

## The Ecology of the Edwards Plateau, the Bison Economy of the Lipan Apaches and the Impact of the Spanish Colonial Invasion

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*Buffalo!* The very word conjures images of Indians on horses surrounding a herd of stampeding animals and picking off a young cow, killing her with an arrow to the heart. The word “buffalo” is, however, a misnomer. Buffalo as a species only reside in Asia and Africa. The correct scientific term for the great mammal is “bison.” The colonial Spaniards in a different era called the bison *el cibolo*. Given the fact that the first human perspective on the bison emerged from Native American discourse, the best descriptive words for the animal are found in indigenous languages. Indeed, the Ndé, or Lipan Apaches, call the bison *ezhánde*.<sup>1</sup>

In an interview with an anthropologist, Ndé elder Augustina Zuazua related the oral history of the Lipan Apaches. She made two relevant references in her own Ndé language. In relation to the hunting of the bison, Zuazua stated in translation “Long ago / Buffalo / They killed them / Their meat/ They ate it / And / Their hides / They tanned them.”<sup>2</sup> Focusing on Ndé use of the bison, Zuazua attested to the animal’s use for home construction. She certified that “Then / Those / Buffalo / Their hides / They having been tanned / They are tied together / Those poles / They having been tied together for it / Their tipis are made by means of it.”<sup>3</sup> The bison played a significant role in the spoken narrative history of the Ndé nation.<sup>4</sup>

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<sup>1</sup> “Everyday Life,” *The Lipan Apache Tribe of Texas Official Website*, accessed February 9, 2014. [http://lipanapache.org/Museum/museum\\_lipanlife.html](http://lipanapache.org/Museum/museum_lipanlife.html). I use the term “Ndé” on the basis of Margo Tamez’s designation in her Ph.D. dissertation, “Returning Lipan Apache Women’s Laws, Lands, and Power in El Calaboz Rancheria, Texas-Mexico Border,” (Washington State University, 2010).

<sup>2</sup> Harry Hoijer, “The History and Customs of the Lipan, as told by Augustina Zuazua,” *Linguistics* 161 (1975): 26. I draw upon Harry Hoijer’s anthropological study made in the 1930s and published in the 1970s because, while there is some debate, the accepted point of reference for Zuazua’s narrative is in the distant past, including the eighteenth century.

<sup>3</sup> Hoijer, “History and Customs of the Lipan,” 27-28.

<sup>4</sup> For a discussion of the Ndé relation to the bison, see Thomas A. Britten, *The Lipan Apaches: People of Wind and Lightning* (Albuquerque: University of New Mexico Press, 2009); William Chebahtah and Nancy Minor, *Chevato: The Story of the Apache Warrior Who Captured Herman Lehmann* (Lincoln: University of Nebraska Press, 2007); Nancy McGown Minor, *The Light Gray People: An Ethno-History of the Lipan Apaches of Texas and Northern Mexico* (Lanham, MD: University Press of America, 2009); Nancy McGown Minor *Turning Adversity to Advantage: A History of the Lipan Apaches of Texas and Northern Mexico, 1700-1900* (Lanham, MD: University Press of America, 2009); Sherry Robinson, *I Fought a Good Fight: A History of the Lipan Apaches* (Denton: University of North Texas Press, 2013); Thomas F. Schilz, *Lipan Apaches in Texas* (El Paso: Texas Western Press, 1987); Enrique Gilbert-Michael Maestas, “Culture and History of Native American Peoples of South Texas” (PhD diss., University of Texas at Austin, 2008). For general discussions of indigenous people’s relations to the bison on the southern Plains, see William C. Foster, *Spanish Expeditions Into Texas, 1689-1768* (Austin: University of Texas Press, 1995); Andrew C. Isenberg, *The Destruction of the Bison: An Environmental History, 1750-1920* (Cambridge: Cambridge University Press, 2000); Elliott West, *The Way to the West: Essays on the Great Plains* (Albuquerque: University of New Mexico Press, 1995); Elliott West, *The Contested Plains: Indians, Goldseekers, and the Rush to Colorado* (Lawrence: University Press of Kansas, 1998). For related histories of the environment in the borderlands, see Frederick R. Gehlbach, *Mountain Islands and Desert Seas: A Natural History of the U.S.-*

The Lipan Apaches made an impact on their environment in multiple ways. Their homeland in the eighteenth century stretched from the Edwards Plateau of central Texas to the mountains of Coahuila in the south. On a subsistence level, the Ndé interacted with their environment through bison hunting in the spring and fall and food gathering and horticulture in the summer. With the Spanish intrusion in the eighteenth century, the introduction of firearms, cattle, and the horse became a significant source of environmental change in the *Lipaneria*.<sup>5</sup> Significantly, the bison population continued to dwindle in the Ndé homeland from the early eighteenth century to the time of quasi-extinction in the late nineteenth century. As a result, the Lipan Apaches could not rely on the economic and spiritual benefits of the bison as they had in the past. Instead, the Ndé incorporated themselves into Spanish colonial settler economies.

