Paynes Prairie: Biography of a Wetland

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Introduction

Controversy surrounding the fate of wetlands across the nation has generally focused on issues such as property rights, wetland boundaries and benefits wetland ecosystems provide humankind. Connections between wetland systems are frequently lost in the debate. Also faded from view is the historical perspective of wetlands. Yet an understanding of the historical significance of a given wetland ecosystem can sharpen the focus on the major issues and reduce misunderstandings commonly associated with wetlands preservation efforts.

The case of Paynes Prairie (*see* Figures 1, 2 and 3) is an example of a wetland system with a long, productive and fascinating history. Viewing Paynes Prairie from the historical perspective allows one the opportunity to explore many of the interconnections between wetlands and people. Although the prairie is currently engulfed in controversy, much of the problem stems from the failure of many people to understand the biography of this wetland.

Indian and European Occupation

Paynes Prairie has been inhabited for nearly 13,000 years (Milanich 1992). Indeed, traveling through the area in 1774, naturalist William Bartram noticed that "almost every step we take over these fertile heights, [one] discovers the remains and traces of ancient human habitations and cultivation" (Van Doren 1928: 173). In 1492, Europeans stumbled into the West Indies and in 1539, Spanish explorer Hernando DeSoto met and fought with the prairie's natives. During the 1600s, Spaniards erected a series of missions throughout north Florida including one in what later became Alachua County. By 1700, Paynes Prairie had become the site of one of the most successful cattle ranches in Florida (Arnade 1961). This success was short-lived because British and Indian raids

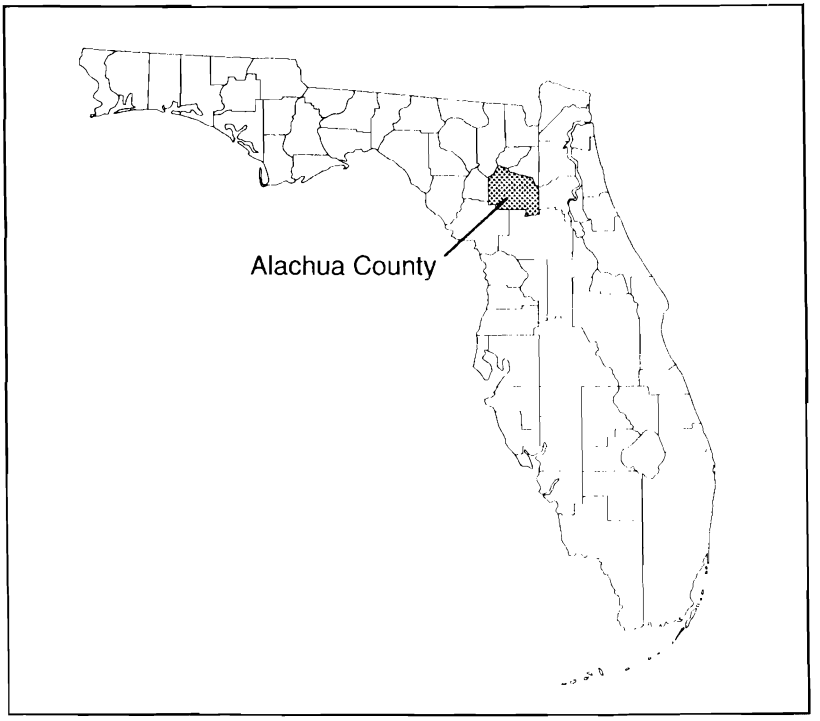

Figure 1

between 1702 and 04 practically eliminated both Spanish and Timucuan Indian presence in all of north Florida. Spanish officials soon moved to fill the void by inviting branches of the Creek Indians from the Carolinas to relocate in Florida and to develop farms and cattle ranches of their own. These newcomers eventually became known as Seminoles (Blackard 1992).

