon eyes," because of their elaborate tattoos, especially around the eyes. For this reason the French called the Wichita the *Panis Piques* or pricked Pawnees. The enemies of the Wichita, the Siouan Osage, called the Wichita, *Paniswasaba* or Black Pawnee because the Wichita were short, stocky, and dark-skinned. The Wichita have been generally left out of U.S. history books because they lived in areas where historical sources are in French and Spanish, they generally

products were a major part of the Wichita diet and commerce. Wichita women cultivated corn, beans, squash, tobacco, pumpkins, and melons and supplemented diets by gathering wild fruits, berries, and nuts. Men hunted the major sources of meat in the river bottoms and island stands of cross-timbers where bear, deer, and turkey abounded, and on the plains, where buffalo and antelope roamed. Through the utilization of both crops and game, the Wichita avoided periods of starvation that many nomadic hunting and gathering tribes had to endure.¹⁵ This was the way of the life for these southern Plains tribes when Francisco Vásquez de Coronado's expedition first

fought alongside the U.S. Army, and they assimilated into American society rather smoothly. The current regional legend of the word "Wichita" in historical context makes little sense. According to oral legend, a Comanche squaw of little worth was forced to cross the present day river to check its' depth and current. When the worthy Comanche saw that the young expendable girl was not going to drown and that in fact this would be a good place to cross, they exclaimed weesha-ta or up to her waist in Comanche. Foster Todd Smith, *Wichita Indians: Traders of Texas and the Southern Plains, 1540-1854*, (College Station, TX: Texas A&M University Press, 2000), 158; W.W. Newcomb, "Historic Indians of Central Texas," *Bulletin of the Texas Archeological Society* 64 (1993): 30-32; W.W. Newcomb, *Indians of Texas: From Prehistoric to Modern Times* (Austin, TX: University of Texas Press, 1961), 250-253; and Glenn Shelton, *Wichita Falls: A Lady with a Past* (Wichita Falls, TX: Western Christian Foundation 1978), 18.

¹⁵ Smith, Wichita Indians, xi and 3-4; Robert E. Bell, Edward B. Jekls, and W.W. Newcomb, A Pilot Study of Wichita Indian Archeology and Ethnohistory (New York: Garland Publishing, 1967),21-23; Howard Meredith, Dancing on Common Ground: Tribal Cultures and Alliances on the Southern Plains (Lawrence, Kansas: University Press of Kansas, 1995), 5-9; Susan C. Vehik, "Cultural Continuity and Discontinuity in the Southern Plains and Cross Timbers," in Plains Indians, AD 500-1500: The Archeological Past of Historic Groups, ed. Karl H. Schlesier (Norman: University of Oklahoma Press, 1999), 239-40.

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encountered them in Kansas in the mid-sixteenth century. Within two centuries the Wichitas would make their way southward to occupy a larger portion of north Texas and lend their name to rivers and settlements in the region.

Between 1601 and 1719, the Wichita had no contact with Europeans, but their lives were increasingly altered by Old World horses, diseases, goods, and feral cattle that found the plains. European diseases such as smallpox, measles, and cholera caused catastrophic population losses, reducing many tribes by as much as ninety-five percent. In 1541 Coronado's expedition estimated 200,000 among the Wichitas while in 1719 the French trader Bernard de La Harpe estimated no more than 15,000 to 20,000 people in the same region.¹⁶

When the French and Spanish introduced manufactured goods into trade on the plains in the eighteenth century, the natives adopted these goods into their cultures. Firearms, household goods, and agricultural tools changed Wichita life immensely. The need to fortify villages against well-armed rival raiders coupled with the ravages of disease forced the Wichita to consolidate hunting lands and villages. They were forced to migrate in large numbers

¹⁶ Smith, Wichita Indians, 14-16; John, Storms Brewed, 155-194.

from the Arkansas River to between the Red and Brazos rivers of modern day North-Central Texas. The Brazos, Wichita, and Red rivers were always part of the Wichita range, but now the range was increasingly becoming finite.¹⁷

Spanish and Pueblo settlements in New Mexico and French outposts in Arkansas, Louisiana, Missouri, and Mississippi were crucial trade links for the Wichitas. The Apaches and Wichitas became bitter enemies over these trade routes. Lipan Apaches plundered Wichita villages until inmigrating bands of Comanche pushed the Apache farther south into New Spain. It is believed that in 1723 Comanches and Apaches fought a nine-day battle near the site of the falls on the Big Wichita River, which is referred to on Spanish maps as *Río del Fierro* (River of Iron). The river received its Spanish name from a meteorite in the area that both the Comanches and Wichitas venerated.¹⁸

¹⁷ Smith, Wichita Indians, xi; John, Storms Brewed.

¹⁸ Wilson, Wichita Falls, 9; H.H. Niniger, "Meteorite Collecting among Ancient Americans," American Antiquities, 4, 1 (July 1938): 39-40.



The *Kutsotuckkah*, or Buffalo Eaters, were the first branch of the Comanches to settle in the Wichita River region, and they were the first to make alliances with the Wichita Nation. The Comanches used Wichita villages for trade and camp. The Wichitas depended on the fragile alliance with the Comanches for defense against well armed Osage and Apache marauders.¹⁹

Trade proliferated in the eighteenth century between the Comanches, Wichitas, Caddos, and Pueblos. Various crops, deer, buffalo products, prepared meats, pigments, and shells moved westward, while cotton cloth, feathers, various crops, and precious stones (obsidian and turquoise) moved eastward.²⁰ European manufactures---guns, powder, balls, steel hatchets, tomahawks, and knives---were wanted items that were primarily traded for hides and bear fat. The Wichitas became increasingly dependent on cloth, scissors, flints, French beads, combs, vermilion, mirrors, and copper bracelets, and especially scarlet cloth became a coveted trade item. By the mid eighteenth century, the

¹⁹ Ernest Wallace and Adamson Hoebel, *The Comanches: Lords of the Southern Plains* (Norman, Ok: University of Oklahoma Press, 1976), 22-26; John, *Storms Brewed*, 307-308; Willard H. Rollings, *The Comanche* (New York: Chelsea House Publications, 1989), 24-26, Meredith, *Dancing on Common Ground*, 34-35.

²⁰ Meredith, Dancing on Common Ground, 40-41; Katherine Spielman, "Coercion or Cooperation? Plains-Pueblo in the Protohistoric Period," in Farmers, Hunters, and Colonists, ed. Katherine Spielman (Tucson, AZ: University of Arizona Press, 1991), 36-50; Frances Levine, "Economic Perspectives in the Comanchero Trade in Farmers, Hunters, and Colonists, ed. Katherine Spielman, (Tucson, AZ: University of Arizona Press, 1991), 155-169; Timothy G. Baugh, "Ecology and Exchange: The Dynamics of Plains-Pueblo Interaction," in Farmers, Hunters, and Colonists, ed. Katherine Spielman (Tucson, AZ: University of Arizona Press, 1991), 107-134; John, Storms Brewed, 18; Smith, Wichita Indians, 9.

Wichitas could not have imagined life without European goods.²¹

Increases in European manufactured goods began to deeply impact Native American land use and culture. Warriors risked their lives in defense of trade networks and alliances. For example, between 1750 and 1752, the Spanish made weak attempts to halt trade from French outposts to the southern plains. When in 1758 the Spanish attempted to build a mission for the Lipan Apaches, mortal enemies of the southern Plains tribes, an alliance of Caddos, Wichitas, and Comanches, carrying French weapons, attacked the new installation on the San Saba River. The 2,000 mounted warriors killed eight Spaniards, numerous Apaches, and burned the mission to the ground.²²

²¹ Foster Todd Smith, The Caddos, the Wichitas, and the United States, 1846-1901 (College Station, TX: Texas A&M University Press, 1996), 8-9; Herbert Eugene Bolton, ed., Athanase de Mezieres and the Louisana-Texas Frontier, 1768-1780: Documents Published for the First Time, From the Original Spanish and French Manuscripts, Chiefly in the Archives of Mexico and Spain, Volume I (Cleveland: The Arthur H. Clark Company, 1914), 132-135 and 143-146; Bell, Jelks, and Newcomb, A Pilot Study of Wichita Indian Archeology and Ethnohistory.

²² Lesley B. Simpson, ed., The San Saba Papers: A Documentary Account of the Founding and Destruction of the San Saba Mission (San Francisco: John Howell-Books, 1959); Robert S. Weddle, The San Saba Mission: Spanish Pivot in Texas (Austin: University of Texas Press, 1964); Henry Easton Allen, "The Parilla Expedition to the Red River in 1759," Southwestern Historical Quarterly, 43 (July 1939): 53-71; Lathel Duffield, "The Taovoyas Village of 1759: In Texas or Oklahoma?," Great Plains Journal, 4 (Spring 1965): 39-48.



In response to the massacre, a Spanish punitive force led by Commander Diego Parilla of San Saba was sent onto the north-central Texas plains in 1759. The Spaniards found one of the larger Wichita village complexes on the Red River near the mouths of the Wichita rivers. Near the village network the Spanish found earthen ramparts surrounding a fort that flew a French flag. Armed with French guns, lances, and sabers, the Wichitas rebuffed a Spanish assault that was forced back in such a hurried and disordered retreat that the supply train was lost. The Spaniards left behind two cannons, military equipment, large amounts of weaponry, and 1,000 horses and mules. When Anglo settlers later discovered artifacts from this Wichita settlement, the area was misnamed Spanish Fort.²³

World politics changed the Plains alliances again when the French lost the Seven Years' War. The Spanish took over France's western lands. The Caddo tribes made quick peace with the Spanish, replacing the French trade with Spanish trade. The Caddo soon negotiated peace between the Wichita and Spanish. In 1772, Athanese de Mezieres, a French employee of the Spanish government approached the Wichita to formally arrange peace and trade alliances. He estimated 600 men on the Red and Wichita rivers. In 1778 Mezieres visited the region again and found 300 men in a village near the Wichita River. At the Red River he reported encountering nearly 800 men living in 160 houses.²⁴

²³ Simpson, ed., *The San Saba Papers*; Robert S. Weddle, *The San Saba Mission: Spanish Pivot in Texas* (Austin: University of Texas Press, 1964); Allen, "The Parilla Expedition to the Red River in 1759," 53-71; Duffield, "The Taovoyas Village of 1759," 39-48.

²⁴ Bell, Jelks, and Newcomb, A Pilot Study of Wichita Indian Archeology and Ethnohistory, 21-22.

The Wichita Indians at the Red and Wichita River villages historically traded with the French at outposts in Louisiana, Arkansas, Missouri, and Mississippi. The Spanish never effectively diverted Wichita and Comanche trade patterns southward towards Spanish settlements in Texas because Anglo-Americans were filling any voids left by French traders along the Mississippi River. The Wichita used the Anglo frontier trade posts to replace deteriorating French trade.²⁵

In the early nineteenth century disease ran rampant across Texas and the Plains. In 1801 U.S. Indian agent John Sibley stationed at Natchez reported that the Wichitas had been ravaged by smallpox. He estimated that only 400 people remained in the Wichita/Red River region after the epidemic. At the same time, the Spanish also were weakened by disease and could no longer provide promised trade, weapons, and protection for the Wichitas.²⁶

Anglo-American prairie traders who mixed a huntingscavenging lifestyle with mercantile capitalism prodded onto the plains at this same time. Anglo explorers and

²⁵ Smith, The Caddos, the Wichitas, and the United States, 9; Foster Todd Smith, The Caddo Indians: Tribes at the Convergence of Empires, 1542-1854 (College Station, TX: Texas A&M University Press, 1995), 63-75.

²⁶ Bell, Jelks, and Newcomb, A Pilot Study of Wichita Indian Archeology and Ethnohistory, 22 and 340-348.

mustangers, such as Philip Nolan, Anthony Glass, and John Maley began to make in-roads to the Wichita River valleys from their western outposts in Missouri, Mississippi, Louisiana, and Arkansas. At the turn of the nineteenth century Philip Nolan reported that he lived with Indians in north central Texas for two years and that he was a favorite among the Comanches and Wichitas. His elaborate accounts of the bountiful Plains were heard back east and the stories initiated a flood of adventure seekers out West.²⁷

In 1803, with the Louisiana Purchase the United Sates took official control of the Mississippi River and all its tributaries, which technically included the Red and the Wichita River. However, the Spanish were quick to challenge the northern boundaries of their dying empire. President Thomas Jefferson's curiosity regarding the Southern Plains, Southwest, and Red River were spurred by Phillip Nolan's intriguing reports of immense herds of wild mustangs of Arabic descent and Sibley's reports of innumerable quantities of wild horses, buffalo, bears, wolves, elk, deer, foxes, sangliers (wild hogs), antelope, rabbits, spotted tigers, panthers, and other wild cats. In response

²⁷ Dan Flores, Journal of an Indian Trader: Anthony Glass and the Texas Trading Frontier, 1790-1810 (College Station: Texas A&M University Press), 5.

to this information, Jefferson sought funding for an exploratory commission to the Red River.²⁸

Jefferson's Southwestern counterpart to the Lewis and Clark expedition was the Custis-Freeman expedition led by military man Thomas Freeman and naturalist Dr. Peter Custis. Custis was appointed to take a western natural history survey of the Red River, while Freeman was to win the Indian nations of the Southwest over to the United States and away from the Spanish. Jefferson believed American commercial interests would be served if the Red River could provide a navigable route to the city of Santa Fe, but paramount would be the map work on the Red and Arkansas Rivers that would cement U.S. claims to the southern drainage of the Mississippi. And finally, the expedition would satisfy much intellectual and scientific curiosity.²⁹

In 1806, the expedition began its journey up the Red River, but it soon came to a standstill because of Native American hostility and the threat of capture by Spanish troops. It was a political disaster for Jefferson and a

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²⁸ Dan Flores, "The Ecology of the Red River in 1806," The Natural West: Environmental History in the Great Plains and Rocky Mountains (Norman, OK: University of Oklahoma Press, 2001), 32-36.

²⁹ Flores, "The Ecology of the Red River in 1806" 32; Dan Flores, ed. Jefferson and Southwestern Exploration: The Freeman and Custis Accounts of the Red River Expedition of 1806 (Norman: University of Oklahoma Press, 1984).

disappointment for science that Custis never got to tour the Red River thoroughly and its tributaries because Custis was the first "academically" trained naturalist to be appointed to an American exploratory expedition.³⁰

The failure of the government-funded expedition did not hinder further Anglo American penetration into the area, probably because it's failure was overshadowed by Lewis and Clark's success. Americans pushed onto the mesquite plains to hunt the bountiful bison, to catch wild mustangs, and to search for fabled mineral wealth. In December of 1806 four American traders visited Wichita villages in the Wichita rivers region. They reported back to Natchitoches, Louisiana, that silver reserves had been located south of the Big Wichita River. The reports prompted many wealthy Natchez merchants into leading expeditions to the area.³¹

One of these merchants, Anthony Glass, kept a journal from which students of western Plains history find not only an elaborate sketch of the wilderness of Louisiana, Oklahoma, and Texas, but also "the earliest firsthand

³⁰ Flores, "The Ecology of the Red River in 1806" 30-37 and Flores, ed. Jefferson and Southwestern Exploration.

³¹ Natchez was an area of settlement on the far edge of the United States settlement line in the Mississippi Territory. Flores, *Journal of an Indian Trader*, xv; Wilson, *Wichita Falls*, 15.

description by an American of the life of the prairie Taovaya-Wichitas and the plains Comanche." American accounts of the landscape and Plains cultures match the early Spanish and French reports - that of a region of scattered mesquite groves, tall prairie grasses, abundant bison, a Wichita people that hunted and farmed, and a Comanche people that led a nomadic hunting life. Glass's silver mines turned out to be meteorites located in modern day Wichita County that area peoples venerated until Anglo-Americans shipped them back east to the Smithsonian Institute.³²

³² Flores, Journal of an Indian Trader, 5; Howard B. Lamar, The Trader on the American Frontier: Myth's Victim (College Station: Texas A&M University Press, 1977), 40. The Glass journal was uncovered in the 1820's by renowned pioneer chemical educator and researcher Benjamin Silliman from Yale University during his research on the largest meteorite of the period, the "Louisiana Iron" (later called "Texas Iron" and "Red River" where it resides in the Yale Peabody Museum of Natural History). He determined that Dr. John Sibley from Natchitoches was the source of the stone shipped to New York. Upon contact with him, he learned of the 28 pages "the Glass journal" that was a copy of the original given to him by Glass as a report of his journey. The copy named "Copy of a Journal of a Voyage from Nackitosh into the interior of Louisiana on the waters of Red River Trinity Brassos Colerado & the Sabine performed between the first of July 1808 & May 1809 by Captain Anthony Glass of the Territory of Mississippi" is the only known version of the journal and is in the Silliman Family Collection at Yale University. It is unclear to what extent the copy was edited by Sibley. Dan Flores, Journal of an Indian Trader, xvi.



valleys prepared the way for Anglo settlement. The establishment of the Santa Fe-Natchitoches trails in 1819-1820 and the erection of fortified Anglo trading posts signaled Anglo-American intentions to colonize the region. In 1833, the Holland Coffee Trading Post in present day Tillman County, Oklahoma, began transferring large amounts of American manufactured goods onto the Mesquite Plains. Mexican independence from Spain in 1821, the establishment of the Austin colonies, and Texas independence from Mexico

in 1836 opened the floodgates for westward expanding Americans into the region. 33



In the summer of 1841 the Texan-Santa Fe Expedition, an Anglo-Texan military campaign, made its way through the valleys of the Wichita Rivers. The Republic of Texas funded the expedition because Texas President Mirabeau Lamar, following in the footsteps of American President Jefferson, believed that a route to Santa Fe was necessary for the growing Texas economy. He sent a contingent of 321 men,

³³ Andy J. Middlebrooks and Glena Middlebrooks, "Holland Coffee of Red River," Southwestern Historical Quarterly, 69 (October 1965): 145-162.

mainly merchants and volunteers, in hopes of establishing and opening trade with Santa Fe. The "Santa Fe Pioneers," as they called themselves, left Austin, Texas, with 21 oxdrawn wagons carrying \$200,000 worth of trade goods. The caravan traversed the north central Texas plains making camp and recording the earliest historical accounts of the Wichita River valleys.³⁴

The "Santa Fe Pioneers" traveled northwestwardly from Austin up through the present-day counties of Wise, Montague, Clay, and Wichita. They passed near the modern day towns of Bowie, Henrietta, Dean, Wichita Falls, and Iowa Park. The expedition mistook the Big Wichita River for the Red River, providing a documentary basis for understanding the region's ecology just before Anglo

³⁴ Wilson, Wichita Falls, 17 and George Wilkins Kendall, Narrative of the Texan Santa Fe Expedition: Comprising a Description of a Tour Through Texas, and Across the Great Southwestern Prairies, the Camanche and Cygua Hunting-Grounds, with an Account of the Sufferings from the Want of Food, Losses from Hostile Indians, and Final Capture of the Texans and Their March, as Prisoners, to the City of Mexico, Volume I (London: Wiley and Putnam, 1844), 2-3. The expedition was well chronicled by George Wilkins Kendall and Thomas Falconer. Kendall was an editor for the New Orleans Picayune and Falconer, an Englishmen, was an editor, jurist, and scientist. Other important primary sources pertaining to the Texas Santa Fe Expedition are the Gallagher Diary and the Gallagher-Hoyle Journal. Peter Gallagher and Stephen Hoyle were both part of the expedition. Gallagher kept a diary until the end of the expedition, which was then rewritten by Hoyle and called the Gallagher-Hoyle journal.³⁴ For the purposes of this chapter, H. Bailey Carroll's analysis of the Gallagher Diary and Gallagher-Hoyle Journal are used alongside Kendall and Falconer's accounts.

American settlement.³⁵ According to the Gallagher-Hoyle account "The country is a fine rolling prairie covered with Mesquite."³⁶ The explorers even found sustenance in the ripe mesquite beans. They ate and used them as a substitute for coffee.³⁷



A Wichita-Waco village system was located at the wide valley of the Big Wichita River. Villages of 400-500 persons lined the river at different bends in the river. The villagers thrived on fields of pumpkins, corn, and

³⁶ Ibid, 105. Originally from the Gallagher-Hoyle Journal, 6.

³⁷ Kendall, Narrative of the Texan Santa Fe Expedition, 161.