From 1718 with the establishment of the presidio of San Antonio de Béxar in the heart of Lipan Apache territory to the release of the Spanish colonial regulations of 1772, Spanish intrusion on Ndé territory resulted in a decrease of the Apache's primary food source, the bison.<sup>6</sup> Although drought and wildfire may have contributed to the reduction in bison numbers, fault lies primarily with the Spanish colonial invasion in drastically altering Lipan Apache pre-contact society. Indeed, as a result of settler colonialism, the introduction of horses and cattle depleted the bison range. Further, the French armed the Comanche while the Spanish prohibited sales of firearms to the Ndé. The result of this invasion was a shift from Lipan bison hunting and horticulture to an economy based on raiding Spanish and, later, Mexican settlements for cattle and horses.

### The Physiography of the Texas Edwards Plateau

The Edwards Plateau, the primary homeland of the Lipan Apaches in the eighteenth century, lies in central Texas. The plateau comprises the southernmost portion of the Great Plains.<sup>7</sup> The area of the plateau stretches three hundred forty miles from north to south and one hundred eighty miles from east to west.<sup>8</sup> To the south and east of the plateau is the Balcones Escarpment. Just southeast of the Escarpment is where the Spanish would make their first settlement in 1718 of the region at the presidio of San Antonio de Béxar and the mission of San Antonio de Valero. To the west of the plateau is the Pecos River. To the north are the Osage, or lower Plains, and the Llano Estacado, or staked plain. To the northeast of the plateau is the Llano Basin. On the

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*Mexican Borderlands* (College Station: Texas A&M University Press, 1993); Paul Horgan, *Great River: The Rio Grande in North American History* (Middletown, CT: Wesleyan University Press, 1984); Mitchel P. McClaran and Thomas R. Van Devender, eds., *The Desert Grassland* (Tucson: University of Arizona Press, 1995); Char Miller, ed., *On the Border: An Environmental History of San Antonio* (San Antonio: Trinity University Press, 2005); Candace Savage, *Prairie: A Natural History*, (Vancouver, BC: Greystone Press, 2011); Grady L. Webster and Conrad J. Bahre, eds., *Changing Plant Life of La Frontera* (Albuquerque: University of New Mexico Press, 2001).

<sup>5</sup> For the location of the *Lipaneria* in the eighteenth century, see Robinson, *I Fought a Good Fight*, 238. For an alternative definition of the Lipan homeland, see Britten, *The Lipan Apaches*, 144. Robinson asserts that the *Lipaneria* stretched from the Texas coast to the borders of New Mexico. By contrast, Britten acknowledges that the Ndé lived west of the Pecos but declines to state exactly how far west the *Lipaneria* extended.

<sup>6</sup> I derive my date for the founding of San Antonio from Minor, *Turning Adversity to Advantage*, 5.

<sup>7</sup> For an informative discussion of the geological history of the Edwards Plateau, see Miller, *On the Border*, 24-25; see also E. H. Johnson, "Edwards Plateau," *Handbook of Texas Online*, accessed April 11, 2014. <http://www.tshaonline.org/handbook/online/articles/rxe01>.

<sup>8</sup> N. L. Fowler and D. W. Dunlap, "Grassland Vegetation of the Eastern Edwards Plateau," *American Midland Naturalist* 115, no. 1 (January 1986): 146

Edwards Plateau, elevations range from five hundred feet in the east to well over four thousand feet in the west. The bedrock of the Edwards Plateau is composed of limestone. Along the Balcones Escarpment, springs, creeks, and rivers erode the limestone resulting in *la lomería*, or Hill Country.<sup>9</sup>

The climate is semi-arid resulting in difficulties in sustaining life on the plateau. Climatic conditions subject the ecoregion to droughts, tornados, tropical storms, blizzards, and flooding. Average annual rainfall ranges from 36 inches in the east to 20 inches on the far western edge of the plateau.<sup>10</sup> The rainy months include May and September, but the climate remains semi-arid because of variable amounts of precipitation.<sup>11</sup> The climatic turbulence results from the conflict between Arctic cold fronts in the north and the warm, moist winds blowing in the southeast from the Gulf of Mexico. The plateau bifurcates into two climatic regions. To the east, wet years sometimes punctuate normally dry winters. To the west, the Plateau develops into a semi-arid steppe, or land characterized by short grasses, with consistently dry winters.<sup>12</sup> At European contact, the primary sources of environmental change on the plateau consisted of fire, drought, and bison grazing.<sup>13</sup>

The soils of the Edwards Plateau affect the ecological system. The limestone bedrock lies exposed on many parts of the plateau. Indeed, continual soil erosion makes the land entirely unsuitable for farming. The soils of the Edwards Plateau include mollisols, dark loamy soils occurring often in semi-arid grasslands.<sup>14</sup> As a result of the poor soil composition throughout most of the plateau, grazing comprises the primary mode of transmission of soil nutrients and the energy of the sun to animals. Ruminants, such as cattle, sheep, and goats ingest vegetative grassland cover. Another ruminant grazed on the Edwards Plateau for thousands of years prior to the European encounter. This ruminant was the bison. In the eighteenth and nineteenth centuries, as Spanish and Anglo-American settlers established control over the region, cattle, sheep, and goats replaced the bison.<sup>15</sup>