In 1821, Spain ceded Florida to the United States and Edward M. Wanton established a trading post near the prairie's southern edge at Micanopy (Figure 2). This marked the beginning of the end for the Indian presence in and around Paynes Prairie. Incoming settlers refused to recognize Indian land claims, conflict between cultures intensified, and the Second Seminole War broke out in 1835 (Mahon 1967). By 1842, Indians had either been eliminated or chased deep into the Everglades.

Paynes Prairie, or "Alachua Savanna" as Bartram called it, has been settled by Europeans and Indians alike largely because it has

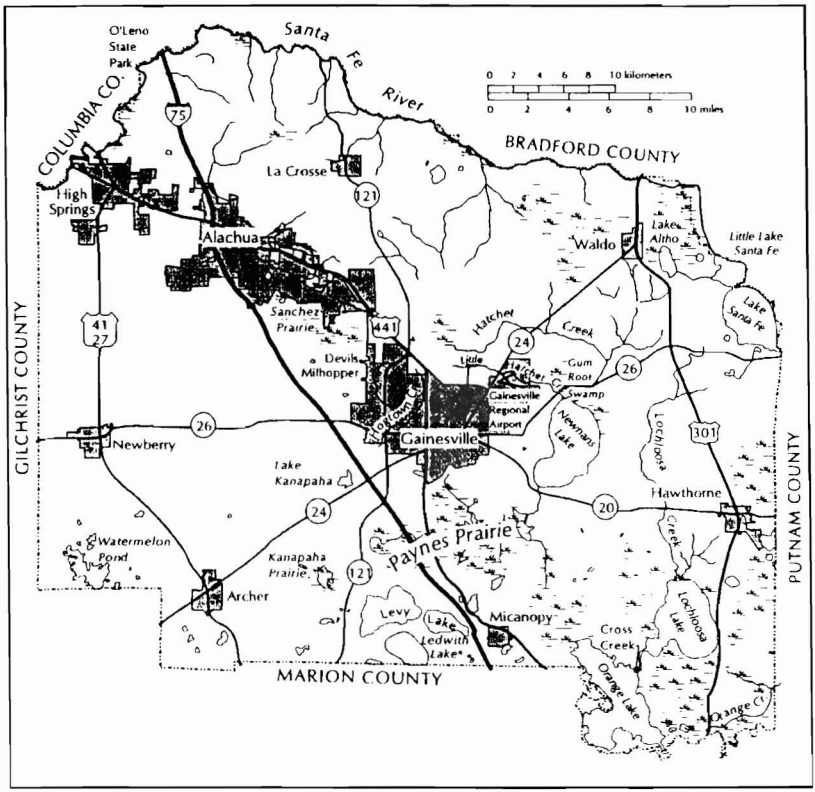

Figure 2
Alachua County

been an excellent source of food. Bartram was struck by the numerous orange groves and vegetable gardens in the vicinity. "At the same time", he recorded, "are seen innumerable droves of cattle. . . . Herds of sprightly deer, squadrons of the beautiful fleet Siminole [sic] horse, [and] flocks of turkeys" (Van Doren: 165). Remnants of the "Alachua Trail" that leads into Georgia reveal that other Indians in the south also recognized the value of Alachua Savanna as a source of trade (Vanderhill 1977).

Whence "Alachua" and "Paynes"?

There are several conflicting accounts of the name Alachua (Drew 1927; Gainesville Daily Sun, 1932; McDonald 1934; Norton