³⁵ H. Bailey Carroll, *The Texan Santa Fe Trail* (Canyon, TX: Panhandle-Plains Historical Society, 1951), 89.

squash. The Texans recorded finding a strip of land several miles long and two-miles wide that was in cultivation with crops of corn, squash, pumpkins, and melons.³⁸ Wild game such as deer, bear, bison, prairie dogs, rattlesnakes, wolves, and mustang provided both meat and hides.³⁹

The main village was located near the confluence of Holiday Creek with the Big Wichita River. In this village the Wacos lived around a central building surrounded by forty smaller buildings. Wichita grass huts represent close relationship with environment and life ways on the high grass plains. The houses, between fifteen feet and thirty feet in diameter, were built over rounded frameworks of wood posts found in river bottoms and were covered with corn leaves, prairie grass, and reeds. The buildings served as dwellings and storage facilities for crops and cured meats (venison, buffalo, and antelope).

The fields of maize, pumpkins, beans, and squash produced bumper crops. Later in the nineteenth century the Wichitas utilized cattle in large numbers. The livestock roamed pastures near the village complexes. The envelopment of semi-domesticated livestock alongside agriculture and

³⁸ Kelly, Wichita County, 1-3.

³⁹ Kendall, Narrative of the Texan Santa Fe Expedition, 121.

game hunting life ways augmented the Wichitas' ability to subsist.⁴⁰



It is not a surprise that the Wichita-Waco made their main village at the confluence of the Big Wichita River and Holiday Creek because Holiday Creek provides a reliable, regular, and constant freshwater flow in a region dominated by salty water.⁴¹ During the 1841 expedition Captain John Holiday carved his name into the bark of a tree near the

⁴⁰ Newcomb, Indians of Texas, 251-255; Bolton, ed., Athanase de Mezieres and the Louisana-Texas Frontier, 1768-1780, 201; George Caitlin, Letters and Notes of the Manners, Customs, and Conditions of the North American Indians, Volume II (London, 1841), 70.

⁴¹ The city of Wichita Falls in 1890 built its first dam (Lake Wichita) on Holiday Creek to supply the early settlers with undiluted waters. Kelly, *Wichita County*, 1.

creek. In Gallagher's Diary he states" this is now called Holidays Creek Capt Holiday cut his name on the Bark of a Tree at this camp."⁴² Four decades later, Wichita Falls city founders discovered the carved pecan tree and formally named the creek, Holiday Creek.⁴³

The Texan-Santa Fe pioneers stocked up on provisions at the Waco village. With rations of venison, melons, vegetables, soft shell turtle, and catfish, they struck out across the western plains misinformed about the region's geography, still believing they were on the Red River.⁴⁴ After a grueling hike onto the High Plains, the beleaguered merchants were forced to walk to Mexico City under arrest by Mexican authorities.

Captain Randolph Barnes Marcy⁴⁵(1812-1887) based on expansive first-hand knowledge, wrote extensively about the North Central Texas environment. In 1849 he predicted that a line of forts would eventually protect the route he

⁴² Carroll, The Texan Santa Fe Trail, 83. Originally from Gallagher's Diary, 8.

⁴³ Kelly, Wichita County, 1.

⁴⁴ Ibid, 1.

⁴⁵ Wilson, *Wichita Falls*, 23. Randolph Marcy was a graduate of West Point Academy, Western explorer, and United States army officer served directly in the process of settling the west. Marcy served with General Zachary Taylor in the Mexican War in 1845. He was appointed to the rank of captain in 1846. Marcy retired from the army in 1881 as a brigadier general, but he has always been remembered in popular history books as Captain Randolph Barnes Marcy.

helped to establish across the Texas frontier (The Marcy Route) and that the land would shortly fill with cattlemen. He also predicted that the route would be the future line for a railroad to the Pacific, all of which came true during his lifetime.⁴⁶

Marcy wrote diaries, books, and government reports on the topic of expedition-making in the southern plains and southwest that highlight regional ecology.⁴⁷ From his accounts we can re-create a base ecology of the Wichita rivers region before massive Anglo settlement took hold. Federally sponsored expeditions and military actions before the Civil War were well-funded, highly calculated, and well-documented.

Complex networks of political, scientific, military, and economic objectives were accomplished through Marcy and his bluecoats. The objectives had environmental repercussions in the Wichita River valleys because Marcy

⁴⁶ J. Evetts Haley, "Marcy-Explorer: The Marcy Trail," Expeditions and Trails Section, Book 16, Wichita County Archives (WCA), Wichita Falls, Texas.

⁴⁷ Randolph Barnes Marcy, The Prairie Traveler: A Hand-Book for Overland Expeditions with Maps, Illustrations, and Itineraries of the Principal Routes between the Mississippi and the Pacific (New York: Harper and Brothers, 1859); Randolph Barnes Marcy, The Prairie Traveler: The Classic Handbook for American's Pioneers (New York: Berkley Publishing, 1993); Randolph Barnes Marcy, Thirty years of Army life on the border, (New York: Harper and Brothers, 1866); and Randolph Barnes Marcy, Border Reminiscences (New York: Harper and Brothers, 1872).

examined the land for potential mining resources, determined potential land development, surveyed roads, located new trails, studied, conquered, and pacified the natives, noted suitable camping sites for travelers, designated military camps and forts, collected plant, soil, and animal life for scientific study, mapped topography, and measured and mapped the land.⁴⁸

Captain Marcy preceded settlement west of the Cross Timbers in a military effort to survey lands and settle Indians on the Mesquite Plains. In an expanding national economy driven by mercantile capitalism and Manifest Destiny, Marcy was a spearhead for progression and a hero in the effort to conquer the West. Louise Kelly, a Wichita County historian, believes Marcy "gained knowledge to enable the buffalo hunters to operate, for the army to defeat the Comanches, and he helped open the way to further settlement."⁴⁹

Buffalo Springs, a tiny settlement in present-day Clay County that served as a station on the Marcy

⁴⁸ William B. Parker, Notes Taken during the Expedition commanded by Captain R.B. Marcy, U.S.A., Through Unexplored Texas in the Summer and Fall of 1854, (Austin, TX: Texas State Historical Association, 1990), ix.

⁴⁹ Kelly, Wichita County, 4.

Route to California, the town of Jacksboro that had come into a sketchy existence, the small stations of Tax Springs and Flag Springs in Archer County, and a small settlement in Montague County called Head of Elm (now Saint Jo) served as the white man's only outposts in the region before 1851.⁵⁰ In 1851, however, Marcy located Fort Belknap south of the Wichita Rivers, the first post in a line of forts across the Texas frontier.⁵¹ Fort Belknap became the center for Anglo-American life in the area and a launching pad for military expeditions to land claims guarded by "resentful and marauding" Indians.⁵²

From 1851 to 1852 Captain Marcy and General W.G. Belknap scouted out the Wichita and Brazos regions of Texas and charted the rivers to their sources. On an expedition in 1852 Captain Marcy saw the Big Wichita River for the first time. He stated that the region was, "covered with a luxuriant sward of nutritious mesquite grass, which affords the very best pasturage

⁵² Williams, "First Road Across Wichita County Was Chartered."

⁵⁰ J.W. Williams, "First Road Across Wichita County Was Chartered: Wichitan Tells of Wagon Trails," Wichita Daily Times, 23 July 1939, Expeditions and Trails Section, Book 16, WCA, Wichita Falls, Texas.

⁵¹ J. Evetts Haley, "Marcy-Explorer: The Marcy Trail," Expeditions and Trails Section, Book 16, WCA, Wichita Falls, Texas.

for animals."⁵³ But "The water in the mainstream, however, is brackish and unpalatable." Marcy on his first trip to the river defined the saline nature of the Big Wichita River, a natural variable that impeded rapid settlement in the region before the rail or oil impetus.⁵⁴

From 15 July 1854 to 21 August 1854, Marcy and his bluecoats explored northwest and north-central Texas in detail.⁵⁵ On an exploration to locate Indian reservations Marcy observed in his journal of the Big Wichita River Basin environment,

A barren and parsimonious soil . . . of scarcity of wood or good water, would seem to render it probable that this section was not designed by the creator for occupation. I question if the next century will see it populated by civilized man.⁵⁶

⁵⁵ Marcy met and made friends with natives, and ultimately convinced them to move onto and farm reservations located in 'untamed' and 'unexplored' north-central Texas. He located and surveyed eighteen square leagues for the Indian reservations, which the Texas legislature donated to the federal government. Marcy was U.S. policy in action to be enforced on the dominantly nomadic and sometime 'hostile' Indians of the southern plains. Williams, Old Texas Trails, 245.

⁵⁶ Katricia Cochran, "Early Area Explorer Reported 'Land Not Fit For Habitation,'" *Wichita Falls Times*, 7 October 1962, Expeditions and Trails Section, Book 16, WCA, Wichita Falls, Texas. Originally published as a US Senate Document in 1856.

 $^{^{53}}$ Marcy, Exploration of the Red River of Louisiana in the Year 1852, 6.

⁵⁴ Ibid, 6.

He continued, "the almost total absence of woodland, and the very great scarcity of good water, will render this section unsuited to the purposes of agriculture." ⁵⁷

Captain Marcy's associate, William B. Parker, a writer by trade, details a more positive and florid depiction of the Wichita rivers,

Moving to-day in a north-west course, we had a fine view of the valley of the Wichita. Towering in the background were the long battlemented bluffs lining the opposite shore below, the green belt of timber marking its course, and in front the wide prairie with its yellow coating of buffalo grass, studded with pale green mesquite, a beautiful combination for a landscape painting.⁵⁸

Parker wrote of the Wichita River valleys in a scientific yet poetic way that gives the scholar a plethora of first hand knowledge of the past ecology.

Traveling through the valleys of the Little Wichita, Big Wichita, and Brazos rivers in July heat with daytime temperatures soaring to 110 degrees Fahrenheit in the shade, Parker recounts stories about huge "jackass" rabbits (jack rabbits), prairie dog colonies crawling with fat eight foot long rattlesnakes, large bison populations, antelope hunts, white wolf and coyote operas that caused

⁵⁷ Williams, Old Texas Trails, 254.

⁵⁸ Parker, Notes Taken During the Expedition Commanded by Capt. R. B. Marcy.

camps to go sleepless nights, enormous catfish swimming in muddy river bottoms, oxen and eastern bred horses that died from heat exhaustion, mesquite bean brewed coffee, and wild stories of naked plains Indians bedecked in tattoos and seashell earrings from the Pacific Ocean.⁵⁹

Parker helps create a picture of the ecological past when he tells of mesquite trees.

The trees grow singly, and at such regular intervals as to resemble a plantation, and so much like a peach orchard that one cannot divest himself of the idea, in entering a grove, that he is approaching a house, and involuntarily listens for the watchdog's bark, or some other sign of human habitation.⁶⁰

Marcy and Parker found mesquite trees growing in scattered groves across the tall grass prairies. Mesquite overgrowth was not a problem. In fact, Parker saw the mesquite as a blessing for frontier settlement. He stated,

The mesquite is almost the only tree to be found over a vast region in the South West, and from its many useful qualities, among which, not the least is its durability for building purposes - will be invaluable to the future settlers.⁶¹

For five days Marcy and Parker explored the Big and Little Wichita Rivers. Captain Marcy wrote of

⁵⁹ Ibid, 101-106.

⁶⁰ Ibid.

⁶¹ Ibid.

exiting the Wichita valleys when standing high on a bluff between the Wichita and Brazos,

The different confluents of the Wichita . . . united in forming a landscape pleasing to the eye. But this is the only feature of the country which has left an agreeable impression upon my memory and I bade adieu to its desolate and inhospitable borders without the least feeling of regret, for it is in almost every respect the most uninteresting and forbidding land I ever visited.⁶²

Despite his doubts about the region, the Marcy explorations of the Wichita Rivers laid the groundwork for Anglo-American settlement in the region.

The land surveys of northwestern Texas in 1857, racial hatred, and the continuous threat of war led Washington to send a U.S. Army regiment to the area in 1858. Major Earl Van Dorn and two hundred blue-coated, well-dressed cavalrymen riding well-trained and expensive horses carried out extended campaigns in north central Texas and Indian Territory.⁶³ The main cultural and environmental impact that Van Dorn's military campaign had on the region was the military supply road across north-central Texas - the first federal road to cross the Wichita River Valleys.

⁶² W. Eugene Hollon, Beyond the Cross Timbers: The Travels of Randolph B. Marcy, 1812-1887 (Norman, OK: University of Oklahoma Press, 1955), 163-181.

⁶³ Williams, *Old Texas Trails*, 288; Deed Records, Archer County, Texas, Volume A, 202, 203.

J.W. Williams stated, "Nearly a quarter century before another kind of wheel, the iron wheel of the locomotive, was to bring Wichita Falls into being, the wheels of wagons, hauling corn to soldiers, had put the brand of advancing civilization upon this country."⁶⁴ The road was planned and laid down by an Indian guide named Placedo and L.S. "Sul" Ross, a young man who had just finished his junior year at Texas A&M University.⁶⁵

Ross was not part of Van Dorn's second cavalry, but a scout in charge of about 150 friendly Indians from a Young County reservation. His orders were to aid the Second Calvary by scouting and securing a route for the campaign against Chief Buffalo Hump and Comanche "hostiles." The young Ross and Placedo, an old Tonkawa chief, selected a point at Otter Creek just across the Red River from Wichita County in modern day southern Tillman County, Oklahoma, for a supply camp.

The Van Dorn Road was awkwardly curvy because of environmental variables. The flat topography was not a

⁶⁴ J.W. Williams, "First Road Across Wichita County Was Chartered." J.W. Williams used Greer County Records, old surveys, field notes, minutes of commissioner's courts, the diary of Royal S. Neighbors (superintendent of the Indian Agency on the Brazos), and eyewitness accounts of old-timers to articulately piece together the old road.

⁶⁵ Ibid. Ross later became president of Texas A&M and governor of Texas, He is better known as Sul Ross.

problem. Access to water, however, was a problem. Inexhaustible water holes existed eastward at a crossing on the Little Wichita River, but to the west water could become scarce and unpalatable. This is relevant because Wichita Falls urbanites in the 1940s would find their drinking water supplies from this same southeastern portion of the Little Wichita. Today this portion of the Little Wichita makes the drinking water reservoirs of Lake Arrowhead and Lake Kickapoo.

Ross and Placedo, who scouted the road, undoubtedly realized the reliability of water in this region. Placedo, reportedly knew of an ancient Indian trail that used the same crossing for freshwater purposes. From the Little Wichita, the route turned sharply northwestwardly, passing close to where the Lake Wichita dam is now located on Holiday Creek - another place where adequate fresh water supplies can be found in a region dominated by saline water. From there the road went through future oil fields and crossed the Big Wichita near the modern day school of Valley View. Then the road turned directly northward past the modern day town of Electra, across the Red River, and to the camp, 18 miles above the mouth of Otter Creek.⁶⁶

⁶⁶ Ibid.
Van Dorn's cavalry followed the scouting party across present day Wichita County and the Red River. The force made a picket enclosure around the supply camp for defense and named it, Camp Radziminski, in honor of a Polish born member of the Second Calvary, who had recently died of tuberculosis. The last member of the expedition to arrive at Camp Radziminski was a man who in the historical record was known simply as Mr. Duff.

The road that would supply Camp Radziminski was given shape by Duff, the man who had a monopoly on military supply in the area. He was in charge of the corn wagon train.⁶⁷ Duff was the most important person in the expedition for the purposes of this thesis because his fifteen wagons cut the deep furrows in the earth that left a long and lasting trail behind. Camp Radziminski operated for a full year. It was garrisoned with a fluctuating guard of 200 to 300 cavalrymen and their hungry horses. Duff drove the corn-filled wagons back and forth between Fort Belknap and Camp Radziminski, traversing the Wichita Rivers at ancient crossing points.

Federal troops, in contrast to Texas Rangers, liberally used wagon trains to supply troops and horses.

 $^{^{67}}$ Ibid. Mr. Duff's initials are not of record and nothing is known of him except that he was a civilian in charge of the 15 wagons that served the 2nd Calvary.

The Rangers, while on Indian campaigns preferred to use mule trains, which did not make permanent trails. In lands beyond "civilization," the task of making roads lay entirely in the federal government's hands, so most were made by army wagons, such as Duff's.⁶⁸

Historian J.W. Williams recognized that,

This early road must have been the route followed by the supply wagons as they journeyed to and from the more thickly populated regions of North Texas. Whether this makes of Mr. Duff, who forced stubborn mules across bad river crossings, a greater contributor to northwest Texas history than it makes Van Dorn, who crossed swords and lances with wild Comanches, is hardly our function to decide.⁶⁹

The soldiers finally found the Comacnhe encamped in the Wichita Mountains near modern-day Rush Springs. The Battle of Wichita Village, which took place after the soldiers had wintered in their camp from 1858-1859, claimed the lives of 56 Comanche warriors and 5 cavalrymen. Many Tonkawas in the employee of the Anglos were killed and many were wounded. Van Dorn was shot in the stomach with an arrow, and Ross was wounded by a gunshot.⁷⁰ Later that year, the 2nd Cavalry used Camp Radminzki again as a launching pad

⁶⁸ Williams, Old Texas Trails, 292-311.

⁶⁹ Ibid, 305.

⁷⁰ Ibid, 299. Fitzhugh Lee, a future commander in the Confederate Army and governor of Virginia served in these expeditions.

for punitive expeditions into Southwest Oklahoma and Kansas.

Military operations on the southern plains in the form of supply camps and federal wagon roads altered the environment of the north-Central Texas region by imprinting on the landscape the early networks needed for the westward expanding waves of white settlement. For example, in 19 September 1858 a survey of Wichita County was made four days after Van Dorn had left from Fort Belknap. Apparently the surveyors accompanied the cavalrymen and surveyed the county while military protection and roads were available in the area.⁷¹

In both, 1858 and 1859, there were at least a dozen movements of large bodies of men, supplies, and domesticated animals over the new army trails in the region. As Indian caravans made their way up the Van Dorn trail and into their new lands in Indian Territory, hundreds of land tracts were surveyed in newly formed counties served by these roads. It is not possible to ascertain the number of private individuals who followed the wagon roads outward on a fast westward moving frontier but it is certain that Antelope in Jack County became a

⁷¹ Ibid, 299 and Surveyor's Records of Wichita County Texas, Volume A and D, 1. Survey made Sept 19, 1858. Surveys-723-9501.

permanent white settlement and Henrietta, the county seat of newly organized Clay County was formed. Archer and Wichita Counties were formed in 1858.⁷²

The tide of Anglo expansion slowed with the eruption of the Civil War. Troops were recalled from the Texas frontier, Indians moved back into Wichita and adjoining counties, the formation of Young County was given up, settlements in Clay County were abandoned, and the settlement of Antelope lost its inhabitants and post office. Even Fort Belknap was abandoned. Captain Marcy lamented in his journal in 1871,

This rich and beautiful section of the country does not contain today as many white people as it did when I was stationed here 18 years ago, and if the Indian marauders are not punished the whole country seems to be in a fair way of becoming depopulated.⁷³

Not until after the Civil War when the tide surged again did U.S. bluecoats followed by cattlemen and floods of American migrants return "to conquer" the plains.⁷⁴

⁷² Clay County was created from a part of Cooke County in 1857. Rohrt, Garber, and Woolley, Assessment of Archeological and Historical Resources in the Lake Wichita Area, North Central Texas, TARL, 16.

⁷³ Joe Calvit, "U.S. Calvary Posts Helped Tame Post-Civil War West," Wichita Falls Times, 18 May 1969, WCA.

⁷⁴ When cavalrymen from Jacksboro returned to Fort Belknap in April 1867, they found the fort dilapidated. Joe Calvit, "U.S. Calvary Posts Helped Tame Post-Civil War West," Wichita Falls Times, 18 May 1969, WCA.

U.S. Regulars led by Civil War veteran William Tecumseh Sherman found the southern plains Indians ravaged by twenty five years of intermittent warfare and the westward progression of White settlement expiring local sources of Buffalo, small game, timber, and forage needed by the nomadic and semi-nomadic Indians to survive. Sources were scarce along the early transport and migration routes such as the Van Dorn Road. Near American settlements like Henrietta sources had vanished.⁷⁵ The wolf, bison, mustang, and bear were driven from the region and replaced by domesticated livestock that overgrazed and in turn disturbed the environment. Mesquite prairies were broken into land grants and farm tracts and tilled into cotton, wheat, and feed fields.

In conclusion, prehistoric people interacted with the land by primarily subsisting off the land. Native and Euro-American relationships with the land can be seen in the intensification of trade routes and the vast changes in cultural land use. Early Anglo-American colonization in the Wichita rivers exhausted resources near trade roads and laid the groundwork for massive settlement. The divvying up of land, the impression of transportation systems on the

⁷⁵ Robert M. Utley, Frontier Regulars: The United States Army and the Indian, 1866-1891 (New York: Macmillan Publishing, 1973), 1-9.

landscape, and the dramatic changes in indigenous cultural ecologies were obvious. In the following era environmental change would be rapid and dramatic. It is important to understand the cultural landscape that existed before the late nineteenth and early twentieth century, so that the reader can see that the environmental change is profound.