Herbivores graze on shortgrasses, mostly composed of buffalo and mesquite grasses on the plateau.<sup>16</sup> Ecologists today classify the Edwards Plateau as a savanna, a grassland region with a scattering of trees creating an open canopy. A smattering of trees such as juniper, oak, mesquite, and acacia punctuate the grasslands.<sup>17</sup> Oak trees predominated over juniper and mesquite at European contact.<sup>18</sup> Both climate and soil composition combine to create the conditions for a savanna in the region.<sup>19</sup> Fires, either propagated by indigenous peoples or because of drought, maintained a “lawn effect” on the plateau prior to European settlement. With the European invasion in the eighteenth and nineteenth centuries, decreased fire frequency led to an increase in the dispersion of juniper and mesquite.<sup>20</sup>

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<sup>9</sup> Terry G. Jordan, et al., *Texas: A Geography* (Boulder, CO: Westview Press, 1984), 12.

<sup>10</sup> Jordan, *Texas*, 19-21.

<sup>11</sup> Fowler and Dunlap, “Grassland Vegetation,” 146.

<sup>12</sup> Jordan, *Texas*, 23-25.

<sup>13</sup> T. Cook and D. Olson, “Edwards Plateau Savanna,” *World Wildlife Fund*, accessed April 9, 2014. <http://worldwildlife.org/ecoregions/na0806>.

<sup>14</sup> Jordan, *Texas*, 37.

<sup>15</sup> Miller, *On the Border*, 62-70; see also Johnson, “Edwards Plateau.”

<sup>16</sup> Jordan, *Texas*, 29.

<sup>17</sup> Cook and Olson, “Edwards Plateau Savanna.”

<sup>18</sup> Fowler and Dunlap, “Grassland Vegetation,” 146.

<sup>19</sup> “The Grassland Biome,” *University of California Museum of Paleontology*, accessed April 11, 2014. <http://www.ucmp.berkeley.edu/exhibits/biomes/grasslands.php>.

<sup>20</sup> Fowler and Dunlap, “Grassland Vegetation,” 146.

The Ndé valued rivers stemming from the Edwards Plateau because their families often settled along the waters. After European contact, the Lipan Apaches also lived along rivers because they could water their horses along the course after acquiring the mobile ungulate.<sup>21</sup> Early in the eighteenth century, before the Apaches became more mobile, Ndé women grew maize along with other vegetables along the rivers.<sup>22</sup> Several of the rivers on which the Lipan Apaches settled begin with the northernmost on the Plateau and end with the Rio Grande to the south. The Colorado River basin forms the northern source of drainage on the Edwards Plateau.<sup>23</sup> The Colorado River itself extends six hundred miles from its headwaters to the Gulf of Mexico. Each of its key tributaries lay to the south of the main watercourse. These smaller rivers include the Concho, San Saba, Llano, and Pedernales rivers.<sup>24</sup> The Ndé used the Colorado and the San Saba as places to hunt bison in the eighteenth century.<sup>25</sup> The river basin to the south of the Colorado is the Guadalupe River basin. The San Marcos, north of the Guadalupe, drains into the main watercourse.<sup>26</sup> The next river basin is that of the San Antonio River that flows directly between the colonial Spanish presidio and mission of San Antonio.<sup>27</sup> A significant northern tributary, Cibolo Creek, played a prominent role in the lives of the Lipan Apaches to 1848 as a place of settlement near the village of San Antonio.<sup>28</sup> The Medina River is the primary southern tributary of the San Antonio basin. The last major river basin to drain from the Edwards Plateau is the Nueces River basin.<sup>29</sup> The Apaches used each of these rivers as bison hunting bases in the eighteenth century prior to the advent of the Comanche intrusion onto the Edwards Plateau.

### Description of the Bison

Bison consumed buffalo and mesquite grass, shortgrasses, on the southernmost part of the Great Plains. Even in 1900, humans sighted the bison as far south as Coahuila in Mexico.<sup>30</sup> The bison were very large mammals, the largest herbivores in North America. The average bull weighed approximately 1600 pounds. The average bison cow weighed about nine hundred to one thousand pounds. Vegetation developed symbiotically with the bison in terms of the ecological interaction between the shortgrass plains and this ruminant. Bison grazed the shortgrasses,

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<sup>21</sup> Andree F. Sjoberg, "Lipan Apache Culture in Historical Perspective," *Southwestern Journal of Anthropology* 9, no. 1 (Spring 1953): 87; Pekka Hämäläinen, "The Politics of Grass: European Expansion, Ecological Change, and Indigenous Power in the Southwest Borderlands," *William and Mary Quarterly* 67, no. 2 (April 2010), 181..

<sup>22</sup> Sjoberg, "Lipan Apache Culture," 82.

<sup>23</sup> Jordan, *Texas*, 40.

<sup>24</sup> Gehlbach, *Mountain Islands*, 7-9. See also Comer Clay and Diana J. Kleiner, "Colorado River," *Handbook of Texas Online*, accessed April 12, 2014. <http://www.tshaonline.org/handbook/online/articles/rnc10>.

<sup>25</sup> Sjoberg, "Lipan Apache Culture," 81.