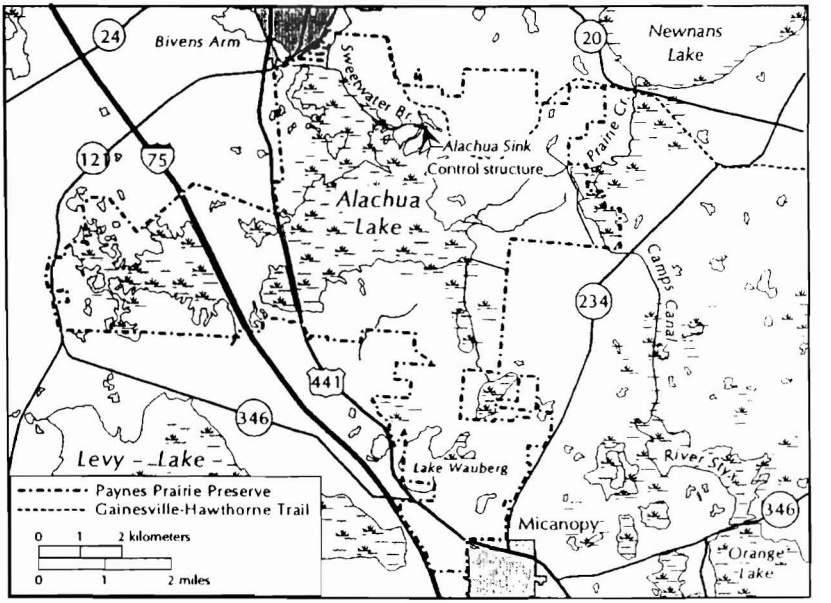

Figure 3
Paynes Prairie and Vicinity

1892; Quigg 1958) but most early writers believe that Alachua is a derivative of an Indian word meaning big jug or bottomless pit. The natives were well aware that Alachua Sink is a hole in the limestone that allows surface water to drain into the subterranean water system. While on a mission to locate a suitable territorial capital for Florida in 1823, W.H. Simmons visited the sink and asked one of his Indian guides where the subterranean outlet reappeared. After being told that the water eventually entered the Suwannee River some 45 miles away, Simmons asked why they thought this was the case. The guide told him that "some years ago, an Indian bathing near the sink was drowned and his body afterwards found in the Suwannee" (Simmons 1908).

The origin of the name Paynes Prairie is also not entirely clear. Bartram referred to the area as Alachua Savanna and that name stuck until sometime in the early 1800s (Van Doren 1928). Although there are three prominent early nineteenth century people with the last name of Payne, most writers claim that the prairie is named after King Payne—an Indian chief killed in a skirmish with invad-

ing Americans in 1812 (Gainesville Daily Sun 1932; McDonald 1934; Quigg 1958; Murdoch 1956).

Paynes Prairie Turned into a Lake?

It seems clear that water levels in Paynes Prairie have changed throughout history. William Bartram noticed that the savanna went through relatively wet and dry cycles on an annual basis. Commenting on the "intolerable stench" of rotten fish, Bartram recorded his surprise that the prairie had been relatively dry during early summer rather than in autumn by which time he supposed the summer sun would have evaporated most of the water (Van Doren 1928).

Although some sources state that Paynes Prairie was at least partially flooded during the 1820s, other sources do not support this allegation. In 1891, the *Providence Journal* (as quoted in Sellards, 1910) reported that Paynes Prairie had been a lake which had drained in 1823. Yet James Grant Forbes makes no mention of water level changes in the Alachua section of his book describing Florida in 1821 (Covington 1964). Furthermore, W.H. Simmons apparently heard no such stories from the Indians when he visited the prairie in early October, 1823 (Simmons 1908). Finally, E.H. Sellards (1910) reported that James Pierce visited the basin in 1824 and found it dry.

On the other hand, W.W. Cameron claimed that the water level was "very low" in 1861, implying that a lake existed (Sellards 1910). The *Providence Journal* also alleges (as quoted in Sellards 1910: 64) that the prairie became flooded in 1868, "but that the water disappeared after a short time. . . ." Continuing, the newspaper reported that "in 1873, after a series of heavy rains, the Sink overflowed" and "soon became a lake." Sellards (1910), however, is not sure if the prairie overflowed in 1871 or 1873. Yet this much is certain: Paynes Prairie flooded soon after the Civil War and became a lake that ran between 9 to 13 km (6 to 8 mi) east and west, and 3 to 6 km (2 to 4 mi) north and south. Even after the prairie became a lake, naturalist Frank M. Chapman wrote this in his journal for 10 December 1887: "The greatest change I notice in the appearance of the country since my departure in the spring has been caused by the drouth [sic] which lowered the lake and has left thousands of acres uncovered where before the water was waste high" (Austin 1967: 29). Paynes Prairie remained a lake until 1891 when it suddenly drained. Water

levels in Paynes Prairie obviously fluctuate over both long and short terms.