Fig. 10. This map of Wichita County was made in 1859 after initial surveys in the area had been completed. It is interesting to note that land tracts along the Red and Big Wichita Rivers are skinny riparian tracts because everyone wanted access to water. Later the rest of the county is filled when farming and ranching becomes commercially viable because of rail. Reprinted from the Archives and Documents of the Texas General Land Office On-Line.

http://wwwdb.glo.state.tx.us/central/arcmaps/ArcMapsDisplay.cfm?intCounter=4141.



Fig. 11. By 1874 Wichita County had filled with land claims. Population increased and sources for Native American societies were becoming scarce. Reprinted from the Archives and Documents of the Texas General Land Office On-Line. http://wwwdb.glo.state.tx.us/central/arcmaps/ArcMapsDisplay.cfm?intCounter=4142.

CHAPTER 3: RANCHER INVASION

Buffalo and cattle provided the first economic attraction for early settlers to the region. Both industries heavily impacted the environment. Reduction of buffalo populations meant decreased biodiversity and drastic changes in ecological conditions. Widespread concentration of domesticated livestock caused erosion and mesquite overgrowth. Soil surveys, archeological records, and historical documents indicate that these major environmental disturbances came after the Civil War with the large influx of cattle. This chapter examines how early Anglo-American community decision-making processes and the cattle ranching industry transformed the Wichita River valleys.

Historically, mesquite appears to be a native species that has the potential for overgrowth during periods of disturbance. Anglo-American cattle overgrazed the valleys of the Wichita rivers in the late nineteenth and early

twentieth centuries, which in turn caused both mesquite overgrowth and catastrophic soil erosion.¹

Often mesquite overgrowth was blamed on Spaniards because they brought cattle from Europe to the Americas. It was believed that Spanish feral cattle dispersed the mesquite seed across North America. Spaniards found mesquite on the plains in Kansas in 1541, before widespread dispersion of feral cattle could have possibly taken place.² Therefore, "scholars can not heap indignation on Spaniards for the alleged despoliation of the New World or environmental history risks losing its anchor in pragmatic data to postmodern discourse."³ Texas geographer Terry G. Jordan, after years of research on the cattle industry, asserted that the Hispanic period did not adversely change

¹Soil Survey of Wichita County, Texas, (United States Department of Agriculture, Soil Conservation Service and the Texas Agricultural Experiment Station, 1972), 45-80; S. Alan Skinner, Archeological Survey of the Wichita Falls Landfill Expansion, Wichita County, Texas, TARL 12; Elizabeth Burson and Donna DeYoung, Endangered Species and Cultural Resources Survey, TARL, 21; Carl C. Wright, "The Mesquite Tree: From Nature's Boon to Aggressive Invader," Southwestern Historical Quarterly, 69, 1 (July 1965): 43; Leonard T. LaVareda, A Cultural Resources Investigations, TARL, 3-1; Trinomial 41WC11, 19 November 2001, Archeological Site Data Form, Wichita Falls Landfill Project, TARL; Trinomial 41WC9, 19 November 2001, Archeological Site Data Form, Wichita Falls Landfill Project, TARL; Trinomial 41WC4, Archeological Site Data Form, Oklaunion to Iowa Park Transmission Line Survey, TARL.

² Wright, "The Mesquite Tree" 38-44.

³ Karl W. Butzer, Review of Human Impact on Ancient Environments, 2427.

the landscape in north Texas; however Anglo-American colonization did drastically change the landscape.⁴

Until the 1830s bison could be found all the way across Texas from the High Plains to the Gulf Coast. After massive Anglo colonization took hold in northeast and central Texas the systematic slaughter of the bison began. After the Civil War the removal of bison continued on into the plains of West Texas as settlers moved westward across the frontier.⁵ The state tax rolls for Wichita County, which date from 1868, provide crucial historical data for the beginning of the expansion of private enterprise in the Wichita river valleys.⁶ This process was abetted by the State of Texas itself, proved through its support for buffalo removal and cattle industry expansion onto freegrazing state lands.

Extermination of the buffalo presents an obvious alteration in the cultural landscape in the Wichita River valleys. The human decimation of the buffalo and other large mammals was a result of two variables - a purely economic attempt to eradicate them so that local cattlemen

⁴ Terry G. Jordan, John L. Bean, and William M. Holmes, *Texas: A Geography*, (Boulder, Co.: Westview Press, 1984), 41-43.

⁵ Ibid, 41-43.

⁶ Wichita County Tax Rolls 1865-1910, Archives and Genealogy, State Library, Austin, Texas.

could increase cattle ranges and, secondly, as a military policy to subjugate the remaining autonomous Comanches and Kiowas. A racially driven state policy evolved based on the premise that the buffalo and big game should be eradicated to extinguish Native American ability to subsist independently and resist Americanization.

The themes of mesquite overgrowth, soil erosion, and species eradication can be explored by looking at the careers of early pioneers such as Mabel Gilbert, Tom Buntin, and Mart Banta, and first cattle ranchers such as Daniel and Tom Waggoner, Samuel Burk Burnett, and W.S. and E.F. Ikard, along with the development of ranches, towns, infrastructure, fencing, and water issues associated with the growth of a large-scale cattle industry.

Before 1865 Tom Buntin constructed a simple dugout in a Wichita County hillside, its roof made of mesquite and cottonwood. The dugout was primarily meant for sleeping, and all other activity such as cooking took place outside around campfires.⁷ His house was characteristic of the early settlement phase - a house made of sod, grass, and timber fetched from river and creek bottoms. It was a structure

⁷ Duty, Wichita Falls, 6

that represented a close relationship with the natural surroundings.

Soon, Buntin, a buffalo hide freighter, re-located to a log cabin near the present-day corner of Ninth and Kemp Streets. The log cabin more resembled Anglo-American cultural patterns established in Europe and continued on the eastern American coast - a culture that now migrated across the western plains. Buntin stayed until 1888, by which time the site had become a town of thousands.⁸ Wichita Falls, with rails, roads, and modern houses had emerged around Buntin's old log cabin.⁹ The transition from solitary buffalo freighter to townsperson had come for Buntin in less than 15 years. As the buffalo disappeared Buntin and his family became dependent on town life. Why were the buffalo gone, and how had the landscape changed in such a short time now that people were dependent on towns and a cattle ranching economy?

The history of the city of Wichita Falls begins on 20 December 1836, when Sam Houston, President of the Republic of Texas, granted Thomas Toby nineteen land scrip certificates. On 14 February 1837 Toby transferred the

⁸ Ibid, 6

⁹ William C. Pool, A Historical Atlas of Texas (Austin, TX: Encino Press, 1975), 132.

certificates to Fielding Davis and Nolan Stewart. Two months later, Stewart and Davis sold the certificates to Albert G. Foster. On 7 December 1837 Foster relinquished the certificates to John A. Scott, a Greenville, Mississippi planter.¹⁰ According to legend, John A. Scott of Mississippi acquired the land where the city of Wichita Falls is presently located, in a New Orleans poker game.¹¹

Early settlers reported that Scott set the land titles aside in a trunk and forgot about them, because he assumed the land was just a desolate place far out in the Texas Indian wilderness. Only later did Scott's heirs find the land titles in a trunk and make claim to them. It is not possible to tell from the historical record if Scott did indeed win the land that would later become the city of Wichita Falls in a poker game, but it is certain that the heirs of John Scott did have legal ownership of the land through inheritance. Recent scholars believe that Scott probably was sold the certificates.¹²

¹⁰ Kell House Project (41WC2), Wichita County File, TARL; Wichita County, Book D, Deed Records, 382

¹¹ Kenneth E. Hendrickson, "Wichita Falls, Texas", Handbook of Texas Online, July 23, 2002 (November 17, 2002); Wichita County, Book D, Deed Records, 382; Kelly, Wichita County, 103.

¹² Hendrickson, "Wichita Falls, Texas"; Kelly, Wichita County, 103; Duty, Wichita Falls, 7; Kell House Project (41WC2), Wichita County File, TARL.

The heirs of John Scott, having knowledge that a railroad called the Dallas and Wichita Railway Company had been chartered on 2 December 1871 to build westward from Dallas, decided in turn to have their land in present day south east Wichita County surveyed, mapped, and a town site with 188 blocks laid out. The venture seemed potentially profitable. Merritt Seely was made the agent of the town lots. He filed a map on 6 July 1876 and named the settlement Wichita Falls. Seely sold land for 34 dwellings inhabited by 161 people.¹³ In 1879 John A. Scott's survey appeared on the state tax rolls. Seely by then had filled many lots and blocks in the new town.¹⁴

The town site was designed with the intention of developing northward, but it later would develop primarily southward. It was also designed to attract the railroad from Dallas, but the railroad would not come from Dallas. Instead, in 1882 the rail came up from Fort Worth.¹⁵ When the Fort Worth and Denver Railroad (FW&D) was established, R.E. Montgomery became the new agent for the Scott survey,

¹³ Kelly, *Wichita County*, 103; Duty, *Wichita Falls*, 7; Kell House Project (41WC2), Wichita County File, TARL; Hendrickson, "Wichita Falls, Texas."

¹⁴ Tax Rolls for 1879, Wichita County Tax Rolls 1865-1910, Archives and Genealogy, State Library, Austin, Texas.

¹⁵ Kelly, Wichita County, 103; Duty, Wichita Falls, 7; Kell House Project (41WC2), Wichita County File, TARL; Hendrickson, "Wichita Falls, Texas."

relinquishing Seely's duties. Montgomery added 77 more blocks and broadened Ohio, Scott, and Indiana streets in the growing downtown center. He sold his lots at the 27 September 1882 town lot sale on the day of the arrival of the railroad from Ft. Worth.¹⁶

In 1875, a year before the town site was laid out, General Philip Sheridan persuaded a session of the Texas legislature to veto a buffalo conservation bill that had the potential of preserving from extinction the buffalo on the southern plains. He stated that the white buffalo hunters

Have done more in the last two years to settle the vexed Indian question than the entire army has done in the past thirty years. They are destroying the Indians' commissary.... Send them powder and lead, if you will; but, for the sake of lasting peace, let them kill, skin, and sell until the buffaloes are exterminated. Then your prairies can be covered with speckled cattle and the festive cowboy, who follows the hunter as a second forerunner of an advanced civilization.¹⁷

Following Sheridan's advice, Texan policy towards the buffalo on the southern plains in the unsettled regions of north central Texas allowed the pioneering farmers and ranchers to establish "civilized" settlements devoid of

¹⁶ Kelly, *Wichita County*, 103; Book D, 17 June 1882, 274, Wichita County Archives (WCA), Wichita Falls, Texas.

¹⁷ James L. Haley, The Buffalo War: The History of the Red River Indian Uprising of 1874 (Garden City, NY: Doubleday an Company, 1976), 25.

"savages" - in effect destroying the life ways of the indigenous peoples and the ecology of the southern plains. When the Indians were gone and the buffalo eradicated, permanent settlers could make a living at farming, storekeeping, or ranching.¹⁸ The demise of native cultures and the stability of regional ecology were not even considered.

In the 1870s the Banta family lived near Beaver Creek in southwest Wichita County. The family made their home beside the Buffalo Road, also called "Great North" Road and "Good Creek" Road by pioneers. Before 1878 the road was used by wagons taking buffalo hides to markets. Between 1878 and 1890 hundreds of wagons used the road for taking bones to market. Mart Banta, recalling his childhood, remembered buffalo bone hunters coming down the road in hundreds of wagons a day, crossing the Wichita River, passing the present-day settlement of Holiday, and into the markets at Wichita Falls, Henrietta, and other points along the roads. The buffalo-bone wagon trains were the result of hard-pressed pioneers trying to subsist in a landscape adversely impacted by the eradication of a species integral

¹⁸ "The Buffalo Road," Wichita County Folder, Recorded Texas Historic Landmarks, Texas Historical Commission (THC), Austin, Texas.

to the environment. They gathered the bones to exchange for groceries and other needed items.¹⁹



Fig. 12. Map of Buffalo Ranges 1870-1880. Edward Everett Dale, The Range Cattle Industry: Ranching on the Great Plains from 1856 to 1925, (Norman, OK: University of Oklahoma Press, 1930).

Cattle raising soon followed buffalo exploitation. Prior to 1870 large ranching outfits superintended grazing on free-range state land. By 1870 the state had surveyed

¹⁹ Williams, Old Texas Trails, 410.

and sold the public lands in the region primarily to ranchmen. Between 1870 and 1880 ranchers inhabited and made permanent settlement in Wichita County.²⁰ These early cattle ranchers built line shacks near watering holes to manage their herds on the open plains. But with the organization of counties in 1879, lines were delineated and ranges were closed and fenced.²¹

The cattle transformation of the Wichita River landscape was a result of four identifiable variables. The first of these included the ranchers' reckless policy of overstocking the range, which was popular when the cattle industry first boomed. A second variable was the inmigrating homesteaders who settled and fenced "choice" lands, reducing the carrying capacity of those lands. Thirdly, ranchers wanted to make the most money in the quickest time possible so they wanted the greatest return from the pasturage in the short term. "The tenure of lands was in many cases precarious and of a temporary character." Finally, watering places were few and far apart, which

²⁰ Homer C. Laxson, *Economic Survey of Wichita County, Texas* (Wichita Falls, Tx: Bureau of Business and Economic Research at Midwestern State University, 1958), n.p.

²¹ Leonard T. LaVareda, A Cultural Resources investigations, TARL, 4-4.

caused large numbers of cattle to gather near water holes, rivers, and creeks, causing serious erosion.²²

Between 1820 and 1850 most early northern Texas stock raising occurred in the prairie corridor of northeast Texas - an Anglo-American cattle system derived from the Carolinas by way of the Upper South (Tennessee, Missouri). Terry Jordan believes, "it was this grassy corridor which guided Anglo cattlemen westward into north-central Texas in the decades after the middle of the century."²³ Evidence indicates that the cross timbers and mesquite plains were areas "occupied successively in the westward expansion of the Carolinas-upper southern herding system." From the northeastern part of the state of Texas, the Anglo tradition moved westward onto the plains of north-central Texas, where Spanish, Acadian, and lower southern Anglo traditions amalgamated to form "the western American cattle ranching complex."²⁴

The earliest of the Wichita Falls-area stock raisers was Mabel Gilbert, a native of North Carolina who migrated

²⁴ Ibid, 66-67, and 85.

²² Edward Everett Dale, *The Range Cattle Industry: Ranching on the Great Plains from 1856 to 1925* (Norman, OK: University of Oklahoma Press, 1930), 117-118; H.L. Bentley, "Cattle Ranges of the Southwest," *Farmer's Bulletin*, 72 (1898).

²³ Terry G. Jordan, "Early Northeast Texas and the evolution of Western Ranching," Annals of the Association of American Geographers, 67, 1 (March 1977): 70.

from Dickson County, Tennessee, to Fannin County, Texas, in 1837. By 1843 Gilbert had established a cattle herd south of Bonham, Texas.²⁵ Gilbert, who ranched, farmed, and lived in Fannin, Tarrant, and Dallas counties, was one of the first settlers in the Dallas area before moving northward to newly formed Wichita County to experiment with stock raising on the mesquite plains. Gilbert settled near the confluence of Gilbert Creek and Red River ten miles from present-day Wichita Falls. Between 1856 and 1858 Gilbert made the first recorded Anglo attempts at settlement in Wichita County.²⁶

Gilbert received a land grant consisting of 320 acres on the Red River at the confluence of Gilbert's Creek, approximately 19.5 miles west of the mouth of the Big Wichita River.²⁷ Here he built two dugouts that eventually became two log cabins overlooking the Red River. Dugouts by far represent a more striking cultural and environmental

²⁵ Ibid, 85.

²⁶ Duty, *Wichita Falls*, 5. Mabel Gilbert arrived to settle in Wichita County while he was in his mid 50s.

²⁷ Deed Records, Wichita County, Book 1, page 10, patent number 1015, Abstract 261, Wichita County (2877), Located at Mabel Gilbert Section, Wichita County Files, THC. Originally the Land Commissioner of Bexar County issued the grant on 9 September 1847 to Nepemuceno Salinas. It was then transferred to William Crenshaw and Benjamin Priddy on September 14,1847. Between 1850 and 1851 the grant was conveyed legally to Mabel Gilbert through certain articles of partnerships and divisions entered into between Mabel Gilbert, William Crenshaw, Benjamin Priddy, and William H. Gilbert.

adaptation to a semi-arid and building materials deficient region.²⁸ Ranchers in the coming years would haul building materials over miles of prairie so that their houses would resemble the houses of their past - cultural persistence.

The early history of the Gilbert family in Wichita County illustrates the character of the country in the antebellum period. Twice the Gilberts were forced to abandon their homestead because of Indian depredations. The first raid occurred only two months after the family's arrival, which forced their retreat to what is now Saint Jo, at that time called Head of Elm, in newly formed Montague County. The Gilberts returned to their homestead in Wichita County in 1859, staying until 1862. With the onset of the Civil War, and the military's withdrawal from the southern plains, Gilbert was forced to return to Montague County. He did not resume farming and ranching along Gilbert Creek until 1867, after the end of the Civil War and the reestablishment of military support for plains pioneers. Before Gilbert could apply effective ranching techniques in Wichita County that had been successful in other northeast Texas counties he died in 1870 of pneumonia

²⁸ Paul T. Watson Jr., "Frontier Housing 1865 to 1890: A Theory of Housing Construction as Change and Continuity," (MA Thesis, Midwestern State University, August 1967), 4.

contracted while on one of his many wet cold trips for supplies to Gainesville in Cooke County.²⁹

Mabel Gilbert's wife pulled the family back to the confines of Cooke County after her husband's death. Without Mabel around, she could not hold off Indian aggressions or keep buffalo out of fields.³⁰ Sherrie McElroy, a historian of women on the Red River plains, asserts that "Anglo women on the Red River frontier were thrown every obstacle possible, such as Indians, heat, blue northers, bugs, a seemingly endless wind, tearing isolation, and violence. Some women sustained the challenge while others perished trying." Without her husband Mrs. Gilbert could not effectively handle the multiple challenges of frontier life, so she wisely moved to Cooke County, where a widow and large family could settle peaceably.³¹

Early settlers like Mabel Gilbert knew that the land conditions were excellent for cattle ranching, but because of Indian depredations and constant competition from

²⁹ J.W. Williams, *Old Texas Trails*, ed. Kenneth F. Neighbours (Burnet, TX: Eakin Press, 1979), 290; Kelly, *Wichita County*, 5; Duty, *Wichita Falls*, 6. At his death, Gilbert had served in the county government in Fannin county, served as chief justice of Montague County, birthed twenty-four children, and owned 4,000 acres in Wichita County that would later become part of the Burkburnett oil fields.

³⁰ Duty, Wichita Falls, 6.

³¹ Sherrie McLeroy, "Red River Women," in *Forever Texas: Texas, The Way Those Who Lived It and Wrote It*, eds. Mike Blakely and Elizabeth Goldman (New York: Tom Dohetry, 2000), 122-123.

buffalo, cattle could not thrive. Gilbert's attempts at farming were more successful than his unfruitful attempts at ranching. Gilbert's legacy shows in the permanent record on modern maps with place names like Gilbert Creek in north Wichita County. Other early pioneers remembered Gilbert by naming a hamlet after him. By June 1880 the settlement of Nesterville, started in 1879 by J. G. Hardin and J. P. Hawkins, had a small store and a reported population of 132. The town was called Nesterville because the dugouts that these early pioneers built looked like nests on the plains. In 1882 a local post office opened in the hamlet and re-named the town Gilbert in honor of Mabel Gilbert; it operated until 1903.³²

Following Gilbert's lead, after the Civil War and with the subjugation of the indigenous population, cattlemen from northeast Texas flooded into the Wichita River valleys. Stockmen such as Samuel Burk Burnett, the Waggoner family, and the Ikard brothers helped to alter the cultural landscape immensely. The southern plains environment allowed the flourishing of a rich cattle industry as was predicted by many of the early explorers and pioneers. Once

³² Brian Hart, "Burkburnett, Texas," The Handbook of Texas Online, December 4, 2002 (February 19, 2003). http://www.tsha.utexas.edu/handbook/online/articles/view/BB/heb14.html

the plains were cleared of Kiowa and Comanche, the north central Texas plains were open to settlement and business enterprise.