<sup>26</sup> Foster, *Spanish Expeditions*, 23. See also Vivian Elizabeth Smyrl, "Guadalupe River," *Handbook of Texas Online*, accessed April 12, 2014. <http://www.tshaonline.org/handbook/online/articles/rng01>.

<sup>27</sup> Miller, *On the Border*, 31. See also Frances Donecker, "San Antonio River," *Handbook of Texas Online*, accessed April 12, 2014. <http://www.tshaonline.org/handbook/online/articles/rms06>.

<sup>28</sup> Foster, *Spanish Expeditions*, 22. See also "Cibolo Creek (Kendall County)," *Handbook of Texas Online*, accessed April 12, 2014. <http://www.tshaonline.org/handbook/online/articles/rbcee>.

<sup>29</sup> Foster, *Spanish Expeditions*, 20. See also Robert S. Weddle, "Nueces River," *Handbook of Texas Online*, accessed April 12, 2014. <http://www.tshaonline.org/handbook/online/articles/rnn15>.

<sup>30</sup> Bethel Coopwood, "Route of Cabeza de Vaca: Part III A," *Quarterly of the Texas State Historical Association* 3, no. 4 (April 1900): 235. Coopwood asserted "the only wild herds known to exist are about forty head in Sierra del Carmen in the northern part of Coahuila...."

keeping them from overgrowth, and the shortgrasses provided much needed protein to the bison diet.<sup>31</sup> In this manner, bison-shortgrass ecology approached equilibrium.

Bison predators helped to control this herbivore population. Such wildlife included bobcats, bears, and coyotes on the Edwards Plateau. In the main, coyotes picked off bison calves from the herd. Large cats such as bobcats could also reduce bison numbers as a result of predation.<sup>32</sup> Bears also helped to control the bison population.<sup>33</sup> Humans comprised the most intense predators of the bison. Many Native Americans, over at least thousands of years, developed symbiotic relations with the bison in the sense that the *bison bison* population attained a dynamic relation with the tribes prior to European contact. Native Americans did not contribute to the near extinction of this species of bison until the advent of the horse, cattle, and European-American traders and settlements.<sup>34</sup>

Bison migration patterns depended on the availability of grass and climatic conditions. The entire bison population did not range from southern Canada to northern Mexico. Instead, bison aggregates remained concentrated in much smaller areas, although distribution in the larger scheme resulted in segments of bison groups throughout the Great Plains. When precipitation increased during the late spring and early summer, bison moved in larger areas than during the other seasons.<sup>35</sup> With a decrease in precipitation during the rest of the year, bison remained close to water sources such as the rivers of the Edwards Plateau.

Bison group formation proceeded as a result of seasonal change. Bison traveled in small groups during fall, winter, and spring. The seasonal period in which the bison increased their procreative capacity, termed “rutting,” occurred only in the summer. Indeed, the rutting season resulted in the amalgamation of several small herds into a much larger herd.<sup>36</sup> Darwinian theories of evolution play a large part in understanding bison behavior during the rutting season. Older, more violent bulls forced younger, weaker males to cower in the face of procreating with as many cows as possible. Alpha bulls would not usually kill weaker males. Instead, the most powerful bulls established a hierarchy in which weaker males retained their lives without the capability to procreate with bison cows.<sup>37</sup> The bison, in contrast to several different mammalian species such as chimpanzees, used non-violent posturing instead of killing off the weaker males in competition over mating with females.

Drought, a common fact on the Edwards Plateau, constituted one of the primary factors in reducing the bison population. According to Andrew C. Isenberg, next to humans, drought was the primary factor contributing to the environmental destruction of the bison.<sup>38</sup> Indeed, drought became a problem for the bison because it burned off the natural vegetation on which the large mammals fed. The original grasses, such as buffalo grass, always returned because this vegetation developed tactics in combatting the effects of drought over millenia. During a drought, shortgrasses, although burned off on the surface, remained deep in the ground as seeds and root networks.<sup>39</sup> The nutritive composition of grasses decreased with an increase in dry

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<sup>31</sup> Andrew C. Isenberg, *The Destruction of the Bison* (Cambridge: Cambridge University Press, 2000), 22.

<sup>32</sup> Harold P. Danz, *Of Bison and Man* (Niwot, CO: University Press of Colorado, 1997), 73-74.

<sup>33</sup> Danz, *Of Bison and Man*, 70.

<sup>34</sup> Isenberg, *Destruction of the Bison*, 29.

<sup>35</sup> Douglas B. Bamforth, *Ecology and Human Organization on the Great Plains* (New York: Plenum Press, 1988), 83.

<sup>36</sup> Danz, *Of Bison and Man*, 21.

<sup>37</sup> Isenberg, *Destruction of the Bison*, 67.

<sup>38</sup> Isenberg, *Destruction of the Bison*, 27.

<sup>39</sup> Candace Savage, *Prairie: A Natural History* (Vancouver, BC: Greystone Books, 2011), 67.

conditions consummate with a period of drought. The return of increased precipitation resulted in an increase of nutritional value. Bison numbers fluctuated with changes in the climatic patterns of the Edwards Plateau.