Agricultural Development around the Lake in the Late 1800s

By 1870, shortly before Paynes Prairie became Alachua Lake, Alachua County was the most populous in Florida. This was due in no small measure to productive farm and ranch land that would soon be under several meters of water—the same productive land that Indians had settled for millennia. In the early 1870s, John Barr planted 16 ha (40 acres) of orange trees on his Micanopy farm and was immediately denounced as a fool by his friends. According to one source, residents scoffed that "there were not enough people in the United States to eat that many oranges" (Barr as quoted in Smith, 1942: 2).

Although wild orange trees dotted much of the Sunshine State, Florida and California had not yet become tremendous citrus producing states. The U.S. imported over 200 million oranges between 1874 and 1877 (Jackson 1991). By 1880, only six Florida counties produced more oranges than Alachua County's 15,000 boxes (U.S. Department of the Interior 1883). (James Calvert Smith [1942] reports that fruit packers preferred boxes containing 150 oranges). Alachua County farmers also produced almost half of Florida's total value of market garden products sold. Suddenly, Alachua County lakes were surrounded with citrus trees. By 1889, only Orange and Marion counties produced more oranges than Alachua's 400,000 boxes. (U.S. Department of the Interior 1895).

James Calvert Smith (1942) recalled that until the 1880s, grapefruit were considered unpleasant anomalies in orange groves. Yet when Henry Flagler opened his fabulous Ponce de Leon Hotel at St. Augustine in 1886, grapefruit appeared on the breakfast menu. Smith records (p. 4) that northern tourists returned home, raved about the new fruit, and soon "a grapefruit tree was worth ten orange trees."

Although a railroad linked Gainesville to Jacksonville and northern markets beginning in 1859, transportation throughout Alachua County remained woefully inadequate during the 1870s (Watkins 1975). By 1883, however, the Alachua Navigation and Canal Company launched a steamboat nearly 10 m (32 ft) long into Alachua Lake. The boat chugged all around the lake, stopping to

pick up passengers and produce, and delivering them to a railroad connection near Rocky Point on the lake's west shore (Lauter 1950). It seemed as if prosperity would be permanent.

The Big Freeze

In 1883, Carl Webber raved about Alachua County's mild climate and went so far as to compare greater Gainesville to the biblical Garden of Eden. "Figs grew there, and figs grow here. Because the people here do not resort to the fig leaf clothing after the fashion of our primitive ancestors, is no proof that the climate is not sufficiently charming to admit of such a luxury" (Webber 1883: 5). During the winters of 1894-95 and 1898-99, however, Alachua County's residents would need to wear much more than just fig leaves.

Evidence of freezing temperatures in Alachua County during the winter of 1894-95 is sketchy. Smith (1942) recalled that it got down to -3°C (26°F) one night in December 1894, and that although citrus trees were damaged, they were still alive. Yet according to a bulletin published by the University of Florida's Agriculture Experiment Station (Mitchell and Ensign 1928), the mercury at Gainesville dropped to -9°C (16°F) or less for three days during the winter of 1894-95. Smith (1942) did not record the temperature for January or February 1895, but he observed that most citrus trees were "killed to the ground."

Many citrus farmers lost everything they had. Some of the wealthier growers moved further south, but several replanted in Alachua County. On 7 February 1899, the temperature in Gainesville rose to 27°C (81°F). It seemed as if winter was over and that danger of a freeze had passed. The next night, however, the temperature plunged to 2°C (36°F). The following night it dipped to -4°C (25°F). Over the next three days low temperatures were near freezing and highs hovered ominously around single digits celsius (40°F to 50°F).