William Susan "Sude" Ikard and brother Elisha Floyd Ikard migrated with their family to Lamar County, Texas in 1852 and then westward to Parker County in 1855. In 1865 Sude Ikard and his brother entered the cattle business in Parker County by collecting stray cattle. By 1867 they were making trips up the Chisholm Trail to Kansas City. In 1871 the Ikard brothers expanded northward. They secured range rights in present day Clay County and built a log cabin with a buffalo hide roof. The Ikards helped to organize Clay County and lay out the county seat Henrietta.³³

In 1872 the Ikard brothers established a homestead on the Wichita River in what is now Wichita County. The brothers were frequently forced to defend themselves and property from Kiowa and Comanche aggressions.³⁴ The Ikards started on the Wichita River as dry farmers selling grain

³⁴ Dale, The Range Cattle Industry, 104; Baron Walter von Richthofen, Cattle Raising on the Plains of North America (1885), 47; U.S. Bureau of the Census, Tenth Census of the United States: 1880, Population, (Washington, D.C.: U.S. Government Printing Office, 1883).

³³ Joseph Andrew Blackman, "William Susan Ikard," The Handbook of Texas Online, www.tsha.utexas.edu/handbook/online/articles/views/II/fikl.html, Updated 4 December 2002, (Accessed 12 January 2004); Rupert N. Richardson, "William S. Ikard and Hereford Raising in Texas," West Texas Historical Association Year Book, 25 (1949).

to nearby Fort Sill. In 1873 they collected drifting cattle and began ranching the southern portion of Wichita County.³⁵ In 1875 the two brothers bought 20,000 acres near present day Charlie, Texas. The ranch prospered until the early 1880s.³⁶

In the early 1880s the Ikards were forced northwest because of years of drought. Also, pressures from more ambitious cattlemen and a growing number of dry farmers caused the Ikards to look west for more land to ranch. The Ikard brothers joined with the Harrold brothers and drove their combined herds northwest to Greer County in Indian Territory between the North and South forks of the Red River. The venture proved successful and eventually the Ikards sold out to the Harrolds, making a substantial profit.³⁷

³⁶ Joseph Andrew Blackman, "William Susan Ikard," The Handbook of Texas Online, www.tsha.utexas.edu/handbook/online/articles/views/Il/fikl.html, Updated 4 December 2002, (Accessed 12 January 2004) and Richardson, "William S. Ikard and Hereford Raising in Texas."

³⁷ Joseph Andrew Blackman, "William Susan Ikard," The Handbook of Texas Online, www.tsha.utexas.edu/handbook/online/articles/views/II/fikl.html, Updated 4 December 2002, (Accessed 12 January 2004) and Rupert N. Richardson, "William S. Ikard and Hereford Raising in Texas," West Texas Historical Association Year Book, 25 (1949); U.S. Bureau of the Census, Tenth Census of the United States: 1880, Population, (Washington, D.C.: U.S. Government Printing Office, 1883), 973; Kelly, Wichita County Beginnings, 12.

³⁵ U.S. Bureau of the Census, Tenth Census of the United States: 1880, Population, (Washington, D.C.: U.S. Government Printing Office, 1883), 973; Kelly, Wichita County Beginnings, 12.

When the cattlemen first arrived at the Big and Little Wichita rivers "it was not necessary for the owners of herds to have the titles to any land; all they required was ... good pasturage with running water, which they simply occupied with their cattle." Once the farmers "demonstrated that the valleys with running water were very productive," they soon "took the land, fenced it, and obliged the cattle owners" to leave or buy the land until "all desirable water front lands were owned" by one or the other.³⁸ The Ikard brothers returned to Wichita Falls and Henrietta in 1883. They purchased 11,000 acres near Wichita Falls and 75,000 acres in Clay and Archer Counties. The brothers were some of the first cattlemen in north Texas to fence their land. However the Ikards intentionally left large gaps and gates so that fence cutting never troubled them.³⁹

³⁸ Richthofen, *Cattle-Raising on the Plains of North America*, 47. Richthofen's *Cattle-Raising* is a product of the era in which it was published in 1885 and was the first book to treat the subject of cattle raising in the West in a systematic way.

³⁹Joseph Andrew Blackman, "William Susan Ikard," The Handbook of Texas Online, www.tsha.utexas.edu/handbook/online/articles/views/II/fik1.html, Updated 4 December 2002, (Accessed 12 January 2004); Rupert N. Richardson, "William S. Ikard and Hereford Raising in Texas," West Texas Historical Association Year Book, 25 (1949).

In 1875 barbwire made its appearance on the north Texas ranges. The increasing scarcity of rangelands and the growing prosperity of the ranching industry prompted widespread barbwire use in the region. Once a range was enclosed with barbwire the overall operating costs of the ranch were reduced. Decreased numbers of straying cattle and cattle theft created labor savings. Fencing also improved the quality of cattle through restrictive breeding.40 The Ikards had watched land use change in the valleys of the Wichita rivers first hand from large-scale cattle operations on freegrazing rangelands to fenced ranchlands and farms. They had made the transition within the cattle industry, but at the same time profited off the western expansion of exploitation before settlement and land consolidation. The Waggoners and Burnetts would do the same.

Solomon "Sol" Waggoner (1804-1849) from Lincoln County, Tennessee, migrated with his family to Missouri, then to northeast Texas. Sol Waggoner settled in Red River

⁴⁰ Range and Ranch Cattle Traffic: A Report from the Chief of the Bureau of Statistics, in response to a resolution of the House calling for information in regard to the range and ranch cattle traffic in the Western States and Territories, House Executive Documents, Volume 29, Numbers 226-267, Except Numbers 235, 248, and 266, 48th Congress, 2nd Session, 1884-1885 (Washington: Government Printing Office, 1885); Dale, The Range Cattle Industry, 109-110

County in 1839, when cattle were first roaming the northeast Texas prairies. In 1848 the family received a land grant in Hopkins County, where the family lived until Sol Waggoner's death. Daniel Waggoner (1828-1902), Sol's son, took over the family cattle business and eventually migrated to Wise County in 1855. Dan recognized the opportunities of the Wichita country and shifted the family's cattle operations to Wichita and Clay counties in the 1870s.⁴¹ In 1870 the Waggoner Family fattened a herd of cattle on the Little Wichita River, which they drove to Kansas City in the spring, making a substantial profit.⁴²

However, Indian marauders plagued the Waggoner operation on the Little Wichita.⁴³ Well-armed with guns and high hopes for profits from the Kansas markets, in late 1871 the Waggoner family trailed 1000 longhorn to the Clay-Wichita "free grass" and built a headquarters at the Clay-Wichita county line.⁴⁴ Throughout the 1870s the Waggoners bought up land in Wilbarger, Foard, Wichita, Baylor, Archer, and Knox Counties along portions of the Big Wichita

⁴¹ Jordan, "Early Northeast Texas" 85; Dale, The Range Cattle Industry, 104.

⁴² C.L Douglas, *Cattle Kings of Texas* (Fort Worth, TX: Branch-Smith, 1939, 1968), 337.

⁴³ Douglas, Cattle Kings of Texas, 337.

⁴⁴ Kelly, Wichita County, 8.

River. Herds grew from the five thousands to the fifteen thousands grazing lands from Decatur to Vernon.⁴⁵

By 1880 the Waggoners had established the 3D Ranch along the Pease River basin in the northwestern portion of Wichita County.⁴⁶ Tom Waggoner took the reins from his father in 1880 and expanded the ranch to cover one-fourth of Wichita County. His father had become more interested and involved in banking and business interests in Decatur and Fort Worth.⁴⁷ The 1880 tax roll for Wichita County indicates that Daniel Waggoner and son had 100 horses and 10,000 heads of cattle.⁴⁸ In 1881 they increased their holdings in the county to 11,000 head of cattle and 150 horses.⁴⁹

In 1885 the Waggoners began shipping cattle by rail from the small community of Harold northwest of Wichita Falls, proof that farmers and small homesteads were competing for land near the southeast portion of the county, where the new town of Wichita Falls had been

⁴⁹ Tax Roll for 1881, Wichita County Tax Rolls 1865-1910, Archives and Genealogy, State Library, Austin, Texas.

⁴⁵ Douglas, Cattle Kings of Texas, 337.

⁴⁶ Poole, Historical Atlas.

⁴⁷ Kelly, Wichita County Beginnings, 8.

⁴⁸ Tax Roll for 1880, Wichita County Tax Rolls 1865-1910, Archives and Genealogy, State Library, Austin, Texas.

rapidly developing since the railroad had been built.⁵⁰ The advancing homesteaders and farmers were pushing the ranchers west, but not before the ranchers could utilize as much range as possible. The temporary attachment to the land caused the ranchers to disregard ecological consequence. Before the arrival of the railroad 51,000 cattle grazed Wichita County. In 1884, two years after the rail had caused an explosion in farmers, only 14,960 cattle grazed the county. Prior to 1882 cattlemen ran hundreds, and in the case of Waggoner Family thousands of cattle within Wichita County. By 1884 there were no individuals running more than 200 head of cattle within Wichita County.⁵¹

By 1905 the Waggoner family ranched land in a broad area of the western portion of north-central Texas and southern Oklahoma, including land leased from the Comanches in southern Oklahoma. In Texas their properties were spread throughout Wichita, Wilbarger, Baylor, Knox, Foard, and six other north Texas counties.⁵² A settlement emerged in northwest Wichita County around houses and a store the

⁵⁰ Kelly, Wichita County, 9.

⁵¹ Tax Rolls for 1881, 1882, and 1884, Wichita County Tax Rolls 1865-1910, Archives and Genealogy, State Library, Austin, Texas.

⁵² Kelly, Wichita County, 8.

Waggoner Family had built for the employees of the westward growing ranch.⁵³ The town of Electra in Wichita County was named after Waggoner's daughter. John Hirshi, an early settler, recalls, "They used to call the place "sidetrack B," but after Waggoner got here, he named it Electra for his daughter."⁵⁴

Another of the early post-Civil War settlers was Samuel Burk Burnett (1849-1922), a native of Missouri who with the support of his father brought a herd to Denton County.⁵⁵ In Fort Worth he married Ruth Lloyd, daughter of a wealthy banker. Burnett himself became a wealthy and influential banker. While the marriage to Ruth Lloyd and the business partnership with the Lloyd family later dissolved, Burnett maintained his economic status and influence among a wealthy new class of north Texas cattlemen.⁵⁶

⁵⁵ Douglas, *Cattle Kings of Texas*, 351; Samuel Burk Burnett, Wichita County Folder, Recorded Texas Historic Landmarks, Texas Historical Commission, Austin, Texas; Kelly, *Wichita County*, 8-9.

⁵⁶ Samuel Burk Burnett, Wichita County Folder, Recorded Texas Historic Landmarks, Texas Historical Commission (THC), Austin, Texas; Kelly, Wichita County, 8-9; Douglas, Cattle Kings of Texas, 353.

⁵³ Ibid, 8.

⁵⁴ Memoirs of John Hirshi As Told to Ms. Edith Slaten, 27 February 1957, Diamond Jubilee 1882-1957: Early History Wichita County and North Texas, Wichita County, Texas, Historical Series, February 1957, Moffett Library, Special Collections, Midwestern State University, Wichita Falls, TX.

In the winter of 1874 Burnett brought 1,300 cattle that he had bought in the Nueces and Rio Grande country to the Little Wichita River Valley, registering the four sixes (6666) brand in the town of Henrietta - a town that lies in the Little Wichita valley.⁵⁷ An expansion in the cattle business in the region had been spurred by Colonel Ranald S. McKenzie's defeat of Comanches and Kiowas in that same year of 1874. It had made the region safe for buffalo exploitation and cattle ranching enterprises.⁵⁸ By 1875 Burnett had established himself with a large herd of cattle on the Little Wichita River and hundreds of head in the Clay-Wichita County grasslands. It was an area that Anglo-Americans from Fort Worth reported, "had previously known only the red man and buffalo."⁵⁹ He expanded his 6666 branded cattle northwestwardly to the Big Wichita River with an additional hundred head of cattle he had bought from Frank Crowley in Denton County. He pastured his newest cattle in 1875 in Wichita County, grazing on the expanded

⁵⁷ Kelly, Wichita County, 8-9.

⁵⁸ Meredith Richards Martin, "Samuel Burk Burnett: Old 6666" (MA Thesis, Midwestern State University, 2002), 26-27; Douglas, *Cattle Kings of Texas*, 353.

⁵⁹ Samuel Burk Burnett, Wichita County Folder, Recorded Texas Historic Landmarks, THC.

ranges that the prairies of the Big Wichita River Valley afforded.⁶⁰

With the Native American "threat" silenced the only obstacle left was the free-roaming buffalo that threatened business. Buffalo not only injured cattle, but they also competed for the grazing ranges that the ranchers wanted safe for their cows. To deal with the buffalo the ranchers often massacred them wholesale. Burnett, for example, hired a person to follow him around with a bag of shotgun shells so that he could quickly reload and fire at them. On one occasion he slaughtered 300 buffalo. Soon the buffalo no longer competed with the cattlemen for territory as they were driven to near extinction.⁶¹ Burnett recalled,

I recollect as distinctly as if it were yesterday when I drove my first herd of cattle into that territory. My journey ended in the vicinity of the present location of Wichita Falls, and it would be hard to imagine a lonelier or more desolate place. At one time the buffaloes were so numerous and threatened so much injury to cattle that

⁶¹ Martin, "Samuel Burk Burnett: Old 6666," 26-27; Douglas, *Cattle Kings of Texas*, 353.

⁶⁰ Martin, "Samuel Burk Burnett: Old 6666," 21 and Gus L. Ford ed., Texas Cattle Brands: A Catalog of the Texas Centennial, Exposition and Exhibit (Dallas, TX: Clyde C. Cockrell Company, 1936), 134. According to Samuel Burk Burnett historian, Meredith Richards Martin it is "popular myth that Burk won the cattle and the brand in question with a lucky hand at poker, winning with four of kind-four sixes to be exact." She continues, "Although this is a colorful story, there is simply no evidence to support it." Martin, "Samuel Burk Burnett: Old 6666," 22; Jack Walker, "Four Sixes," Texas Parade, 16, (July 1955): 37; Douglas, Cattle Kings of Texas, 351.

I actually had a Mexican employed to follow me around with a large seamless sack filled with cartridges ... in order to do away with the buffalo more speedily. On one occasion we killed three hundred buffaloes before succeeding in driving them from our herd.⁶²

General Sheridan's advice had come to fruition with the buffalo gone; the prairies were now "covered with speckled cattle and the festive cowboy," the "forerunners of an advanced civilization" of bone pickers, grocers, and farmers. The mass slaughter of the buffalo caused many roads and trails to be made by early scavenging settlers who came out to pick bones from the bone yards to bring them back to sell at grocery and supply centers in Wichita Falls and Henrietta.⁶³ According to West Texas historian Ralph A. Smith, "Old bones were ground into meal, fresh ones supplied refineries with calcium phosphate to neutralize cane-juice acid and decolor sugar, choice bones went to bone-china furnaces for calcium phosphate ash, and firm bones went to button factories."⁶⁴

Burnett was buying beeves and fattening them for markets in Kansas in the valleys of Wichita rivers.

⁶⁴ Smith, "Bone Business"; Smith, "The West Texas Bone Business."

⁶² Douglas, Cattle Kings of Texas, 352.

⁶³ Haley, The Buffalo War, 25; Williams, Old Texas Trails; Ralph A. Smith, "Bone Business," The Handbook of Texas Online, (Updated: December 4, 2002) (Accessed February 23, 2004); Ralph A. Smith, "The West Texas Bone Business," West Texas Historical Association Yearbook 55 (1979).

Burnett's cattle empire in 1881 had expanded to 1256 horses and 6000 cattle in Wichita County only six years after his initial settlement.⁶⁵ Drought in late 1881 forced Burnett further north in the county onto portions of the Red River Valley in search of water for his cattle.⁶⁶ The move obviously paid off because in 1882 the herd grew to 7000 head.⁶⁷ Initially Burnett purchased 26,000 acres in Wichita County. Over subsequent years he expanded his land holdings to 35,000 acres located mainly in the northern portion of Wichita County.⁶⁸

In the mid 1880s Burnett expanded into other Texas counties and into Indian Territory. The Waggoner and Burnett enterprises both leased over 300,000 acres from the Kiowas and Comanches on their reservations in Indian Territory. Eventually, Burnett became friends with the Comanche chief Quanah Parker and acted as an agent between the cattlemen and the Comanches.⁶⁹

⁶⁸ Martin, "Samuel Burk Burnett: Old 6666," 29.

⁶⁹ Douglas, Cattle Kings of Texas, 353-354.

⁶⁵ Tax Rolls for 1881 and 1882, Wichita County Tax Rolls 1865-1910, Archives and Genealogy, State Library, Austin, Texas.

⁶⁶ Douglas, Cattle Kings of Texas, 353.

⁶⁷ Tax Rolls for 1881 and 1882, Wichita County Tax Rolls 1865-1910, Archives and Genealogy, State Library, Austin, Texas.
At the beginning of the twentieth century Burnett, Waggoner, and other ranchers learned that the federal government had plans to open Indian Territory north of the Red River to white settlers. Therefore, Burnett and his attorney, Senator Joseph Weldon Bailey, went to Washington D.C. in 1901 to explain to the President that they needed time to find new grazing lands and remove their cattle from the lands about to be opened. They were successful in actually modifying the plans for white settlement in the territory by receiving a two-year stay.⁷⁰

In Washington D.C., Burnett and President Theodore Roosevelt formed a friendship. The President was fascinated with stories about John R. "Jack" Abernathy, who could catch wolves and coyotes with his bare hands. On a wolfhunting trip to Wichita County and the southern portions of Indian Territory in 1905, Roosevelt called the ranch town, Burk-Burnett. He later suggested to the United States Post Office that the little town be named after the host of his wolf hunt. The Post Office obliged, naming the town Burkburnett.⁷¹ Roosevelt stated, "Men like Burk Burnett and others came out here when this was a frontier, into these

⁷⁰ Samuel Burk Burnett, Wichita County Folder, THC; Williams, *Big Ranch Country*, 144.

⁷¹ Samuel Burk Burnett, Wichita County Folder, Recorded Texas Historic Landmarks, THC; Wichita Daily Times, 14 May 1907.

lands of the Indian and the buffalo, and then made ready the way of civilization that we now see before us, great is our debt of obligation."⁷²

With Burnett's success in the livestock industry he was able move up from the dugout he had initially built. Burnett built the first frame house in Wichita County. The transitional dwellings represented by log cabins and dugouts were products of the immediate environment, but stone, brick, and lumber homes were part of the pioneer concept of social achievement.⁷³ In a landscape barren of the building materials common to Anglo-American culture, Burnett was forced to bring those materials, primarily lumber, from Fort Worth - 130 overland miles.⁷⁴ According to early historians, Burnett "prepared the way for our present civilization of the Great West."⁷⁵

Lumber, stone, and brick houses signify the beginning of modern living and cultural persistence on the mesquite plains. The biggest environmental impact that housing had

⁷⁵ Martin, "Samuel Burk Burnett: Old 6666" 28.

⁷² Williams, Big Ranch Country, 144.

⁷³ Watson Jr., "Frontier Housing 1865 to 1890" 4.

⁷⁴ Mesquite requires special treatment for building. The bark must be stripped and the log must be soaked or the wood shortly becomes a pile of rubble because of insects and worms. Cottonwood, Oak, and Pecan provide better hardwoods, but this type of timber could only be found in alluvial valleys and never at forest growth. Watson Jr., "Frontier Housing 1865 to 1890" 353.

on the plains was not felt until the rail arrived in 1882, which allowed massive loads of building materials to be delivered. Landscape alterations in the form of urban development and suburban sprawl stem from this early concept of social achievement and cultural persistence first brought to the Wichita River region by the cattlemen.

Burnett and Waggoner's land use was based at first on temporary large-scale ranching operations with cattle numbers in the thousands. Eventually they moved their operations out of southeast Wichita County onto more permanent spreads in north and west Wichita County and beyond. Their early attempts at ranching were economically successful,⁷⁶ but archeological records indicate that the environment was dramatically altered by such massive scale ranching operations. Concentrated bodies of beeves overgrazing the same plot of prairie over and over again on a temporary basis did not allow plant ecosystems to recover. This system, introduced by Anglo-American settlers, replaced a completely different system that had been based on buffalo grazing areas in a successive manner that allowed plant communities to recover before the

⁷⁶ Tax Rolls for 1881 and 1882, Wichita County Tax Rolls 1865-1910, Archives and Genealogy, State Library, Austin, Texas.

roaming mammals returned on seasonal migrations.⁷⁷ The process of pasture degradation intensified when the railroad arrived in 1882.