Wildfires also kept bison populations at a minimum. These fires on the Plains may have begun as a result of a lightning strike or severe drought conditions. Candace Savage, an expert on the natural history of the Great Plains, discussed the fearsome element in prairie fires saying “fire was the terror of the early settlers, a rapacious enemy that raced across the plains, leapt over firebreaks and rivers, and at times sped from horizon to horizon in a single day.”<sup>40</sup> Humans played a role in the occurrence of grass fires in this ecoregion. Many Native groups would engage in controlled burning to develop “grazing lawns” for the further development of the sustenance of the vegetation on the Plains.<sup>41</sup> The historical record remains unclear as to whether the indigenous peoples, including the Nde, of the Edwards Plateau engaged in controlled burning in the eighteenth century. Uncontrolled burning led to different results. Raging wildfires became the source of many maimed and blind bison.<sup>42</sup> As a result of deaths due to fire, bison populations dwindled. Wildfires also destroyed, in part, bison procreative abilities.

### The Ndé and the Bison

In addition to these environmental factors, humans also contributed to depletion of the bison. Ndé people, however, had certain cultural and religious beliefs that prohibited them from overhunting. Indeed, the bison play a significant role in the Ndé genesis story. The story begins with the people’s emergence from the dark underworld. In the beginning, animals, birds, grasses, and trees all spoke the same language. Each of the different kinds of animals and plants had their own tribe. The trees and grasses could speak to the people implying a religious land ethic unparalleled in western spirituality. The moon was Changing Woman, the mother of all, and her son was Killer-of-Enemies who also embodies the sun. The first animal Killer-of-Enemies sought to kill was the buffalo. The buffalo lived far away in open country. Killer-of-Enemies prayed and received the help of Gopher.

At first, the buffalo would kill anyone who crossed his path. Killer-of-Enemies, with the help of Gopher, killed the buffalo with an arrow to the heart. Upon the buffalo’s death, Killer-of-Enemies spoke to him. He said “from now on you must be different. When the people are in need of anything from you, you must help them.” The buffalo responded that he would help the people only if they would not throw his flesh around. The buffalo placed conditions on his help as to hunting. These conditions included the injunction against overhunting the animal. Killer-of-Enemies respected these conditions.<sup>43</sup> So the origin story continues.

The procurement of bison for the various needs of the Lipan Apaches comprised a necessary part of Lipan culture prior to and at the beginning of the Spanish intrusion in the seventeenth and early eighteenth centuries. The Ndé hunted the bison for food and hides. The Ndé used bison hides for clothing, trade, and *jacal* construction.<sup>44</sup> *Jacales* comprised Lipan Apache homes. The

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<sup>40</sup> Savage, *Prairie*, 81.

<sup>41</sup> Bamforth, *Ecology and Human Organization*, 38; Isenberg, *Destruction of the Bison*, 72.

<sup>42</sup> Danz, *Of Bison and Man*, 77.

<sup>43</sup> Morris Edward Opler, *Myths and Legends of the Lipan Apache Indians* (New York: American Folk-Lore Society, 1940), 13-18.

<sup>44</sup> Sjoberg, “Lipan Apache Culture,” 80.

indigenous nation constructed dwellings by stretching large sticks of wood into the shape of a dome then throwing bison hides over the wooden structure. The Spanish termed settlements of several *jacales* as *rancherías*.<sup>45</sup> These habitations were impermanent, and the Apaches constructed tipis for the purposes of longer-term settlement. The Ndé hunted the bison in late spring, fall, and early winter.<sup>46</sup> They did not hunt bison during the summer rutting season. In this way, the Lipan Apaches could always remain close to the rivers on the Edwards Plateau because rivers, particularly the Colorado River, provided water sources for Ndé consumption.

The method for hunting bison changed with the advent of the horse. At European contact, Apache men, women, and children would band together and create a bison fall. This trap entailed surrounding the bison and forcing them to stampede off a cliff. As late as 1854 Ndé people practiced the bison fall along Cibolo Creek. After acquisition of the horse, large gatherings of men on horses separated into smaller groups to surround bison herds then shot the mammal with arrows, spears, and firearms. The Spanish called this mounted bison hunt a *carneada*.<sup>47</sup>

After the Apaches adapted to horse culture, the gendered division of labor resulted in Ndé women and men taking on different roles in relation to the bison. Lipan Apache women apparently suffered no decrease in status as a result. Bison hunting primarily became a masculine sphere of work. Ndé women engaged in the processing of bison hides for use as clothing, exchange items, status goods, and shelter construction. The placement of women at the center of the matrilineal home balanced the masculine bison hunting and horse raiding economy.<sup>48</sup> Again, Apache women lost no status as a result of the transition to horse-driven bison hunting.

Bison did not comprise the sole food source for the Ndé at European contact. This fact contributed further to equal status between Lipan men and women. Women gathered food, particularly the Sotol plant.<sup>49</sup> Ndé women also practiced horticulture and agriculture including the raising of maize along the rivers of the Edwards Plateau. This emphasis on agriculture differed from other Plains Indian bison hunting societies.<sup>50</sup> Agriculture as an enterprise failed upon the arrival of the Comanche. The invasion forced the Lipan Apaches to become mobile, and they could not settle in one area long enough to harvest maize.