If residents of Gainesville thought the worst had passed, they were sadly mistaken. On 13 February disaster struck. The temperature dropped to -14°C (6°F). The next day was hardly any better with a low of -10°C (13°F) and a high reaching only -5°C (22°F). Gainesville received an inch of snow and even southwest Florida reported flurries (U.S. Department of Agriculture 1899). The winter of 1899 ended Alachua County's hope of rebuilding an economy

based on citrus and vegetable farming. In 1910, Alachua County produced just 26,000 boxes of oranges while Orange County produced 915,000 boxes (U.S. Department of Commerce 1913).

Alachua Lake Becomes Paynes Prairie—Again

Even before the big freezes of the 1890s, attention once more focused on the agricultural potential of Paynes Prairie, this time as a source of range land for cattle. Alachua Lake lowered noticeably during 1890, and in August of 1891, the sink gobbled up what was left of the lake in a matter of days (Sellards 1910). The steamboat was marooned. Countless thousands of fish lay rotting in the mud. Townspeople were flabbergasted. On 20 August 1891, the *Gainesville Daily Sun* reported that "two large new sinks have appeared near the old one. . . . This is another proof, it would seem, that the underground outlet is a reality, though we hear many seriously saying that they disbelieve it." Years later Ida McDonald (1934: 17) wondered "whether it was blasting that a company was doing around the sink" that caused the lake to drain. This hypothesis notwithstanding, the draining of Alachua Lake remains a mystery.

In any case, the steamboat has never been found, the fish were eventually removed (or decomposed), and prairie grasses soon returned. With the grasses came cattle. By 1920, with Alachua County's dreams of a citrus empire nothing but a faded memory, the county led Florida in the value of all domestic animals—largely attributable to fine pastures on Paynes Prairie (U.S. Department of Commerce 1922).

In an article dated 12 November 1911, the *Gainesville Daily Sun* noted that W.N. Camp owned more than 8,000 ha (20,000 acres) in Paynes Prairie and that he hoped to drain the entire tract. The newspaper editorialized that "The plans of Mr. Camp, when carried out, will mean much for this section." Six years later, nothing had become of the project, but the *Sun* sensed renewed interest: "Some believe that by turning Prairie Creek [the chief source of water for the prairie] into the River Styx the water level [in the prairie] can be reduced materially [see Figure 2]. If this territory can be reclaimed thousands of acres of land as rich as any in the Everglades will be brought into cultivation" (Gainesville Daily Sun 1917).

Interest in the project again waned, this time until 1926, when the Micanopy Chamber of Commerce spoke out against the resurrected drainage project (Gainesville Daily Sun 1926) By 1931,

however, as Camp's Canal neared completion, the *Sun* reported that the water level "is now receding at the rate of 12 inches about every 15 days and that within 60 days the prairie will be completely dry except at the famous sink" (Gainesville Daily Sun 1931). Shortly thereafter, a series of levees were constructed throughout the prairie so that even more cattle could be raised in the lush grasses.

Camp's Canal Becomes the Center of Controversy

Overflow from Newnans Lake runs into Prairie Creek and the creek used to drain into Paynes Prairie (Figure 2). For nearly 30 years after the creation of Camp's canal, however, water from Prairie Creek collected in a semi-impounded area on the northeast edge of Paynes Prairie; it then ran south down Camp's Canal which emptied into a marsh called the River Styx which gradually released water further south into Orange Lake. By 1957, however, Orange Lake had shriveled to one-third of its size in previous years, possibly because of the flow of water into a known sink at the bottom of the lake, aggravated by drought conditions. Worried local residents sent a diver into the lake to see if water was pouring through the sink. The diver soon reappeared and claimed that water was indeed being sucked into a subterranean outlet (Gainesville Sun 1993a).

In an effort to prevent any further drainage of Orange Lake, panic stricken locals deposited as many as 100 old cars, a bus body, and a huge fuel tank into the sinkhole. The hole appeared to be plugged and water levels soon returned to "normal"—at least for a time. In the early 1970s, a relatively dry Paynes Prairie became a state owned and managed wildlife preserve. The Florida Department of Environmental Protection (DEP) is trying to restore the prairie to a semblance of its prior wetland condition. To do this, the state placed a culvert through the impoundment at the head of Camp's Canal so that some of the water from Prairie Creek can follow its pre-1931 natural course—into Paynes Prairie (Gainesville Sun 1993a).