The arrival of the railroad impacted both the economy and the ecology. Ranching operations changed in character while agriculture boomed on the mesquite plains. In Wichita Falls, Anglo-European agricultural systems began to make their mark on the landscape because the arrival of the railroad allowed intensification and commercialization of agricultural productions in the lower Wichita River valley. The development of Wichita Falls as an urban center in the area is based on the fact that the railroad afforded access to outside markets and therefore encouraged the entrance of many other settlers.⁷⁸ Also, it consolidated many trade routes onto one main line. Before rail construction, a number of overland delivery services had been set-up, only

⁷⁷ Soil Survey of Wichita County, Texas, (United States Department of Agriculture, Soil Conservation Service and the Texas Agricultural Experiment Station, 1972), 45-80; S. Alan Skinner, Archeological Survey of the Wichita Falls Landfill Expansion, Wichita County, Texas, TARL, 12; Burson and DeYoung, Endangered Species and Cultural Resources Survey, TARL, 21; Wright, "The Mesquite Tree," 43; LaVareda, A Cultural Resources Investigations, 3-1; Trinomial 41WC11, 19 November 2001, Archeological Site Data Form, Wichita Falls Landfill Project, TARL; Trinomial 41WC9, 19 November 2001, Archeological Site Data Form, Wichita Falls Landfill Project, TARL; Trinomial 41WC4, Archeological Site Data Form, Oklaunion to Iowa Park Transmission Line Survey, TARL.

⁷⁸ Wichita Falls Urban Transportation Plan Origin Destination Survey Volume 1 1964, US Department of Commerce Bureau of Public Roads, 9

to be discontinued because of inefficiency.⁷⁹ The rail consolidated lines, bolstered local economies, and changed land use across Texas.⁸⁰ Rail construction boomed in the 1870s, bringing about economic transformation throughout Texas.

The rail that would reach Wichita Falls in 1882 was a business enterprise that had its origins in Fort Worth in 1868, when Colonel Warren W. H. Lawrence, a former lobbyist for eastern capitalist in the Texas legislature along with other leading citizens in Fort Worth, drew up a charter for the Forth Worth and Denver City Railway Company (FW&D). The charter specified that the FW&D would build and operate a line at or near Fort Worth, where it would form a junction with the Texas and Pacific Railway, and then head northwesterly in the direction of Denver.⁸¹

The charter was bold considering that the Missouri, Texas, and Kansas rail had just reached Fort Worth in 1873.⁸² It was not until 29 April 1881 that Lawrence and his

⁸² Dale, The Range Cattle Industry, 107.

⁷⁹ Williams, Old Texas Trails.

⁸⁰ Dale, The Range Cattle Industry, 107; Report of the Comptroller, 1910; Texas Almanac, (Dallas Morning News Publishers, 1910), 116.

⁸¹ Richard Russack, "Building Texas Railroads," in *Forever Texas: Texas, The Way Those Who Lived It and Wrote It*, eds. Mike Blakely and Elizabeth Goldman (New York: Tom Dohetry, 2000).

group signed a contract with General Greenville M. Dodge to build their FW&D line. Dodge was the acclaimed builder of the Union Pacific and Texas Pacific lines.⁸³ The plan to build rail from Fort Worth to Denver led small settlements on the southern plains to compete for the rail to travel through their aspiring towns. Local Wichita Falls businessmen such as Joseph Barwise began to lobby Greenville and his builders to consider their town as a stop on the line across the desolate plains.⁸⁴

The original path of the rail line would have been seven miles away from the center of the Wichita Falls town site.⁸⁵ A group of citizens led by Judge Joseph Barwise convinced the principal builders, Dodge and his son-in-law R.E. Montgomery, to build through the center of town by offering a land grant consisting of fifty percent of all property along the right of way of the rail line through town. Dodge and Montgomery accepted the terms and formed the Texas Townsite Company in order to profit from their newly acquired lands in the town. Dodge acted as chief stockholder in the company while Montgomery managed the

⁸⁵ Overton, Gulf to the Rockies, 98; Duty, Wichita Falls, 5.

⁸³ Kelly, Wichita County, 18.

⁸⁴ Especially at Decatur and Bowie town site promotions were practiced. Richard C. Overton, *Gulf to the Rockies: The Heritage of the Fort Worth and Denver-Colorado and Southern Railways, 1861-1898* (Austin: University of Texas Press, 1953), 98.

company and lot sales in Wichita Falls. On 27 September 1882, the date considered the birthday of Wichita Falls, the Texas Townsite Company held a town lot sale. Montgomery sold many lots - lots that had become highly marketable now that the rail served them.⁸⁶

In the case of early large-scale cattle barons such as Waggoner and Burnett land use was geared towards running thousands of cattle over large acreages. This shifted in Wichita County when Wichita Falls as a railhead spurred quantum expansion of economic activity and mass inmigration of grocers, farmers, and eventually manufacturers and industry. Ranchers were forced to fence in lands or find bigger spreads farther west. On cattle ranches in Wichita County the total number of cattle declined, but ranches grew in number.⁸⁷ Farms increased dramatically because the rail allowed access to outside markets. Grocers like Joseph Kemp were allowed to flourish when increasing numbers of rural residents traveled to Wichita Falls for supplies and markets.

⁸⁶ A town site company had to be set up because the FW&D company only ran the low risk rail lines, town lot companies were a higher risk and rail investors did not wish to make such high-risk investments in the new West towns. Overton, *Gulf to the Rockies*, 98-100; Duty, *Wichita Falls*, 5.

⁸⁷ Tax Rolls, Wichita County Tax Rolls 1865-1910, Archives and Genealogy, State Library, Austin, Texas.



Fig. 13. Map/Construction Chart of Gulf to Rockies Route 1870-1898. Richard Overton, *Gulf to the Rockies*, 365 Joseph A. Kemp came to Wichita Falls and made his initial money in the grocery business. Mrs. Kemp explained, "although we came to a cattle country, we couldn't buy a pint of milk, or a dozen eggs, or anything." The aspiring Kemps, intent on bringing these packaged goods to a growing countryside of dry-land farmers and cattlemen, found among these people a considerable market. The Kemp family became relatively affluent through their grocery business.⁸⁸

By 1885 the Kemp family was not only wealthy, but also well established in the political arena. Mrs. Kemp recalls,

About 1885 came the free grass move between the cattlemen and the State Agricultural Department. The cattlemen had had free grass in Texas and they objected to the breaking up of land into plots for farms. Temple Houston, son of Sam Houston, made a famous speech in Galveston on homestead farming, which Mr. Kemp and I went to hear. He was a brilliant speaker and trial lawyer. His speech, no doubt, was a large factor in impressing the lawmakers and getting legislation favoring the agricultural interests.

⁸⁸ Memoirs of Mrs. J.A. Kemp As Told to Ms. Edith Slaten, 10 January 1957, Diamond Jubilee 1882-1957: Early History Wichita County and North Texas, Wichita County, Texas, Historical Series, February 1957, Moffett Library, Special Collections, Midwestern State University, Wichita Falls, TX.

The cattlemen then went to the Indian Territory for free grass. $^{\mbox{\scriptsize 89}}$

"A large influx of farmers cluttering the countryside with their plows and crops" caused the break-up of the free range. Fencing of the new farms and ranches replaced the earlier spread. As fencing became prevalent farmers and ranchers both found themselves cut off from water and good pasturage.⁹⁰ Prior to the arrival of the railroad most of the land was ranched and only a few drifting farmers engaged in the growing of corn, cotton, wheat, and oats. The FW&D allowed these crops to find outside markets. The preeminent cash crop soon became wheat. More land was put into cultivation causing ranchers to consolidate, fence, or move their grazing ranges.⁹¹ Farmers fenced in their lands to keep the cattle out, while ranchers fenced lands to secure their herds and access to water.

The environmental impact of fencing land can be seen in the archeologically documented case of the Parker Ranch, which at the turn of the century was established primarily for cattle pasturage at the present-day site of the Wichita

⁸⁹Ibid.

⁹⁰ Martin, "Samuel Burk Burnett: Old 6666" 39-40.

⁹¹ Soil Survey: Wichita County, Texas, 5; Laxson, Economic Survey of Wichita County, Texas, n.p.

Falls Landfill. The Parker Ranch typifies the land use change at the turn of the century from open range and large herds to fenced lands and concentrated herds. Archeological surveys on the Parker Ranch indicate that in the early 1900s the ranch land was covered with native grasses. Before being fenced the land was inhabited on a seasonal basis by antelope and buffalo. As a result of fencing, erosion and weed plants such as mesquite triumphed over the landscape. S. Alan Skinner, a north-central Texas archeologist, indicates that past historic land use on the Parker Ranch had apparently overgrazed the area and allowed for the overgrowth of mesquite, which has become well established.⁹²

Locally in Wichita County the railroad was the mechanism through which commercial development of the land on an intensive basis took place. The fencing of Wichita County was made possible by the railroad in two important ways. First, it brought the farmers and ranchers that increased the county's population, and along with them the very barbwire and other supplies necessary to build up the agricultural industry. Second, it quickly began to take eastward the products

⁹² S. Alan Skinner, Archeological Survey of the Wichita Falls Landfill Expansion, Wichita County, Texas, TARL, 12-16.

of that economic activity-buffalo bones, wheat, cotton, and cattle. In 1883 the FW&D reported that town growth and valuation along the lines had more than doubled.⁹³

In 1884 the cattle industry boomed because the "northern and northwestern portions of the State ... well adapted to the maturing of cattle" were opened to the markets of Kansas City, Saint Louis, Chicago and New Orleans.⁹⁴ At the end of 1884 the railroad stock holders were persuaded to extend the rail thirty-four miles west of Wichita Falls based on the recommendation of Morgan Jones of Fort Worth, a principle stockholder in the FW&D. He stated about the FW&D line:

At the time the road was completed, the country around Wichita falls was open, affording range for cattle shipped there, but since that time, by reason of the influx of settlers, it has been fenced so that cattle shipped there must be driven several miles through lanes before reaching the open range. After they have been carried for hundreds of miles standing in cars, cattle are not in condition to be driven any

⁹³ Overton, Gulf to the Rockies, 109-110.

⁹⁴ Range and Ranch Cattle Traffic: A Report from the Chief of the Bureau of Statistics, in response to a resolution of the House calling for information in regard to the range and ranch cattle traffic in the Western States and Territories, House Executive Documents, Volume 29, Numbers 226-267, Except Numbers 235, 248, and 266, 48th Congress, 2nd Session, 1884-1885 (Washington: Government Printing Office, 1885), 10-12.

distance before finding pasture and water, and therefore I believe this extension is necessary to enable us to hold our extensive cattle trade, which this year produced onefourth of the gross revenues of the company. I also believe that this extension will draw to us business from the northern part of the Panhandle, which now tends toward the Kansan roads.⁹⁵

On 5 May 1885 a small settlement thirty-four miles west of Wichita Falls named Harrold became the new terminus of the FW&D rail. Soon Harrold became a major cattle depot for the region. Ranchers who had been pushed north and west by in-migrating farmers and city folk in the southeast portion of Wichita County made Harrold their new access point to the rail.⁹⁶ Wichita Falls was enveloped by the impacts of the railroad, a completely new landscape rose on the "Mesquite Plains." A cultural landscape geared for commercial production, spreading westward across the county.

Man's modification of the land has caused plant communities in the Wichita region to shift over the last 100 years. The amount of grazing and poor soil conservation directly impacted this shift. According to the amount of grazing and soil conservation the plant communities can be

⁹⁵ Overton, *Gulf to the Rockies*, 115. Originally from the 1884 Annual Reports of the Fort Worth and Denver City Railway Company, 3-4.

⁹⁶ Kelly, Wichita County, 20; Overton, Gulf to the Rockies, 120.

divided into three groups - decreasers, increasers, and invaders. Decreaser plants include little bluestem and Indian grass, which decrease in relative abundance as land pressures increase. Increaser plants, such as buffalo grass and mesquite, are native species, which expand in periods of increased pressure. Invader plants, such as brush and weedy herbaceous plants encroach when pressure are high and often replace the native flora. Modern ranchers and landowners have realized this cycle and now focus on destroying invader and increaser species while replenishing native species of grasses to improve the quality of the land.⁹⁷ They learned to do this after years of trial and error realizing that short-term exploitation caused longterm damage, such as loss of soil fertility through erosion and often-unmanageable overgrowth of weed species.

Undoubtedly the intense cattle ranching on the northcentral Texas plains contributed to buffalo extinction, massive erosion, and mesquite overgrowth.⁹⁸ Overgrazing in

⁹⁷ Rohrt, Garber, and Woolley, Assessment of Archeological and Historical Resources in the Lake Wichita Area, North Central Texas, TARL, 8-10 and Natural Resources Study for the North Texas Planning Region, Prepared by Nortex Regional Planning Commission, Wichita Falls, Texas, March 1973, 48.

⁹⁸ Oklaunion to Iowa Park Transmission Line Survey (41WC4), Wichita County Folder, TARL; S. Alan Skinner, Archeological Survey of the Wichita Falls Landfill Expansion, TARL, 13.

the region allowed for the increase of mesquite on the landscape.

Cattle as well as other animals scattered the indigestible mesquite far and wide, year after year, when the prairies were no longer burned over. Observers writing at the turn of the century had seen the small shrubs of the open prairie grow to trees in great numbers, rivaling and surpassing the former "timber islands" and scattered groves.⁹⁹

By 1957, southwestern rangelands were covered by fifty percent more mesquite than in 1907.¹⁰⁰

In conclusion, the valleys of the Wichita River were transformed at the end of the nineteenth century because of the cattle ranching industry and the railroad impetus that followed. Often the environment was ignored because of short-term attachments to the land. The railroad acted as the mechanism through which development of the land on an intensive basis took place. Ranchers were doing well and in fact encouraged the railroad because it made access to their markets easier. However, the railroad helped to change land use in the region. Lands were divided, purchased, and fenced. Attachments to the land became more permanent, but still many ranchers overstocked their fenced ranges. It took ranchers many years to

¹⁰⁰ Ibid, 43.

⁹⁹ Wright, "The Mesquite Tree" 42.

understand the ecology of their rangelands and its relative importance to their herds. The railroad also encouraged more intensive crop production rather than extensive cattle production. The railroads had initiated and facilitated a massive agricultural transformation of the region.

CHAPTER 4: AGRICULTURAL TRANSFORMATION

The development of the Wichita River valleys into a center of modern commercial agriculture in the twentieth century was yet another turning point in the history of environmental change in the region. The arrival of the railroad and the extensive use of barbwire contributed to the steady expansion of crop agriculture and the marginalization of livestock pursuits. This chapter analyzes the growth and transformation of agriculture in the region. First, dry land farmers are discussed in an attempt to understand the early agricultural adaptations settlers made to the harsh semi-arid environment of the mesquite plains. Second, the influence of the railroad on community decision-making processes is explored, because the railroad stimulated expansion of agriculture onto unplanted lands and spurred agribusiness and associated urban growth. Third, the chapter details water use and the intensive growth of irrigation and infrastructure that correlated with further expansion of the farming industry. The roles of railroads and irrigation, usually examined within the context of their contribution to economic

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prosperity, are examined underneath an environmental lens to determine their influence on ecological change.

Water, a dominant theme in this chapter was and is an elemental concern to all people who inhabit the semi-arid southern plains. In the Big Wichita River Valley the issue is complicated because the deep red Permian sandstones through which the rivers and tributaries traverse make the water salty and foul. The river passes by salt springs and resistant white beds of anhydrite and gypsum, both calcium sulfates that cause salinity to permeate.¹

Reliable water supplies in the valley became a primary issue for agriculture and basic human needs. The

¹ The largest amounts of dissolved chlorides enter the Wichita River from springs and seeps along the South Wichita River. Six major salt springs rise from cavernous openings in the gypsum cliffs on the north bank of the South Wichita River. The springs flow at a rate of about two cubic feet per second and produce about 195 tons of chloride per day. The large dissolved solids and dissolved chlorides from the natural salt springs cause humans and some animals to shy from the taste and it causes crops irrigated with the water to have reduced average crop yields and decreased value. At high flows, the salty water is diluted enough to be less noticeable, but more commonly, low flows and high rates of evaporation persist, increasing the salinity. According to the USGS, saline water is water that contains more than 1000 mg of dissolved solids, such as salt, per liter, and then the water is saline. In addition, if one-one thousandth or more of the weight of a liter of water also referred to as "parts per thousand", is from salt, the water is saline. Stanley Baldys III, Peter W. Bush, and Charles C. Kidwell, Effects of Low-Flow Diversions from the South Wichita river on Downstream Salinity of the South Wichita River, Lake Kemp, and the Wichita River, North Texas, October 1982-September 1992, Department of the Interior, U.S. Geological Survey Water-Resources Investigations Report 95-4288, Prepared in Cooperation with the Red River Authority of Texas, City of Wichita Falls, and Wichita County Water Improvement District No.2, Austin, TX, 1996, 1-32 and J. Keller, J. Rawson, H. Grubb, J. Kramer, G. Sullivan, Report on the evaluation of the effectiveness of operation area VIII Red River Chloride Control Project: Red River Chloride Control Project Report, (Washington D.C.: GPO, 1988), 35.

development of reliable water sources in the Big Wichita River was and still is essential for a permanent settlement that depends on large-scale agriculture, public water needs, and industrial usage. Before a system of water control existed on the Big Wichita River pioneer families made their homes near springs and other freshwater supplies like Holiday Creek, Gilbert Creek, and the Little Wichita River. For a while a dammed Holiday Creek provided sufficient water for irrigation and public needs, until a population boom and drought in 1917 caused city planners to think bigger. Today, public freshwater drinking supplies come from Little Wichita River reservoirs Lake Arrowhead and Lake Kickapoo. Water from the Big Wichita River is used for small-scale irrigation and industrial use. Attempts to make the Big Wichita River a source of drinking water for a large population ultimately failed, so that the people of the Big Wichita River Valley looked next door to the Little Wichita River for its water, piping water from the Little Wichita to the valley of the Big Wichita River.

Table 2. "Lakes, Their Dates, and Sources," Derived from Irrigation Section, Book 19, Wichita County Archives, Wichita Falls, Texas.

LAKES	DATES OF CONSTRUCTION	SOURCE	STORAGE CAPACITY (ACRE FEET)
Crescent Lake	Old river oxbow lake filled in 1908	Big Wichita River	NOT AVAILABLE
Lake Wichita	1900-1901	Holiday Creek (Holiday Creek is a main feeder creek of the Big Wichita River)	9,000
Lake Kemp	1922-1924	Big Wichita River	319,600
Lake Diversion	1922-1924	Big Wichita River	40,000
Lake Kickapoo	1945-1947	Little Wichita River	106,000
Lake Arrowhead	1965-1966	Little Wichita River	262,100

In the latter half of the nineteenth century many dryland farming homesteads were established in the Wichita River valleys.² Mabel Gilbert, a former steamboat captain and steam mill operator came to Wichita County in 1856 to establish the first documented dry-land farm in the region. Gilbert selected land near a stream now called Gilbert Creek that was fed by McFarland Spring. He put rocks around the spring and kept it clean. In the stream fish thrived and on the banks of the creek he planted melons and vegetables. Gilbert, said to have been a "good farmer," produced many grain and corn crops on the plains. He also

 $^{^2\,}$ Skinner, Archeological Survey of the Wichita Falls Landfill Expansion, TARL, 16-19 and 33 $\,$

planted a peach orchard, which became a landmark for future settlers.³

The Gilbert family led a dangerous and isolated frontier life. Because of their relatively rare and precious spread they were plagued by Indian depredations and buffalo stampedes. Gilbert, a slaveholder, armed his slaves and together they acted as a frontier militia that defended themselves and their fields from Indian marauders. Because the buffalo trampled corn and grain crops in open fields, Gilbert dug ditches around a ten-acre field and terraced the ditches with brush and pickets. The buffalo remained undeterred.⁴

Gilbert's attempts at agriculture were primarily subsistence based. Commercial viability was nearly impossible considering the closest markets were hundreds of hard overland miles away in Gainesville. Consequently, his farming might best be described as subsistence activity.

The move toward commercial agriculture, which was at first spurred by a growing population of ranchers and bone pickers, was led by Joseph Barwise and Joseph Kemp. Joseph

⁴ Kelly, Wichita County, 5; Wilson, Wichita Falls, 29.

³ Deed Records, Wichita County, Book 1, page 10, patent number 1015, Abstract 261, Wichita County (2877), Mabel Gilbert Section, Wichita County Files, THC; Kelly, *Wichita County*, 5; Wilson, *Wichita Falls*, 29. Later settlers found that peaches thrived on portions of the mesquite plains when they received adequate water, such as Charlie, Texas where the small community thrives on the peach produce.