Indeed, the Comanche invasion was seminal in its alteration of the bison-hunting practices of the Ndé. From the early eighteenth century until 1772, Spanish policy consisted of support for the Lipan Apaches against the encroachment of the powerful Comanche nation. In the 1740s, the Comanche adapted to horse culture sufficiently to move onto the Edwards Plateau.<sup>51</sup> As a result of this intrusion, the Ndé lost territory in a dynamic exchange with the Comanche and other Norteño tribes such as the Wichita and Caddo.<sup>52</sup> Because of this attenuation in territorial integrity and Norteño attacks on the Apaches, the Ndé could not camp in one place long enough to plant corn or engage in other agricultural pursuits.

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<sup>45</sup> Nancy McGown Minor, *The Light Gray People: An Ethno-History of the Lipan Apaches of Texas and Northern Mexico* (Lanham, MD: University Press of America, 2009), 49.

<sup>46</sup> Sjoberg, "Lipan Apache Culture," 81.

<sup>47</sup> Minor, *Light Gray People*, 60-61.

<sup>48</sup> Juliana Barr, *Peace Came in the Form of a Woman: Indians and Spaniards in the Texas Borderlands* (Chapel Hill: University of North Carolina Press, 2007), 161.

<sup>49</sup> W. W. Newcomb, *The Indians of Texas: From Prehistoric to Modern Times* (Austin: University of Texas Press, 1961), 115.

<sup>50</sup> Sjoberg, "Lipan Apache Culture," 82-83.

<sup>51</sup> Pekka Hämäläinen, *The Comanche Empire* (New Haven: Yale University Press, 2008), 57.

<sup>52</sup> Britten, *Lipan Apaches*, 68; Hämäläinen, "Politics of Grass," 182.

## The Bison and the Impact of the Spanish Colonial Biota Invasion

Spanish colonization in the Lipan homelands of *la lomería*, or the Hill Country on the eastern edge of the Plateau, began in earnest in 1718. With the Alarcón expedition, the Spanish renamed the entire region of what is now Texas north of the Nueces River the New Philippines, Province of the Tejas. The Tejas, or Caddo, Indians lived far to the northeast of the Hill Country and the Edwards Plateau, yet their strategic placement between the borders of land claimed by France and Spain resulted in Spanish courting of the Caddo, enemies with the Lipan Apaches at that time. On May 5, 1718, General Martín de Alarcón founded the Presidio de San Antonio de Béjar and the Mission de San Antonio de Valero on the banks of the San Antonio River.<sup>53</sup> Almost immediately, the Spanish began to kill the bison.<sup>54</sup> Another example of Spanish depredations against the bison, the food and spiritual sustenance of the Lipanes, included an encounter between the Aguayo expedition and a herd of bison in the Hill Country in 1722. The men of the expedition killed several bison and tied one to a rope to bring into the camp as a diversion.<sup>55</sup> The Apaches hated the Spanish almost immediately upon the colonizer's settlement in their homeland. As early as 1737, the Spanish led expeditions against the Lipan in order to gain horses, bison hides, and slaves, both men and women.<sup>56</sup> In 1740, Father Santa Ana indicted his own people for stealing Ndé horses, bison hides, and captive women and men for sale.<sup>57</sup> As for the impact of stolen bison hides on depletion of the animal population, little evidence suggests that significant depletion occurred.

Spanish horses also played a powerful role in the destruction of the bison range. By 1700, horses became ubiquitous on the Plains, including the Edwards Plateau. Horses competed with Bison herds for forage. In particular, wild horses, or mustangs, that escaped from Spanish herds grew exponentially in population on the southern plains during the eighteenth and nineteenth centuries. Horse droppings spread mesquite and juniper into the Hill Country and on the Edwards Plateau resulting in the inability of the bison to forage on this southernmost portion of the Great Plains.<sup>58</sup> While the Lipanes benefitted from horses in terms of increased capabilities in bison hunting, ultimately mustangs contributed to a marked decrease in bison numbers on the Edwards Plateau.<sup>59</sup>

The Lipanes used firearms, particularly flintlocks, only rarely from 1718 to 1772. Indeed, the Spanish prohibited the sale of firearms to indigenous nations in the northern provinces.<sup>60</sup> The

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<sup>53</sup> Fray Francisco Céliz, *Diary of the Alarcón Expedition into Texas, 1718-1719* (Los Angeles: Quivira Society Publications, 1935), 49.

<sup>54</sup> Céliz, *Diary of the Alarcón Expedition*, 63, 69.

<sup>55</sup> Juan Antonio de la Peña, *Peña's Diary of the Aguayo Expedition*, trans. Peter Forrestal (Austin: The Texas Catholic Historical Society, 1935), 29.

<sup>56</sup> Juan Agustín de Morfi, *History of Texas, 1673-1779*, trans. Carlos E. Castañeda (Albuquerque: Quivira Society Publications, 1935), 2:291.

<sup>57</sup> Fr. Benito Fernández de Santa Ana to Fr. Pedro del Barco, February 20, 1740, in *The San José Papers: The Primary Sources for the History of Mission San José and San Miguel de Aguayo from its Founding in 1720 to the Present*, comp. Marion A. Habig and trans. Benedict Leutenegger (San Antonio: Old Spanish Missions Historical Research Library at San José Mission, 1978), 63-64.