According to Paynes Prairie biologist Jim Weimer, rainfall has been below normal for much of the 1980s and Orange Lake has again begun to shrink at an alarming rate (Weimer pers. comm.). As seen in Figure 4, precipitation at Gainesville, Florida has fluctuated wildly since the early 20th century. In any event, many recreation related businesses and houses that sprung up along the old lake shore are now high and dry. In spite of the fact that Orange Lake's

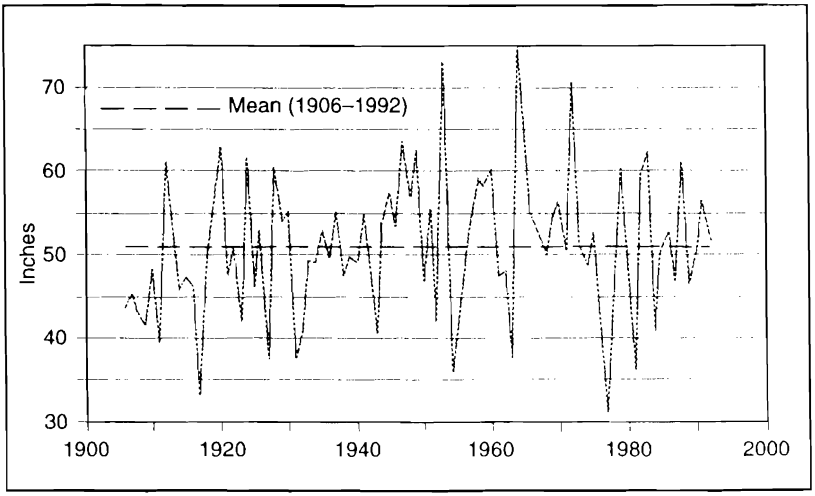

Figure 4
Annual Precipitation: Gainesville, FL, 1906–1992

sink is again draining water and that precipitation has again become scarce, many Orange Lake residents are furious with the DEP for allowing water to flow into the prairie. Paynes Prairie Park Manager Jack Gillen maintains that the state is simply allowing water to go where topography would send it naturally, and that in any event there has been precious little water to send to either Orange Lake or the prairie (Gillen pers. comm.).

In any case, the St. Johns River Water Management District responded to public pressure in 1992 by requiring the state to obtain a temporary permit to "divert" water into the prairie. Although the prairie now consumes less water than permitted, staff members at Paynes Prairie are concerned that the water management district might reduce future water flow into the park. Relations between prairie supporters, Orange Lake supporters, and water management district officials are extremely volatile and there appears to be little hope for immediate agreement (Gainesville Sun 1993b).

Conclusion

Human beings throughout the world have always modified their environment and former residents of Paynes Prairie are no exception. Spanish settlers introduced cattle and oranges to coastal

Florida during the 16th century and Paynes Prairie Indians made extensive use of cattle and wild citrus fruit over the next few centuries. Furthermore, early 20th century issues of the *Gainesville Daily Sun* are peppered with suggestions for how the prairie might be altered (Gainesville Daily Sun; 1903, 1911, 1917, 1919). Yet lack of resources and inadequate technology forced people to accept a more limited modification of nature.

Perhaps it is precisely because we now have the resources and technology to alter nature that people are more inclined to implement changes in natural systems. Many Orange Lake residents have built their lives around a frequently changing body of water and insist upon monopolizing water resources at the expense of Paynes Prairie. It remains to be seen if Paynes Prairie will be sacrificed in the name of saving Orange Lake residents who insist that they have a right to extract well being from such a dynamic system.

Note: This article is a revision of a similar piece which appeared in a field trip guidebook (Mossa 1993) available to participants at the Annual Meeting of the Florida Society of Geographers in 1993.

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