"Judge" Barwise (1829-1927) moved from Missouri to Cedar Springs, near Dallas, in January 1877. As a wheat-separator salesman in Cedar Springs he was unable to start a successful business so in December 1879 he moved his family to the town site of Wichita Falls to start afresh in the fledgling town. Barwise dug a well and immediately broke ground on a dry farm.⁵ When, in 1882 Wichita County was organized out of Montague and Clay counties,⁶ Barwise became an important part of the city's governing body and also an important proponent of business growth based on commercial agriculture.

Barwise described as a visionary by many regional historians is called the "Father of Wichita Falls." In a letter Barwise presented his vision of the Wichita Falls area as an agribusiness paradise,

I see before me a most magnificent city...I see her setting as a queen crowned at the very gates of this great Llano Estacado...her many beautiful homes...her great business house...her magnificent churches... the city of the great desert that is soon to bud and blossom as the rose. Pointing to the east he continued, "I can almost see the smoke of the locomotive, that messenger of civilization, that comes gliding

⁵ Brian Hart, "Joseph Hodson Barwise," The Handbook of Texas Online, December 4, 2002 (February 19, 2003) http://www.tsha.utexas.edu/handbook/online/articles/view/BB/fba98.html.

⁶ Homer C. Laxson, *Economic Survey of Wichita County, Texas* (Wichita Falls, Tx: Bureau of Business and Economic Research at Midwestern State University, 1958), n.p.

over the hill. I can hear the rumble of the great mills and see the towering elevators that are kept busy storing the golden grain of the fertile valley. I see too the cotton as it is being transported to the gins of the country. I hear a great noise from the factories as they pump the lifeblood into the bosom of this 'Body of Commerce.' In the valley below, I see dimly outlined a net work of ditches - - or - - perhaps 'tis."⁷

For Barwise permanent settlement depended on both rail and irrigation. Barwise not only preached his vision, but he worked to make it a reality. After becoming prosperous from dry-land farming and enterprises associated with agriculture, he contributed fifty-five percent of his land to a bonus designed to induce the Fort Worth and Denver City Railway Company into the Wichita River valleys.⁸ He also supported irrigation projects and served on city committees and councils that empowered the changes because "the purpose of irrigation was to introduce settlement in an empty land, to fabricate an empire *de novo* out of yeoman farmers, miners, and the manufacturers."⁹

It was the arrival of the Fort Worth and Denver (FW&D) Railroad that opened up Wichita Falls to outside markets

⁷ Louise Kelley, "Joseph Hudson Barwise," Wichita County Folder, Recorded Texas Historic Landmarks, THC, 2.

⁸ Brian Hart, "Joseph Hudson Barwise," The Handbook of Texas Online, December 4, 2002 (February 19, 2003) http://www.tsha.utexas.edu/handbook/online/articles/view/BB/fba98.html.

⁹ Worster, Rivers of Empire, 150.

and fostered its commercial development.¹⁰ Expansion of the FW&D was relatively slow, however. After the railroad reached Wichita Falls in 1882 it stopped building for a period before continuing across the high plains. Construction westward out of Wichita Falls did not restart until 1884. The rails reached Vernon in October 1886 and finally crossed the entire panhandle in January 1888.¹¹

Population growth between 1880 and 1890 was substantial and clearly relates to the railroad (Refer to Table 2). In 1905 President Teddy Roosevelt rode into Wichita Falls on the train and congratulated the West Texans for "redeeming" the country, "in so short a time from a frontier to a land of homes, farms, and thriving towns."¹² By the turn of the century Wichita Falls had moved from a frontier town to a modern city.

Wichita County, Texas, n.p.

¹⁰ Worster, *Rivers of Empire*, 52; Duty, *Wichita Falls*, 5; Brian Hart, "Allen Parmer," *The Handbook of Texas Online*, December 4, 2002, (Accessed February 19, 2003); <u>http://www.tsha.utexas.edu/handbook/online/articles/view/PP/fpa33.html</u>; *Soil Survey: Wichita County, Texas*, 5; Laxson, *Economic Survey of*

¹¹ Williams, Old Texas Trails, 407.

¹² Edward Hake Phillips, "Teddy Roosevelt in Texas," West Texas Historical Association Yearbook 56 (1980): 58-67.

	1860	1870	1880	1890	1900	1910	1920	1930
Clay County	109		5,045	7,503	9,231	17,043	16,864	14,454
		-						
Henrietta			1,132	2,496	2,104	2,104	2,563	2,020
	-	-						
Petrolia							914	806
	-	-	-	-	-			
Wichita			433	4,831	5,806	16,094	72,911	74,416
County	-	-						
Wichita				2,974	3,389	8,200	40,079	43,690
Falls	-	-	-					
Iowa Park				792	1,146	603	2,041	2,009
	-		-					
Burkburnett							5,300	3,281
	-	-	-	-	-			
Electra						640	4,744	6,712
	_	-	-	-	-			
Archer			596	2,101	2,508	6,525	5,254	9,684
County	-	-						
Archer City						825	689	1,512
	-	•••	-	-	-			
Holiday								786
	-	-	-	-	-			

Table 3. Population Table. Data gathered from U.S. census records from 1860-1930 on Archer, Clay, and Wichita Counties.

In the middle and late-nineteenth century westward moving Americans had found this segment of the Great Plains naturally devoid of adequate water, densely wooded areas, and other resources, which on earlier frontiers had been necessary for sustaining large populations. Most important, the development of reliable water sources had been essential for their permanent settlement. This harsh deficient environment required several adaptations and different community strategies to overcome erratic precipitation, extreme temperature changes, unfavorable hydro-geologic factors, and other natural variables that defined the region as ill suited for mass settlement. After years of co-adaptation between culture and environment, unique cultural patterns associated with the prudent use of water were forged in many parts of the southern plains. The valley of the Big Wichita River was one example of human transformation to meet the needs of economic growth.¹³

Management of the Big Wichita River evolved from years of efforts to promote industry, control salt pollution, provide clean drinking water, and regulate the floods and droughts that plagued the rolling Mesquite Plains. The need to control water in the Wichita valley paralleled directly with increases in population and access to economic markets. In less than one hundred years, a plumbing system emerged, one that caught water in reservoirs, irrigated fields, controlled floods, and provided a reliable and less diluted water supply for a modern urban society.

The Wichita, a chief tributary of the Red River, forms in northeast Baylor County with the union of the Wichita's North and South forks, fourteen river miles upstream from

¹³ "Features of the Panhandle Region," Texas Parks and Wildlife, <u>http://www.tpwd.state.tx.us/expltx/panhchart.htm</u>, April 5, 1999, (Accessed March 25, 2003); George W. Bomar, Texas Weather (Austin, TX: University of Texas Press, 1985); J.R. Borchert, "The Climate of the Central North American Grassland," Annals of the Association of American Geographers 40 (1950): 1-39; Marion Clawson, "Natural Resources of the Great Plains in Historical Perspective," in The Great Plains: Perspectives and Prospects, ed. Merlin Lawson and M.E. Baker (Lincoln, Neb: Center for Great Plains Studies, 1981), 3-10.

Lake Kemp. From there it flows approximately ninety miles through Archer County, Wichita County, and to the northwestern edge of Clay County, where it joins the Red River.¹⁴ As a result of passing through deep red Permian sandstones, the river and its tributaries pick up its distinctive color and salt taste.

¹⁴ Vern Huser, *Rivers of Texas* (College Station, TX: Texas A&M University Press, 2000), 43; "Wichita River," The Handbook of Texas Online, December 4, 2002 (Accessed February 19, 2003) http://www.tsha.utexas.edu/handbook/online/articles/view/WW/rnw6.ntml; and Stanley Baldys III, Peter W. Bush, and Charles C. Kidwell, Effects of Low-Flow Diversions from the South Wichita river on Downstream Salinity of the South Wichita River, Lake Kemp, and the Wichita River, North Texas, October 1982-September 1992, Department of the Interior, U.S. Geological Survey Water-Resources Investigations Report 95-4288, Prepared in Cooperation with the Red River Authority of Texas, City of Wichita Falls, and Wichita County Water Improvement District No.2, Austin, TX, 1996, 2. The Wichita River, part of the Red River basin, heads in three branches to the Red River. The North Fork rises six miles east of East Afton in northeastern Dickens County (33°45' N, 100°39' W) and flows east 100 miles through northwestern King, southern Cottle, and southern Foard counties to meet the South Fork and form the Wichita River proper in northeastern Knox County (33°43' N, 99°29' W). The Middle Fork rises from north central King County (33°46' N, 100°19' W) and flows northeast thirty-five miles to join the North Fork in southwestern Foard County (33°52' N, 99°55' W). The South Fork rises in eastern Dickens County (33°41' N, 100°38' W) and flows east through King and Knox counties for about 100 miles to its confluence with the North Fork near the Knox-Baylor county line in northeastern Knox County (33°43' N, 99°29' W). Major creek tributaries of the Wichita include Beaver Creek, Buffalo Creek, and Holiday Creek. Buffalo Creek contains North Fork Buffalo Creek Reservoir and Lake Iowa Park. An impounded Holiday Creek makes the reservoir, Lake Wichita. For the most part, Holiday Creek is the only creek that this work focuses on within the study, because Lake Wichita was an important part of the drinking supply for the city of Wichita Falls. The Wichita River flows through a predominantly flat terrain of few water-tolerant hardwoods (cottonwoods) near the river edge, past a plethora of mesquite, and past the grasses that cover clay and sandy loam soils.



Fig. 14. Sub watersheds of the Big Wichita River. (Cartography by Barrett Goodwin, Department of Geography, Appalachian State University, 2003).

Most of the dissolved chloride entering the Big Wichita is from springs and seeps along the South Fork. Six major salt springs rise from cavernous openings in the gypsum cliffs on its north bank. Estimated spring flows at a rate of about two cubic feet per second produce about 195 tons per day of chloride. The large dissolved solids and the dissolved chlorides from the natural salt springs cause fields irrigated with the water reduced crop yields and decreased values. In addition, the corrosive action of the water damages agricultural equipment, industrial and municipal water treatment plants, and piping systems, as well as water heaters and other household appliances. The environmental conditions, salt and turbid red water, limited the success of irrigative water use within the Wichita valley, but did provide the valley with an adequate flood control measure by 1920.¹⁵

The first attempt to harness the river caused the ruin of the natural falls that give the town its name. Speculators in the milling industry who were considering the short-term economic benefits of the wheat markets ignored the long-term environmental impacts of their enterprise on the river. An 1876 town-site map pinpoints waterfalls at Ohio Street in the new town of Wichita Falls. In 1885, a man named Foreman organized a few eager Wichitans into a private waterpower company. Members believed that river flow could be harnessed and used for

¹⁵ The saline nature of the water derives from resistant white beds of anhydrite and gypsum, both calcium sulfates that permeates low water levels. At high flows, the salty water is diluted and thus less noticeable, but more commonly, low flows and high rates of evaporation persist and increase salinity. Huser, *Rivers of Texas*, 43; Baldys III, 1-32; and Keller, Rawson, Grubb, Kramer, and Sullivan, *Report on the evaluation of the effectiveness of operation area VIII Red River Chloride Control Project*, 35. According to the USGS, saline water is water that contains more than 1000 mg of dissolved solids, such as salt, per liter, and then the water is saline. In addition, if one-one thousandth or more of the weight of a liter of water also referred to as "parts per thousand", is from salt, the water is saline.

industry and set about constructing a dam between presentday Lamar and Scott Street, upstream from the falls near Ohio Street. The company financially backed by banker Colonel John B. James proceeded to build a flourmill at the dam above the waterfalls.

The dam was an earthen work of rocks, dirt, and logs. Fritz Hendrichs, a young German immigrant, remembered that his father, August Hendrichs, a stonecutter, helped build it. According to Fritz, his father claimed, "Why that dam won't hold. Just dirt and logs and a few rocks. The first rain will send it over the falls." As completion neared in the spring, the German's prediction came true. A four-foot rise in the river from the first spring showers caused the new structure to sag, bulge, give way, and rush down river. The demise of the dam also meant the destruction of the "falls," located below it.¹⁶ The falls, never much more than five feet tall, became a victim of debris from the earthen dam that both scoured out and covered them. Other floods, most notably those in 1899 and 1915, changed the river's course, further obscuring the falls' original site.¹⁷

¹⁶ Harry Parks, "When Earthen Dam Broke in 1886 to Erase River Falls Recalled by Pioneer Now 74," *Wichita Daily Times*, 27 February 1949; Jody Cox, "Where is the Falls in Wichita Falls?" *Wichita Falls Times*, 21 December 1978, WCA.

¹⁷ Harry Parks, "When Earthen Dam Broke in 1886 to Erase River Falls Recalled by Pioneer Now 74," Wichita Daily Times, 27 February

The destruction of the final natural feature related to the river culminated when the city council met in May of 1908 to consider filling in Crescent Lake, the only natural lake in the area. An ox-bow lake separated from the river when it changed course, it frequently overflowed in the spring. The resulting damage to private property in the expanding downtown area caused city businessmen to believe that the filled land would become prime real estate for development. The council hired a contractor to drain the lake in May of 1908. By July he had completed building a 430-foot cement ditch from Crescent Lake to the Wichita River. The water drained from the ox-bow to the river after some minor complications with the ditch. Wichitans, after the lake was filled, graded the area, subdivided it, and offered the lots for sale. The area, as predicted, developed rapidly.¹⁸

Joseph Kemp, a grocer and aspiring miller who had done well with the initial expansion of Wichita Falls, had monumental aspirations for the burgeoning town. In 1887, the city listened to the ambitious and wealthy Kemp, who wanted to issue bonds to finance the construction of a dam

¹⁸ Lake Crescent Subsection, Lake Section, Book 19, WCA.

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^{1949; &}quot;Wichita River Falls Being Rebuilt Here," Wichita Falls Times, 22 April 1955, WCA; Jody Cox, "Where is the Falls in Wichita Falls?" Wichita Falls Times, 31 December 1978, WCA.

on Holiday Creek, six mile southwest of downtown, to form a reservoir to store irrigation and drinking water. The Texas State Constitution of 1876, however, prohibited such local bond issues. When lobbying trips to Austin failed to secure enough support for the necessary constitutional amendment, Kemp organized the Lake Wichita Irrigation and Water Company, which privately financed the construction of a dam and reservoir in 1899-1900. The project, completed in 1901 at a cost of \$175,000, meant that Kemp's corporation could sell water to Wichita Falls and the surrounding area.¹⁹ Kemp and his partners, Henry Sayles of Abilene and I.H. Kempner and M. Lasker of Galveston, achieved their goal of a private water company without any help from the federal or state government.²⁰

¹⁹ The reservoir alone cost \$105,700. Holiday Creek originates southwest of Wichita Falls and flows northeasterly to the Wichita River. The total drainage area is about 170 square miles. Lake Wichita when it was built had a capacity of 15,000 acre-feet, a surface area of 2,100 acres, and a maximum depth of 16 feet. Flood Plain Information: Holiday and McGrath Creeks, Texas, Prepared for the City of Wichita falls By the Department of the Army Tulsa District, Corps of Engineers, Tulsa, Oklahoma, May 1976, 2; 13th Census, 1910, Volume VII, Agriculture; Brian Hart, "Joseph Alexander Kemp," *The Handbook of Texas Online*, http://www.tsha.utexas.edu/handbook/online/articles/view/KK/fkel4.html,

July 23, 2002 (Accessed November 17, 2002).

²⁰ Article Written by Jimmy E. Banks for the *Iowa Park Centennial* published by the *Iowa Park Leader*, October 1988, Personal Papers of Jimmy E. Banks. Mr. Banks is the current manager of the Wichita County Water Districts. There have been five managers - C.W. Chatham, Jr. in 1925, G.A. Remington from 1925 to 1936, Tom J. Pace from 1936 to 1949, Fred Parkey from 1949 to 1976, and Jimmy Banks from 1976 to present. Also, U.S. Bureau of the Census, *Thirteenth Census of the United States: 1910, Agriculture* (Washington, D.C.: U.S. Government Prinitng Office, 1912-1914). Despite not receiving help form the federal aid

Holiday Creek Dam, behind which formed Lake Wichita, increased in volume until 1910, when content was sufficient to support irrigation. In 1910, only 18,222 acres in Wichita County belonged to cattle ranchers while 326,000 acres were under agriculture, primarily in the form of corn, oats, and wheat. On 5 May 1910 water was turned for the first time into the larger irrigation ditches between the lake and the expanding city. A total of two thousand acres was placed under irrigation and divided into five and ten-acre truck farm tracts.²¹ Four main ditches that were seventeen miles in length brought forty cubic feet of water per second from the reservoir to the fields.²² By 1912 irrigated acreage had expanded to three thousand acres and heavy yields were common. Profitable vegetable crops included roasting-ears, onions, lettuce, cabbage, turnips, and melons. In 1915 area-grown tomatoes were supposedly better than the imported variety. Growers touted cabbage as especially profitable because it brought nearly \$350 to

programs provided by the United States Reclamation Service or the Carey Act, Kemp and his partners accomplished their goal of providing a public water supply from a private company.

²¹ Wichita Daily Times, 5 May 1916, Irrigation Highland Subsection, Irrigation District Section, Book 19, WCA.

²² U.S. Bureau of the Census, *Thirteenth Census of the United States: 1910, Agriculture* (Washington, D.C.: U.S. Government Prinitng Office, 1912-1914)

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\$400 per acre.²³ With the advent of irrigation more commercially viable crops could be grown in the region, such as vegetables.

Before irrigation the train brought fruit and vegetables. After irrigation was established along Holiday Creek many varieties of fruits and vegetables (truck crops) were grown. Peaches did especially well. Elmer Figo, an early settler near the irrigation district recalls that a "Mr. Kidd made money for over twenty years. He raised not only truck and fruit, but could produce forty bales of cotton on forty acres."²⁴

Irrigation was not the dam's only economic benefit. On 28 March 1910 developers broke ground on a hotel and dining room on the lake. The resort boasted a 4,200 seat baseball park, racetrack with grandstand, amusement rides, a swimming pool, a two-story dance pavilion, a horseshoe shaped exhibit building, and a new pier to accommodate leisure boat outings. The entertainment facility attracted

²³ Wichita Daily Times, 8 July 1915, Irrigation Highland Subsection, Irrigation District Section, Book 19, WCA; Wichita Daily Times, 29 July 1915, Irrigation Highland Subsection, Irrigation District Section, Book 19, WCA; Wichita Daily Times, 18 June 1922, Irrigation Highland Subsection, Irrigation District Section, Book 19, WCA.

²⁴ Memoirs of Elmer Figo, As Told to Edith Slaten, 12 February 1957, Manuscript in Kemp Public Library, Wichita Falls, Texas, North Texas Genealogy and Historical Association, Wichita Falls - North Texas Pioneer, Volume 4, Number 1, Located at Texas State Library Genealogy Collection, Austin, TX, 45.

nationally recognized musical acts and tourists from outside the region, many of them on scheduled train service. For instance, on a single day in June 1910 six hundred people from Ft. Worth came to visit the new Lake Wichita resort.²⁵

The successful irrigation and lake resort projects coincided with a general population increase, and thus produced a pressing need for expanded infrastructure. In order to accommodate the influx of visitors Wichita County completed its first paved road in 1913. It stretched from downtown, on Grant Street, to the pavilion at Lake Wichita at a cost of \$200,000. The city also ran a streetcar connection to the lake. Because of traffic jams on the newly paved road, thousands would leave their automobiles at Call Field and ride the streetcar from a substation out to the lake.²⁶

While irrigation and lake resorts satisfied basic leisure activities and drinking water needs, Kemp diversified his business operations to include rail

²⁵ Brian Hart, "Joseph Alexander Kemp", The Handbook of Texas Online,

²⁶ Lana Thomas, "Lake Wichita: Early Resort," Irrigation Highland Subsection, Irrigation District Section, Book 19, WCA.