<sup>58</sup> Gary Clayton Anderson, *The Indian Southwest, 1580-1830: Ethnogenesis and Reinvention* (Norman: University of Oklahoma Press, 1999), 130; Dan Flores, "Bison Ecology and Bison Diplomacy: The Southern Plains from 1800 to 1850," *Journal of American History* 78, no. 2 (May 1973):

<sup>59</sup> Pekka Hämäläinen, "The First Phase of Destruction: Killing the Southern Plains Buffalo, 1790-1840," *Great Plains Quarterly* 21 (Spring 2001), 104.

<sup>60</sup> David J. Weber, *The Spanish Frontier in North America* (New Haven: Yale University Press, 1992), 143.



Comanche obtained firearms from the French.<sup>61</sup> As a result, Comanche invasion of the Edwards Plateau commenced early in the eighteenth century. The Lipan Apaches held a distinct disadvantage in the face of the superior if borrowed technology of the Comanche.<sup>62</sup> Indeed, the Ndé still used bows and arrows in 1766 without the benefit of many firearms.<sup>63</sup> At some point in the late eighteenth century, the Apaches formed an alliance with east Texas tribes including the Bidai and Attakapa. By 1783, these tribes supplied the Ndé with guns and ammunition in exchange for horses.<sup>64</sup> The scale tipped in favor of equilibrium between the Lipan and the Comanche, at least, for a time.

Spanish cattle, along with wild horses, depleted the range of Native grasses. European livestock, left to roam, spread mesquite and juniper trees over the grasslands of the Edwards Plateau, creating a chaparral effect on the plateau and throughout south Texas. The bison could not penetrate the chaparral and, for this among other reasons, migrated north out of south Texas and off the Edwards Plateau.<sup>65</sup> Beginning with the Alarcón expedition, the Spanish encountered at least one “Castilian” bull indicating that feral cattle colonized the area prior to permanent settlement.<sup>66</sup> Ungulates such as cattle and sheep required forage, and when their population exploded, the European livestock depleted grasslands in the vicinity. By October 1749, the missions of San Antonio contained more than two thousand head of cattle and almost one thousand sheep.<sup>67</sup> At this level, the grasslands around San Antonio suffered. By May 1758, the missions maintained 3,726 sheep, one thousand cattle, and over one hundred horses.<sup>68</sup> In 1767, wild cattle roamed in large herds throughout the plains biome.<sup>69</sup> Another aspect of Spanish pastoralism with a further juniper invasion on the eastern plateau included fire suppression.<sup>70</sup> Horses, cattle, and fire suppression led to a severe alteration in the composition of vegetation in the Hill Country and the Edwards Plateau in the eighteenth century.

The Lipan Apache trade in bison hides had little impact on the animal’s population, even if overhunting occurred among other colonial powers of the region. Exchange of Bison hides between the Ndé and European settlers in the eighteenth century did not deeply affect bison numbers. In March 1734, one Apache group arrived in San Antonio to trade bison products with the Spanish. In and before 1755, during the summer, Ndé people migrated to Native agricultural towns on the Rio Grande to exchange bison hides and dried meat for maize and other foodstuffs.<sup>71</sup> As late as 1783, the Apaches gave bison hides to honored guests implying that

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<sup>61</sup> Flores, “Bison Ecology,” 471.

<sup>62</sup> Hämäläinen, “Politics of Grass,” 179.

<sup>63</sup> Nicolas de la Fora, *The Frontiers of New Spain: Nicolas de la Fora’s Description, 1766-1768*, trans. Lawrence Kinnaird (Berkeley: Quivira Society Publications, 1958), 79.

<sup>64</sup> Juan Agustín de Morfi, *Excerpts from the Memorias for the History of the Province of Texas*, trans. Frederick C. Chabot (San Antonio: Naylor, 1932), 4.

<sup>65</sup> Anderson, *The Indian Southwest*, 130.

<sup>66</sup> Céliz, *Diary of the Alarcón Expedition*, 52.

<sup>67</sup> Fr. Ignacio Antonio Ciprián to Fr. Juan Antonio Abasolo, October 27, 1749, *San José Papers*, 98.

<sup>68</sup> Gobernador Jacinto Barrios y Jauregui, Informe del gobernador sobre la mission de San José, May 28, 1758, *San José Papers*, 130.

<sup>69</sup> Pierre Marie Francoise de Pagès, “Across Texas in 1767: The Travels of Captain Pagès,” ed. Marilyn McAdams Sibley, *Southwestern Historical Quarterly* 70, no. 4 (April 1967): 612.

<sup>70</sup> Grady L. Webster, “Reconnaissance of the Flora and Vegetation of *La Frontera*,” in *Changing Plant Life of La Frontera: Observations on Vegetation in the U.S./Mexico Borderlands*, Grady L. Webster and Conrad J. Bahre, eds. (Albuquerque: University of New Mexico Press, 2001), 32.

<sup>71</sup> Anderson, *The Indian Southwest*, 118-119.

bison products comprised status symbols and had an elevated economic value.<sup>72</sup> These examples proved exceptions to the rule.