<<u>http://www.tsha.utexas.edu/handbook/online/articles/view/KK/fke14.html</u></br>

>, July 23, 2002, (Accessed November 17, 2002); Lana Thomas, "Lake

Wichita: Early Resort," Irrigation Highland Subsection, Irrigation

District Section, Book 19, WCA; Wichita Daily Times, 29 September 1946,

"To Play for Lake Wichita Dance," Lake Wichita Section, Book 19, WCA.</br>

operations that spurred the expansion of further agribusiness in the region. Kemp served as president of the City National Bank from 1891 through 1914 and had become well established in the Wichita Falls business community. In 1894 he chartered the Wichita Falls Railway Company, established himself as president, and after the sale of \$20,000 worth of stock and \$250,000 in bonds, construction began to connect Wichita Falls with the tracks of the Missouri, Kansas and Texas (MK&T) Railroad at Henrietta in Clay County.²⁷

Until 1894 Henrietta, in the Little Wichita River Valley, was the western terminus of the MK&T. It was widely believed Henrietta would become the "thriving" metropolis of north central Texas. According to V.V. Masterson, an historian of the railroad on the southern plains, Henrietta's "hopes were shattered . . . by an ambitious grocer who lived in Wichita Falls . . . [T]he far sighted grocer . . . saw unlimited opportunities for his little town if it could only secure another road, one going northeast instead of northwest, in addition to the Denver

²⁷ Clark Wheeler, "Wichita Falls Railway," Handbook of Texas Online, Texas State Historical Association, Updated 4 December 2002, (Accessed 1 January 2004); Brian Hart, "Joseph Alexander Kemp", Handbook of Texas Online, <u>http://www.tsha.utexas.edu/handbook/online/articles/view/KK/fkel4.html</u>, The Texas State Historical Association, 1997-2002 Last Updated: July 23, 2002 (November 17, 2002).
line."²⁸ Kemp built the northeast line by securing the funds from local private businessmen. The MK&T agreed to buy Kemp's line once it was established and proved profitable. With the charter and funding of the Wichita Railway Company his goals ultimately were achieved.²⁹ Six months after the line was completed the population of Wichita Falls jumped from 2,000 to 5,000.³⁰

After this initial success, Kemp embarked with his brother-in-law Frank Kell (1859-1941), on an ambitious program of railroad promotion that established Wichita Falls as a rail center. Frank Kell, a wealthy miller, began to see the economic benefits of rail expansion after Kemp had shown the profitability of the MK&T project.³¹ Kell was in the grain and mill business in Galveston and Clifton, Texas, before he arrived in Wichita Falls around 1885. In 1896 Kemp and Kell purchased majority interest in the Wichita Mill and Elevator Company.³²

³² J.W. Williams, "Frank Kell," Handbook of Texas Online, http://www.tsha.utexas.edu/handbook/online/articles/view/KK/fke7.html,

²⁸ V.V. Masterson, *The Katy Railroad and the Last Frontier*, (Norman: University of Oklahoma Press, 1952), 263.

²⁹ Ibid, 263.

³⁰ Ibid, 264.

³¹ Masterson, The Katy Railroad and the Last Frontier, 264; Brian Hart, "Joseph Alexander Kemp", Handbook of Texas Online, <u>http://www.tsha.utexas.edu/handbook/online/articles/view/KK/fkel4.html</u>, The Texas State Historical Association, 1997-2002 Last Updated: July 23, 2002 (November 17, 2002).

Kemp and Kell chartered the Wichita Falls and Northwest Railway Company of Texas in September 1906 and constructed a rail line into the grain-producing region of Oklahoma. They also organized two other rail companies including the Wichita Falls and Southern, which connected Wichita Falls with the coal fields around New Castle, and the Wichita Falls and Wellington, which ran between Wichita Falls and Wellington by way of various stations on the Wichita Falls and Northern Railroad through Oklahoma.³³ In the eyes of early historians, "the two men who, by their initiative and belief in the all-around productive qualities of the iron horse, had transformed Wichita Falls from a dawdling village into a thriving, progressive city."³⁴

Kemp and Kell's Wichita Mill and Elevator by 1917 had grown extensively. It had a daily capacity of 3,500 barrels

³⁴ Masterson, The Katy Railroad and the Last Frontier, 280.

The Texas State Historical Association, 1997-2002 Last Updated: 4 December 2002 (November 17, 2002); J. N. Williams, "Frank Kell," West Texas Historical Association Year Book 17 (1941).

³³ Masterson, The Katy Railroad and the Last Frontier, 264; Brian Hart, "Joseph Alexander Kemp", Handbook of Texas Online, http://www.tsha.utexas.edu/handbook/online/articles/view/KK/fkel4.html, The Texas State Historical Association, 1997-2002 Last Updated: July 23, 2002 (Accessed November 17, 2002); H. Allen Anderson, "Wichita Falls and Southern Railroad," Handbook of Texas Online, The Texas State Historical Association, Updated 4 December 2002, (Accessed 1 January 2004); George C. Werner, "Wichita Falls and Wellington," Handbook of Texas Online, The Texas State Historical Association, Updated 4 December 2002, (Accessed 1 January 2004).

and could store two million bushels. Kell took over the milling operations later in 1917, probably so that Kemp could focus on the regional oil boom. Kell expanded his mills into Waco, Amarillo, Perry, Oklahoma, and Oklahoma City and then sold out to General mills in 1928 for cash and stock in the company.³⁵

The community's economic success was undeniable as was the environmental impact. Wichita Falls had become an urban center gathering the grains from the north central Texas and southern Oklahoma plains. Rail lines into the rural outposts changed land use in those nether regions. It made agriculture intensive and marketable. The citizens of Wichita Falls were not only transforming their own river valley, but now they were helping to change landscapes thirty to hundred miles away.

At the turn of the century population increases were dramatic. From 1900 to 1910 the city of Wichita Falls increased in population by 230%.³⁶ In 1909 Wichita Falls had thirty miles of sidewalk, five miles of sewers, and more

³⁵ J.W. Williams, "Frank Kell," Handbook of Texas Online, http://www.tsha.utexas.edu/handbook/online/articles/view/KK/fke7.html, The Texas State Historical Association, 1997-2002 Last Updated: 4 December 2002 (November 17, 2002); J. N. Williams, "Frank Kell."

³⁶ U.S. Bureau of the Census, *Fifteenth Census of the United States: 1930, Population* (Washington, D.C.: U.S. Government Prinitng Office, 1931).

than a 100 businesses.³⁷ Between 1910 and 1920, the population exploded by 388.8% and Wichita County increased by 353%.³⁸ In January 1918 the city of Wichita Falls had a population of about 10,000. By the end of the year the city expanded to 40,000 people because of an oil boom.

The history of oil in Wichita Falls began in 1878 when Jacob Boll (1828-1880), a Swiss naturalist and entomologist studied and became fascinated with the natural history of north-central Texas.³⁹ Boll was sent to Texas in 1869 to ascertain the mineral wealth and the geology of Texas for eastern capitalists.⁴⁰ He was sent to Wichita County, considered the wilderness of north-central Texas, in 1878.⁴¹ In the course of his studies, he produced world-

³⁹ Samuel Wood Geiser, *Naturalists of the Frontier* (Dallas: Southern Methodist University Press, 1948), 19.

⁴⁰ Boll led the first systematic exploration of the rocks of the Wichita region, unearthing extraordinary fossil fauna, and collecting all kinds of living animals - fishes, reptiles, insects, birds, and mammals, discovering nearly 200 species new to science. Always sending collections to the Harvard Museum and reporting back to Harvard scholars and eastern capitalists. Geiser, *Naturalists of the Frontier*, 20.

⁴¹ Boll received many prestigious accolades for his work in Switzerland and Germany and was a member in many of the European scholar societies when he arrived in the United States. When Boll arrived in America he worked with the famous geologist and naturalist Louis Agassiz at Harvard. Samuel W. Geiser, "Professor Jacob Boll and

³⁷ Kenneth Hendrickson, "Wichita Falls, Texas" Handbook of Texas Online, The Texas State Historical Association, Updated 4 December 2002, (Accessed 1 January 2004).

³⁸ U.S. Bureau of the Census, *Fifteenth Census of the United States: 1930, Population* (Washington, D.C.: U.S. Government Prinitng Office, 1931).

renowned collections of fossil vertebrates, collecting at various points along the Big and Little Wichita Rivers and along their tributaries.⁴²

More importantly, Professor Boll made the first intelligible announcements about the region's geology. He recognized the Permian age and colors of the rock and printed his findings in the American Naturalist in 1880. After six months of exploration on the Wichita rivers he announced that he had discovered petrified ferns, fishes, and reptiles belonging to the transitional period, and especially to the lower and upper Permian.⁴³ Boll died on an expedition in Wilbarger County on 29 September 1880.⁴⁴ He had discovered the Permian rocks that held the mineral wealth that would drive the economy of the Wichita rivers region for the next century. The Swiss naturalist undoubtedly looked awkward among the early pioneers

the Natural History of the Southwest" American Midland Naturalist, 11, 8 (March 1929): 446.

⁴² The Wichita fossil beds became famous in the scientific world because of Boll's discoveries of primitive reptilians, lungfish, and primitive Batrachia with complex vertebrates. These discoveries became the focus of many scientific papers. Geiser, "Professor Jacob Boll and the Natural History of the Southwest" 446; Geiser, *Naturalists of the Frontier*, 25-27.

⁴³ Geiser, "Professor Jacob Boll and the Natural History of the Southwest" 446.

⁴⁴ Geiser, "Professor Jacob Boll and the Natural History of the Southwest" 440; Clinton P. Hartmann, "Jacob Boll," *Handbook of Texas* (December 4, 2002) Accessed January 21, 2002 http://www.tsha.utexas.edu/handbook/online/articles/view/BB/fbo7.html settling the valley. Pioneers migrating across the plains from Gainesville, Henrietta, and Dallas could not have fathomed that this butterfly collector was planting the early seeds for mineral extraction and a boom economy.

The Swiss scientist was the first person to recognize the mineral wealth that lay below the mesquite plains, but it was not until 1903, when oil was discovered in Clay County, that the ball really began to roll in North Texas.⁴⁵ Many farmers and landowners, however, did not realize the profitability of oil before 1910. For instance, in 1908 farmer Calloway Dean told of digging for water on his farm south of the Wichita River, but found oil at fifty feet. Dean abandoned the hole, saying he was too busy harvesting his 7,000 bushels of corn to waste time prospecting for oil.⁴⁶

The discovery of oil at the Electra Field in 1911 "triggered a shift in the economic base."⁴⁷ A shift from an agricultural and rail based economy to one based on oil. In 1911 the "Producers Oil Company Number Five W.T. Waggoner" in Electra spurred the Electra drilling campaign on or near

⁴⁵ Hendrickson, "Wichita Falls, Texas."

⁴⁶ "Well Shows Oil at Fifty Feet," Wichita Falls Times, 8 October 1908, WCA; Nancy Hansen, ed., Wichita Falls: "Where Enterprise and Opportunity Meet" (Wichita Falls, TX: First North American Serial Rights, 1982), n.p.

⁴⁷ Hendrickson, "Wichita Falls, Texas."

Waggoner's lands in the northwest portion of Wichita County. The Swiss born Chris Schmoker with the Corsican Oil Company drilled the "Corsicana Oil Company Number One Schmoker" in 1912 spurring small campaigns for oil in north Wichita County.⁴⁸ By 1915 oil refineries began to pop up in Wichita Falls to accommodate the nearby fields, Electra (1911) and old Burkburnett (1912). The discovery of the Burkburnett Townsite fields in 1918 caused not only an oil boom but also an economic boom. Bank deposits increased by 400 percent, nine oil refineries were built, forty seven factories were established, and dozens of new buildings found homes in downtown Wichita Falls.⁴⁹

The oil boom also had a monumental impact on agribusiness. Many people in the agricultural business left for the more profitable oil business. For example, Walter Mason Priddy in the spring of 1917 was well established in the grain elevator business along the FW&D, but soon left for the oil business. Priddy states,

In the summer of 1918, an oil well was drilled north of Burkburnett (the Fowler Well), which proved very productive. A few weeks after the well came in, I went to Burkburnett to look over 144

⁴⁸ Julia Cauble Smith, "Wichita County Regular Field," Handbook of Texas Online, The Texas State Historical Association, Updated 4 December 2002, (Accessed 1 January 2004).

⁴⁹ Hendrickson, "Wichita Falls, Texas"; Smith, "Wichita County Regular Field."

the situation and see about some prospective investments. I decided to buy some leases and bought several lots in the townsite of Burkburnett and several small homes. I took leases on many lots and thereafter became very active in oil well drilling and development. I made considerable money from those investments, and the next year, when the original Bob Waggoner well was drilled, I bought many leases in that area and drilled many more wells, most of them proving productive, but not all profitable.⁵⁰

By the spring of 1922 Priddy states, "I sold out all my grain business and devoted all my time to the oil business and other interests." With money from oil Priddy developed massive land holdings. The oil and building boom had made land in general more profitable. Priddy indicates, "I made some money out of my oil interests and bought considerable real estate in Wichita Falls and many farms in the Wichita Falls, Iowa Park, Byers, and other areas." In 1923 Priddy organized the profitable American Pipe Line Company, which brought oil from the fields to Wichita Falls for refining.⁵¹

Strikes in the Burkburnett and Electra fields produced a flood of investors and prospectors into Wichita Falls, which became an instant oil and gas center. The city aggressively advertised to the wildcat oil prospectors, but

⁵⁰ Memoirs of Walter Mason Priddy, As Told to Ms. Edith Slaten, 8 April 1957, Diamond Jubilee 1882-1957: Early History Wichita County and North Texas, Wichita County, Texas, Historical Series, February 1957, Moffett Library, Special Collections, Midwestern State University, Wichita Falls, TX.

at the same time turned the attention of newcomers to city growth. The Wichita Falls Chamber of Commerce advertised that "Wichita Falls is the supply and distribution center for a dozen great oil fields - and yet Wichita Falls is not an 'oil town.' It is a modern city of commercial and industrial importance, with big manufacturing, retail and jobbing interests that reach into a trade territory with a radius of 100 miles."⁵²

Number	City	Population
1	San Antonio	161,379
2	Dallas	158,976
3	Houston	138,276
4	Ft. Worth	106,482
5	El Paso	77,560
6	Galveston	44,255
7	Beaumont	40,422
8	Wichita Falls	40,079
9	Waco	38,500
10	Austin	34,876

Table 4. Texas City Rankings in 1920 according to the 1920 Census.

The oil boom impacted the environment through pollution, population growth, and land use change as depicted by Priddy. Many creeks and rivers in the region were polluted with oil-field brine. Holiday Creek

⁵² Robert M. Brown, "City Growth and City Advertising," Scientific Monthly, 16, 1 (January 1923), 82.

especially was polluted with oil-field brine, a byproduct of careless waste in the surrounding oil fields and vast soil erosion caused by the overgrazing of cattle.⁵³

The boom brought instant wealth to landed families including the Priddys, Burnetts, Waggoners, and Kemps. Merchants such as Thomas E. Noble, owner of a local hardware store, made substantial money during the boom.⁵⁴ Whereas Priddy continued in the oil business, expanding into oil refining in the fields of east Texas⁵⁵, Joseph kemp used profits from the oil influx to stimulate further development of farming via irrigation on the Big Wichita River.

The reliability of Holiday Creek as a permanent water and irrigation supply for Wichita came into serious question with a flood in 1915 and a drought in 1917.⁵⁶ Lake

⁵³ Natural Resources Study for the North Texas Planning Region, Prepared by Nortex Regional Planning Commission, Wichita Falls, Texas, March 1973, 32.

⁵⁴ Memoirs of Thomas E. Noble, As Told to Ms. Edith Slaten, 21 March 1957, Diamond Jubilee 1882-1957: Early History Wichita County and North Texas, Wichita County, Texas, Historical Series, February 1957, Moffett Library, Special Collections, Midwestern State University, Wichita Falls, TX.

⁵⁵ Memoirs of Walter Mason Priddy, As Told to Ms. Edith Slaten, 8 April 1957, Diamond Jubilee 1882-1957: Early History Wichita County and North Texas, Wichita County, Texas, Historical Series, February 1957, Moffett Library, Special Collections, Midwestern State University, Wichita Falls, TX.

⁵⁶ Article Written by Jimmy E. Banks for the Iowa Park Centennial published by the *Iowa Park Leader*, October 1988, Personal Papers of Jimmy E. Banks.

Wichita on Holiday Creek had proved ample until the lake went completely dry in 1917 after "six shrinking spells." Mounting population pressures compounded the problem. People were asking how a small creek could provide for a large urban population.⁵⁷

The population increase and economic boom led to the direct need for a water supply and expanded irrigation works. The civic-minded Kemp continued to work for an amendment allowing the sale of municipal bonds to finance construction of irrigation and waterworks systems, but this time on the Wichita River. After thirty-six years of speaking publicly, chairing groups, and making numerous lobbying trips to Austin and Washington, D.C., he was successful. Kemp's reservoir and irrigation system was the first locally organized tax-supported project of its kind in the state and it took an act of the Texas Legislature to ensure its establishment.⁵⁸

On 20 December 1919 Kemp organized Wichita County Water Improvement District Number One. In a speech intended

⁵⁷ "Six Shrinking Spells Doomed Lake Wichita," Wichita Falls Record News, 19 November 1947, Lake Wichita Section, Book 19, WCA.

⁵⁸ "Irrigation System Was Voted in 1921," Wichita Falls Times, 12 May 1957, Wichita County Water District Number One Subsection, Irrigation District Section, Book 19, WCA.

to stimulate interest and support for the Wichita County Irrigation bond issue, he stated:

On the Seymour Road and the Electra Road we will see hundreds of homes surrounded with five, ten, and twenty-acre tracts intensively cultivated in field and garden truck of all character. Fruit and shade trees in abundance, berries of all kinds, sugar beets, long staple cotton, wheat, alfalfa, corn, and other field crops will be grown with a certainty of success because an abundant supply of water is ready to be placed on the land, whenever required. Farmers will make as much money from a ten-acre tract as they now make from a hundred acres without sufficient water. Many prominent people in this city have already decided to acquire a small acreage under this irrigation ditch and build a home where they can have fresh vegetables, eggs, milk, etc. every morning with beautiful country surroundings, and run into the city for business on the concrete roads that will be build along the vallevs.⁵⁹

County voters on 21 December 1919 backed Kemp's plan by a margin of 543 to 12. 60

The voters expected that the \$4 million bond issue would not only expand irrigation acreage, but also result in reservoirs that would provide emergency drinking water supplies and control floods.⁶¹ The bond election provided the funds used to construct Lake Kemp and Lake Diversion,

⁵⁹ Duty, Wichita Falls, 16.

⁶⁰ Wichita Daily Times, 21 December 1919, Wichita County Water District Number One Subsection, Irrigation District Section, Book 19, WCA; Ralph Harvey, "Irrigation District History," Ralph Harvey, Wichita County Water District Number One Subsection, Irrigation District Section, Book 19, WCA.

⁶¹ Wichita Daily Times, 21 December 1919, Wichita County Water District Number One Subsection, Irrigation District Section, Book 19, WCA and Harvey, "Irrigation District History."

which were the main expenses of the project.⁶² The County Commissioners Court officially created the Wichita County Water District Number One on 29 December 1919. It encompassed 15,543 acres, including the city of Wichita Falls.⁶³ On 31 December 1919 the first meeting of the irrigation directors was held. J.A. Kemp was elected President and Noble vice president.⁶⁴ Kemp was still at the center of the ecological transformation of Wichita Falls.

More funds were needed, however, to complete the improvements. The Wichita County Commissioners Court initiated another bond election creating Wichita County Water Improvement District Number Two on 29 December 1920.⁶⁵ A \$1,570,000 bond issue in 1921 passed by a vote of 47 to 21 to meet the additional funding for the project and for the creation of Wichita County Water District Number Two.

⁶⁵ Wichita County Water Improvement District Number Two Records, 1898-1983, Water Commissioner of Wichita County Water Improvement District Number Two, Wichita Falls, Texas, Southwestern Collection, Texas Tech Library, Lubbock, Texas.

⁶² Wichita County Water Improvement District Number One Records, 1919-1961, Wichita County Water Improvement District Number One, Wichita Falls, Texas, Southwestern Collection, Texas Tech Library, Lubbock, Texas.

⁶³ Ibid

⁶⁴ Book 1 1919-1922, Wichita County Water Improvement District No.1 Minutes, 1919-1961, File Box 1 Of 1, Minutes, 1919-1922, Minutes, 1959-1961, Wichita County Water Improvement District No.1, Records, 1919-1961, Southwestern Collection, Texas Tech Library, Lubbock, Texas and Article Written by Jimmy E. Banks for the Iowa Park Centennial published by the *Iowa Park Leader*, October 1988, Personal Papers of Jimmy E. Banks.

District Number Two encompassed 76,784 acres for possible irrigation.⁶⁶

On 29 November 1921, the W.E. Callahan Construction Company of Dallas obtained the irrigation construction contract through a bidding process. The company within thirty days attacked the Wichita River with drag lines, shovels, tractors, wagons, elevating graders, blade machines, pile drivers, and trucks, and constructing bridges, roads, and camp buildings to engender the change.⁶⁷ With construction also came the infrastructure to support the construction and future settlement. Roads, power lines, ditches, and water pipes were strung across the landscape to create a matrix of infrastructure.⁶⁸ For example, the Seymor-Vernon road, which took the route of the old "Moonshine Route," was built in cooperation with Baylor County to serve construction and expansion needs.⁶⁹ The lakes and the infrastructure altered the land.

68 Ibid.

⁶⁹ Book 2, 1923-1925 Wichita County Water Improvement District No.1 Minutes, 1919-1961, File Box 1 Of 1, Minutes, 1919-1922, Minutes,

⁶⁶ "Irrigation System Was Voted in 1921," Wichita Falls Times, 12 May 1957, Irrigation Section, Book 19, WCA; Ralph Harvey, "Irrigation District History," Irrigation Section, Book 19, WCA; and Article Written by Jimmy E. Banks for the Iowa Park Centennial published by the Iowa Park Leader, October 1988, Personal Papers of Jimmy E. Banks.

⁶⁷ Book 1 1919-1922, Wichita County Water Improvement District No.1 Minutes, 1919-1961, File Box 1 Of 1, Minutes, 1919-1922, Minutes, 1959-1961, Wichita County Water Improvement District No.1, Records, 1919-1961, Southwestern Collection, Texas Tech Library, Lubbock, Texas.

The place name "Lake Kemp" appeared when the irrigation district decided to name what had been known simply as the storage dam. On 25 June 1923 the board of directors of district number one unanimously ordered "that the Storage Dam be officially designated 'Lake Kemp,' in honor of President J.A. Kemp, and as a mark of consideration and esteem on behalf of the citizens of Wichita Falls and community, for the breadth of vision and foresight shown by him in conceiving the water and irrigation project now nearing completion, and the zeal, energy and untiring effort which he has at all times put forth in bringing it to a successful consummation."⁷⁰ Lake Kemp was now a concentrated body of water approximately twenty miles long and 83 feet deep.⁷¹

Below Lake Kemp, Lake Diversion was built for the purpose of diverting water to the irrigation canals.⁷² The four-foot canal slide gates located near the spillway emptied water into one thirty four-mile long South Side

⁷¹ Article Written by Jimmy E. Banks for the Iowa Park Centennial published by the *Iowa Park Leader*, October 1988, Personal Papers of Jimmy E. Banks.

 72 Ibid. Diversion Reservoir located 18 river miles downstream from Lake Kemp is an earthen dam 4,200 feet long and 55 feet high. It is 7 miles long.

^{1959-1961,} Wichita County Water Improvement District No.1, Records, 1919-1961, Southwestern Collection, Texas Tech Library, Lubbock, Texas.

⁷⁰ Ibid.

Canal. Fifteen miles downstream from Lake Diversion a thirty-mile North Side Canal branched off to form the South Side Canal. A 150-mile lateral system was constructed to deliver the water to area farms - the irrigation and system depending on gravity flow.⁷³

Irrigation farmers realized early that a one-crop system of farming was not practical because monoagriculture failed on the previously irrigated lands of the West. Irrigation promoters pushed diversified systems of farming with the use of livestock as a necessary function for success. Overall cotton decreased in acreage while feed and forage crops increased. In 1925, seventy-seven percent of irrigated lands were under cotton production while only eleven percent was under feed production. Ten years later in 1935 cotton acreage was thirty five percent while feed production rose to above twenty four percent.⁷⁴

Unfortunately, for the farmers and city dwellers, the water that ran through this extensive irrigation system had a hardness count of fifty-five grains per gallon and a salt content of 1,240 parts per million. The water, because of its high mineral content, proved only a partial success for

⁷³ Ibid.

⁷⁴ Margaret Lee Morgan, "History and economic Aspect of the Wichita Valley Irrigation Project," MA Thesis, Southern Methodist University, August 1939, 164-165.

irrigation and an unsatisfactory emergency reserve as a city water supply.⁷⁵

Certain crops, such as Bermuda grass, did well and became major crops in the valley. Bermuda grass, which needs 36 inches of water every year, did especially well because it was tolerant of salty water. The Wichita Water districts shipped the first Bermuda grass into Wichita County from Tifton, Georgia. Common crops, such as cotton and sorghum that only need about 14 inches of rain, had lower yields because of the heavy salt content.⁷⁶

In July 1923 concerns began to mount in the city about the lack of water in Lake Wichita. Board members considered pumping water from Lake Diversion to relieve the needs of the city. The city used the water only in the direst cases for drinking water because of the unbearable taste.⁷⁷ Wichita Falls in effect supplemented the water supply in Lake Wichita and Holiday Creek via the irrigation canal

⁷⁷ Book 2, 1923-1925 Wichita County Water Improvement District No.1 Minutes, 1919-1961, File Box 1 Of 1, Minutes, 1919-1922, Minutes, 1959-1961, Wichita County Water Improvement District No.1, Records, 1919-1961, Southwestern Collection, Texas Tech Library, Lubbock, Texas.

 $^{^{75}}$ Baldys III, Effects of Low-Flow Diversions from the South Wichita River.

⁷⁶ Joe Brown, "When Nature Fails, Irrigation Makes Farmers 'Drought-Resistant'," Wichita Falls Record News, 30 April 1971, Irrigation Section, Book 19, WCA; Morgan, "History and economic Aspect of the Wichita Valley Irrigation Project," 165.

system until Lake Kickapoo was built on the Little Wichita River in 1941.⁷⁸

Irrigation water from the Big Wichita River was released from Diversion in 1925. By 1925 there were 19,825 acres irrigated.⁷⁹ In 1931, 30,195 acres were under irrigation. The maximum rate charged for irrigation water from 1925-1934 was \$3.50 an acre foot. It was dropped in 1934 (at the depth of the Depression) to \$1.75 an acre foot.⁸⁰

Problems with irrigation works in the Wichita River Valley were downplayed in the newspapers, perhaps because newspaper owner Rhea Howard was a proponent of irrigation. In fact, Rhea Howard served as a director on the District Number Two board and anxiously anticipated "extensive development in coming years." He wrote an article for the paper entitled "Irrigation and Irrigation System One of City's Great Achievements: Low Water Charges, Fertile Land

⁷⁸ Article Written by Jimmy E. Banks for the Iowa Park Centennial published by the *Iowa Park Leader*, October 1988, Personal Papers of Jimmy E. Banks.

⁷⁹ Article Written by Jimmy E. Banks for the Iowa Park Centennial published by the *Iowa Park Leader*, October 1988, Personal Papers of Jimmy E. Banks; "Irrigation System Was Voted in 1921," *Wichita Falls Times*, 12 May 1957, Irrigation Section, Book 19, WCA; Harvey, "Irrigation District History".

⁸⁰ "Irrigation System Was Voted in 1921," Wichita Falls Times, 12 May 1957, Irrigation Section, Book 19, WCA; Harvey, "Irrigation District History".

and Steady Development Point to Future Wichita Valley Prosperity."⁸¹

Water commissioners and board members merged civic duties with personal business enterprise. This type of community decision making allowed markets to expand and land values to increase. It provided established "city fathers" a harvest of profits from economic expansion, while at the same time providing farm tracts and work for unemployed in-migrants. At water district number two meetings held at A.H. Britian's office in the Hamilton Building for planning of the irrigation district, business centered on questions of financial balancing, legal matters, levying taxes, and lot allocations. The only mention of environmental issues was discussion of flooding incidences that hindered construction. Development and expansion were paramount while environmental concerns or variables were of little concern.⁸²

By 1924 regional oil refineries and industries were asking for water from the irrigation districts. It was 156

⁸¹ Rhea Howard, "Irrigation and Irrigation System One of City's Great Achievements: Low Water Charges, Fertile Land and Steady Development Point to Future Wichita Valley Prosperity," Wichita Falls Daily Times, 11 October 1936, Irrigation Section, Book 19, WCA.

⁸² Wichita County Drainage District No.1, File Box 1 Of 1, Minutes, 1919-1922, Minutes, 1959-1961, Wichita County Water Improvement District No.1, Records, 1919-1961, Southwestern Collection, Texas Tech Library, Lubbock, Texas.

decided that the refineries could be pumped water at 7.5 cents per 1000 gallons (\$24 an acre foot). And, in 1925 the district started to supply water to regional municipalities such as Iowa Park for 5 cents per 1000 gallons (\$6 an acre foot).

General increases in statewide industrial and urban growth caused the state to pass some minor environmental legislation in the 1920s. In 1924 local officials first considered pollution of Wichita County streams because the district had to comply with newly enacted state laws. However, other than identify pollution in the river, the issue was mostly ignored.⁸³

Only in the 1930s were environmental concerns voiced, when problems with the Big Wichita irrigation waters were attacked head on by many local groups concerned with the conservation of the land. The Prairie States Forestry Project headquartered in Wichita Falls planted tree strips to conserve valuable soil. Irrigation farmers cooperated with the tree planters because the trees obviously kept strong winds from denuding their land.⁸⁴

⁸³ Book 2, 1923-1925 Wichita County Water Improvement District No.1 Minutes, 1919-1961, File Box 1 Of 1, Minutes, 1919-1922, Minutes, 1959-1961, Wichita County Water Improvement District No.1, Records, 1919-1961, Southwestern Collection, Texas Tech Library, Lubbock, Texas.

⁸⁴ Morgan, "History and economic Aspect of the Wichita Valley Irrigation Project," 175.

By the 1940s water issues were dire as people complained about being forced to drink from the turbid and briny irrigation lakes and the city seriously restricted water usage from Lake Wichita. Elmer Figo recalled that during a drought," the water supply in Lake Wichita got so low the water was cut off for irrigation and Lake Kemp water was turned in, but it was so much salt and mineral content that it ruined the land and killed the produce. The city was sued because the truck growers were supposed to have permanent water rights to Lake Wichita."⁸⁵

With population increases, water rights became pertinent political issues. Mayor W.E. Fitzgerald testified in a case brought against the city by farmers that under no circumstances could the city furnish landowners water for irrigation from Lake Wichita because the supply was not sufficient for the city of Wichita Falls, the Sheppard air field, and irrigation all at the same time. Despite the mayor's testimony, the judge ruled in favor of the farmers. It was becoming more obvious that water was scarce and a

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⁸⁵ Memoirs of Elmer Figo, As Told to Edith Slaten, 12 February 1957, Manuscript in Kemp Public Library, Wichita Falls, Texas, North Texas Genealogy and Historical Association, Wichita Falls - North Texas Pioneer, Volume 4, Number 1, Located at Texas State Library Genealogy Collection, Austin, TX, 45.

dammed creek and the Big Wichita's irrigation water could no longer sustain a modernizing society.⁸⁶

Because of the Wichita River's failure as a drinking water supply, the city completed a \$3,000,000 project for new water facilities on the Little Wichita River in the 1940s, which included Lake Kickapoo. When William Hamilton served as mayor from 1944-1948, his chief campaign promise and mayoral accomplishment was the construction of Lake Kickapoo to serve the water needs of Wichita Falls.⁸⁷

Lake Kickapoo was an artificial lake constructed twelve miles northwest of Archer City in west central Archer County. The waters of the North Fork of the Little Wichita River impounded in 1945 formed the reservoir, which serves as the current municipal water supply for the city of Wichita Falls. The reservoir, located thirty-two miles northeast of the city of Wichita Falls, was owned by the city. The city sold lots along the 3,000 acres of shoreline for recreational use.⁸⁸

⁸⁶ "Farmers win Irrigation writ," Wichita Falls Daily Times, 30 January 1942, Irrigation Section, Book 19, WCA.

⁸⁷ "William Benjamin Hamilton House," Wichita County, National Register Records, THC, n.p.

⁸⁸ "Lake Kickapoo," The Handbook of Texas Online, December 4, 2002 (Accessed February 19, 2003). http://www.tsha.utexas.edu/handbook/online/articles/view/LL/rol47.html; Reservoirs in the United States, Geological Survey Water Supply Paper 1838, (Washington, D.C.: GPO, 1966).

Human manipulation of the Big Wichita River by the end of the 1940s had dramatically affected the environment. There was ill-advised irrigative application of water from the laterals upon croplands because many farmers were without irrigation experience. In 1947, the city discovered that drainage from the water irrigated farms was not escaping satisfactorily. In many locations, the water table rose rapidly, bringing excessive concentrations of minerals to or near the surface. The major difficulty was the fact that water impounded in various sub-surface low spots, robbed the topsoil of its capacity for supporting healthy vegetation. Salt cedars thrived in such conditions and took over some large tracts.⁸⁹

G.R. McNeil, County Agent of Wichita County, expressed that,

The chief disadvantages to irrigation in this country is due to the water logged land. At first when irrigation started there was a tendency among many of the farmers to use too much water. Subsoil of some of the land being tight, naturally did not allow the water to get away, hence the water logged land.⁹⁰

⁸⁹ W.L. Underwood, "Irrigation Districts Winning Drainage Battle," Wichita Falls Record News, 12 April 1947, Irrigation Section, Book 19, WCA.

⁹⁰ Morgan, "History and economic Aspect of the Wichita Valley Irrigation Project," 175.

In addition to lower crop quality and yields, the corrosive action of the saline water damages agricultural equipment, industrial and municipal water treatment plants, piping systems, water heaters, and other household appliances.⁹¹ Owners of public laundromats argued that the water not only harmed their machines, but also decomposed the fabric of their patrons' clothes. Many gardeners in the Big Wichita valley complained that the waters from Lake Kemp were unfit for growing gardens or greenhouses. Continued application of the salty water caused accumulation of the salts in the soil to a point that the soil became highly toxic.⁹²

The need to control water in the Wichita valley parallels directly with increases in population and the opening of and access to economic markets. The efforts of people to reach a certain level of control over water took years of adaptation and experimentation. Early private

⁹¹ Morgan, "History and economic Aspect of the Wichita Valley Irrigation Project"; Huser, Rivers of Texas, 43; Baldys III, Effects of Low-Flow Diversions from the South Wichita River, 1-32; Keller, Rawson, Grubb, Kramer, and Sullivan, Report on the evaluation of the effectiveness of operation area VIII Red River Chloride Control Project: Red River Chloride Control Project Report. According to the USGS, saline water is water that contains more than 1000 mg of dissolved solids, such as salt, per liter, and then the water is saline. In addition, if one-one thousandth or more of the weight of a liter of water also referred to as "parts per thousand," is from salt, the water is saline.

⁹² Morgan, "History and economic Aspect of the Wichita Valley Irrigation Project."

efforts to control the river failed. The need for the involvement of the community became essential, as seen in the necessity to hold bond elections to fund larger and more advanced projects. The inhabitants of the Wichita Valley wrestled with the salty, undrinkable water of the Big Wichita for many years and both human successes and failures at river manipulation were detrimental in many cases to the environment.

For the next fifty years, Wichitans further developed technology and community strategies to deal with these environmental limitations. In the 1960s, Lake Arrowhead on the Little Wichita River was built to accommodate the growing need for water in the city of Wichita Falls. By 1966 it became apparent that pipelines and roads to Lake Arrowhead were paramount.⁹³ Also, regional towns such as Archer City became interested in purchasing water from Wichita Falls because of the adequate water supply Lake Arrowhead provided.⁹⁴

The present hydrological conditions of the Big and Little Wichita rivers represent major socio-environmental

⁹³ Box 15: Water Issues: Floods & Supply Contracts, Mayor J.C. Boyd Papers, Moffett Library, Special Collections, Midwestern State University, Wichita Falls, TX.

⁹⁴ Letter to Mayor Jack Muelller of Archer City, From City Manager Gerald G. Fox, 21 July 1976, Box 15: Water Issues: Floods & Supply Contracts, Mayor J.C. Boyd Papers, Moffett Library, Special Collections, Midwestern State University, Wichita Falls, TX.

interaction over the last century through the establishment of multiple dams and creation of reservoirs, the dredging of creeks, and the creation of complex irrigation works. Community efforts to control salt pollution, drought, and floods manipulated the Wichita Rivers into a controllable plumbing system that catches water in reservoirs, irrigates fields, controls floods, and provides a reliable and undiluted water supply for a modern urban society.

Today approximately 151,000 acres of the 392,000 acres of Wichita County are cultivated. 190,000 acres are designated as range, primarily for beef cattle production. 11,000 acres of that cultivated land is irrigated and 9,000 acres is irrigated pasture. Wheat was and is the major dry land crop while wheat, Bermuda grass, and alfalfa are the major irrigated crops. The remaining 42,960 acres of county area consists of rivers, lakes, highways, and urban tracts.⁹⁵

The last two centuries of Plains history illustrates well, the wholesale assault on nature, that modern, industrial, global-market living implies. Often this cultural and economic relationship is simply not sustainable in every environment. And there are

⁹⁵ Soil Survey, Wichita County, Texas, 1.

consequences of that assault, both to the natural world and to regional human societies that are playing them out on the Southern Plains. The Southern Plains have experienced some of the most rapid environmental transformations on the continent.⁹⁶ In the Wichita valleys the railroad, irrigation, and oil extraction transformed the region in less than one hundred years into a zone of commercial production for a global economy. Concerns about the environment were downplayed in order to make the most profits possible as fast as possible until the 1940s when people began to realize that conservation was necessary.

This study shows development is not the product of the actions of a single individual, even when the individual is considered a prime mover. Transformation of the landscape is a collective human activity that is sometimes evolutionary and sometimes revolutionary. In the history of Wichita County, the rush to maximize economic use of its lands, whether for pastoral, agricultural, or mineral exploitation, took place largely without regard for environmental consequences. Yet, as the development strategies examined in this chapter indicate, long term economic benefits and cost savings on public expenditures

⁹⁶ Flores, "A Long Love Affair" 167.

would have been better served by taking environmental concerns more seriously. The environmental history of Wichita Falls tells us that addressing environmental factors is crucial to responsible management of resources. Sustainable growth depends on it.

TIMELINE OF WICHITA FALLS NEWSPAPERS¹

- 1883 First Newspaper Wichita Mirror
- 1882 1908 The Wichita Herald (weekly)
- 1883-1918 Wichita Weekly Times (weekly)
- 1888 The Wichita Light
- 1889 The Wichita Herald Light (weekly)
- 1892 The Wichita Falls Post (weekly)
- 1893 The Wichita Post Democrat
- 1893 1895 The Wichita Warrior
- 1897 The Dinner Horn
- 1898 The Wichita Daily Times (tabloid)
- 1902 Wichita Ledger
- May 14, 1907 Ed Howard forms Wichita Daily Times
- 1910-1911 Wichita Daily News (daily then weekly)
- December 17, 1911 Wichita Daily Times releases first Sunday Edition
- 1912 Wichita County Socialist (weekly)
- 1914 Wichita Falls Record News (daily)
- 1928 Wichita Falls Times purchased Wichita Falls Record News
- 1936-1938 Wichita Falls Post (daily)
- December 1, 1955 Wichita Daily Times becomes Wichita Falls Times

August 1, 1987 - Wichita Falls Times and Wichita Falls Record News merged forming Wichita Falls Times and Record News

¹ Wichita County Archives Newspapers List

RANCHERS IN WICHITA COUNTY IN 1880¹

1	Waggoner Ranch	15,000
2	Burnett Ranch	10,000
3	McFarland Ranch	225
4	Brock Wiley	50
5	James Stewart	33
6	John McLeroy	30

Number of Cattle for the Leading Cattle Ranchers in Wichita County in 1880

¹There were 25,463 beef cows in Wichita County in 1880. Burnett and Waggoner owned 25,000 of those cows. Waggoner reported his cattle to be worth \$150,000 while Burnett reported \$125,000. Common people had much less. Tom Buntin for example had 6 purebred cows, 2 of which were milk cows. Buntin used his cows to produce butter and milk for subsistence. He produced 150 pounds of butter in 1879. McFarland who had 225 cows was actually more interested in dry land farming. McFarland planted 150 acres of Indian corn producing 2,500 bushels. He also planted 27 acres of wheat producing 270 bushels of wheat. Information gathered from Roll S Cen 42 Webb-Zavala, Agricultural Production of 1880, United States Census of Texas, State Library Archives, Austin, Texas.

RANCHERS IN CLAY COUNTY IN 1880¹

1	J.R. Stewart	12,000
2	W. Weddington	2,400
3	W.B. Warsham	1,000
4	G. Leonard	900
5	John Flufkin	700
6	J.A. Johnson	600

Table detailing the Number of Cattle of the Leading Cattle Ranchers in Clay County in 1880.

¹Information gathered from Roll S Cen 16 Cameron-Coleman, Agricultural Production of 1880, United States Census of Texas, State Library Archives, Austin, Texas.



CATTLE IN COUNTIES ON THE WICHITA RIVERS^1



¹ Data Collected from US Census Records and *Texas Almanacs*.

WICHITA CO. IRRIGATED FARM ACREAGE¹

IRRIGATED FARM ACREAGE



¹Selected Years of Irrigated Acreage in Wichita County. Gathered from data in *Texas Almanacs* and United States Census Records.



 $\begin{array}{c} \mbox{OIL PRODUCTION} \\ \mbox{For Wichita and Wilbarger counties}^1 \end{array}$

¹ Number is in barrels. Data Gathered from *Texas Almanacs* and United States Census Data.

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