Cattle and horse raids supplanted the bison hunting economy. After their first taste of horse-riding, the Ndé needed more horses to augment their status. Cattle raiding occurred because of the depletion and migration north of the bison population.<sup>73</sup> As early as 1722, the Lipan Apaches attacked the Spanish in order to make away with their horses.<sup>74</sup> In 1745, a missionary reported that the Ndé customarily stole Spanish horses.<sup>75</sup> By 1755, though, the Apaches began appropriating cattle for consumption and trade. Indeed, in one incident the nation killed or absconded with approximately one thousand head of cattle.<sup>76</sup> One Spaniard noted that the Ndé committed depredations against colonial settlements while camped on the San Saba River in 1758.<sup>77</sup> In 1767 the Lipan Apaches continued to hunt bison but also appropriated Spanish cattle for consumption and trade.<sup>78</sup> Indeed, the Ndé stole cattle as far as Coahuila south of the Rio Grande.<sup>79</sup> By July 1772, the Ndé had acquired sufficient knowledge of beef consumption to make jerked beef.<sup>80</sup> These facts suggested that the Apaches turned to the acquisition of beef over hunting for the bison as early as the mid-eighteenth century.

The Comanche from the north and the Spanish from the south coerced the Ndé into moving south off of the Edwards Plateau and east of the Balcones Escarpment. Because the Comanche barred access to the bison on the Edwards Plateau, the Lipan economy for trade and food consumption shifted from an emphasis on bison hunting to raiding cattle from Spanish ranches dotting the south Texas countryside north to San Antonio.<sup>81</sup> From 1722 to 1767 the Comanche forced the Ndé south from north of the Guadalupe River to lands between the Rio Grande and the Nueces in what was then the separate province of Coahuila.<sup>82</sup> The Spanish *Reglamento* of 1772 was the coup de grâce. The regulations introduced destroyed any vestiges of peace between Spain and the Ndé nation. Colonial administrators at that point initiated a plan to “exterminate” all Apaches, including the Lipan, along the northern frontiers of New Spain.<sup>83</sup> The Ndé turned to the shadow economy of raiding for horses and cattle and trading these animals to indigenous nations to the east for firearms. They acquired guns and ammunition to defend themselves in the coming war of attrition.

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<sup>72</sup> Morfi, *Excerpts from the Memorias*, 18.

<sup>73</sup> Minor, *Light-Gray People*, 72-73.

<sup>74</sup> La Peña, *Peña's Diary*, 19.

<sup>75</sup> Fr. Benito Fernández de Santa Ana to Viceroy Pedro Cebrian Conde de Fuenclara, May 16, 1745 in *Letters and Memorial of the Father Presidente Fray Benito Fernández de Santa Ana, 1736-1754*, ed. and trans. Benedict Leutenegger (San Antonio: Old Spanish Missions Historical Research Library, 1981), 49.

<sup>76</sup> Fr. Ildefonso Marmolejo, Inventory and Report of San José, October 4, 1755, *San José Papers*, 123-126.

<sup>77</sup> Don Angel de Martos y Navarrete to Don Vicente Rodríguez, March 23, 1758, *The San Sabá Papers: A Documentary Account of the Founding and Destruction of San Sabá Mission*, ed. Lesley Byrd Simpson and trans. Paul D. Nathan (Dallas: Southern Methodist University Press, 2000), 21.

<sup>78</sup> Pagès, “Across Texas in 1767,” 614.

<sup>79</sup> La Fora, *Frontiers of New Spain*, 145.

<sup>80</sup> The Baron de Ripperda to the Viceroy, July 7, 1772 in *Athanase de Mézières and the Louisiana-Texas Frontier, 1768-1780* (Cleveland, OH: Arthur H. Clark, 1914), 1:332.

<sup>81</sup> Anderson, *The Indian Southwest*, 127; Minor, *Light Gray People*, 61.

<sup>82</sup> La Peña, *Peña's Diary*, 21; José de Solís, *The Solís Diary of 1767*, trans. Peter Forrestal (Austin: The Texas Catholic Historical Society, 1931), 9.

<sup>83</sup> Weber, *The Spanish Frontier*, 215-224.

## Conclusion

The Ndé became caught in a vise between the Spanish colonizers and the Comanche by the end of the eighteenth century. Consummate with this fact was bison depletion on the Edwards Plateau. Wild horses and feral cattle competed with the great herbivore. The growth of savanna including juniper and mesquite pushed the bison north. Wild horses, cattle proliferation, and fire suppression in and around San Antonio allowed for the uninhibited growth of juniper and mesquite promoting a chaparral effect in south Texas and on the plateau. This unrestrained growth in turn created the conditions for the rise of a savanna ecosystem. The Comanche from the north pushed the Lipan Apaches south of the Edwards Plateau into Spanish settlements around San Antonio to the lower Rio Grande River valley in what was then Coahuila. Ndé people could not defend themselves because they had little access to firearms, and Spanish policy prohibited trade in flintlocks. The Lipan Apaches altered their economy from bison hunting to rustling cattle and horses. By 1772, Spain, in forming an alliance with *los norteros* including the Comanche, declared war on the Lipanes ending a half-century of peace negotiations.