ETHNOBIOLOGY LETTERS

Perspectives

Prescribed Fire Use Among Black Landowners in the Red Hills Region, USA

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Abstract The Red Hills Region of southern Alabama, northern Florida, and southwestern Georgia is one of the most prominent areas in the United States for conducting prescribed fire research and is the birthplace of fire ecology. The culture of prescribed burning in the Red Hills has been influenced by multiple ethnic groups, including the Seminole and Creek nations, Black landowners, and White researchers. Given the distinctive reliance of the region on prescribed fire, it is noteworthy that the combined issues of Black land loss, underrepresentation, and incentives for using prescribed fire on private lands in the southeastern United States have generated questions about diversity and inclusion in landowner outreach. To increase understanding about Black landowner historic and current use of prescribed fire for land management in the Red Hills Region, formal and informal interviews were conducted from May through August 2019 with 21 Black landowners and tenants to document the perspectives and thoughts of Black landowners and tenants of southern Alabama, northern Florida, and southwestern Georgia. The results of this research show that Black landowners, tenants, and fire experts, have been, and continue to be, influential in the development and sustainment of fire traditions in the Red Hills and in the resilience of the longleaf pine ecosystem.

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Introduction

Alabama, Florida, and Georgia are the center of prescribed burning in the United States (Melvin 2018). The Red Hills region of north Florida and southern Georgia, known for its rolling hills and red clay soils, is considered the birthplace of fire ecology. However, the dominant narrative establishing how this region has flourished economically and ecologically as a result of prescribed fire has excluded the stories of Black people[1] who helped to implement it.

In the post-Civil War period, Black sharecroppers, tenant farmers, and wage workers stewarded these lands and opened opportunities for landownership. The Freedmen's Bureau of Beaufort (1865), the Federation of Southern Cooperatives (1867), and the Farmers Home Administration (1946) were established from the 1860s into the 1950s to offer sharecroppers the opportunity to manage parcels as a cohort and were places to get financial assistance and credit to buy and maintain farmland (Seals 1991; Siby, 2013). Black people rebuilt their communities decimated by the Civil War, and by 1910 there were approximately 240,000 or more Black-owned farms in the states of Alabama, Florida, and Georgia alone (USDA Census 1910). Many property owners possessed lands on former plantations. Eighty-nine years later in 1999, a USDA Agricultural Economics and Land Ownership Survey stated that African American landowners accounted for approximately 68,000 farms covering 7.8 million acres, approximately 2% of all private landowners in the United States (USDA ERS 1999). In 2017, these already dismal figures had dropped further: there were only 28,000 Black landowners, and these individuals

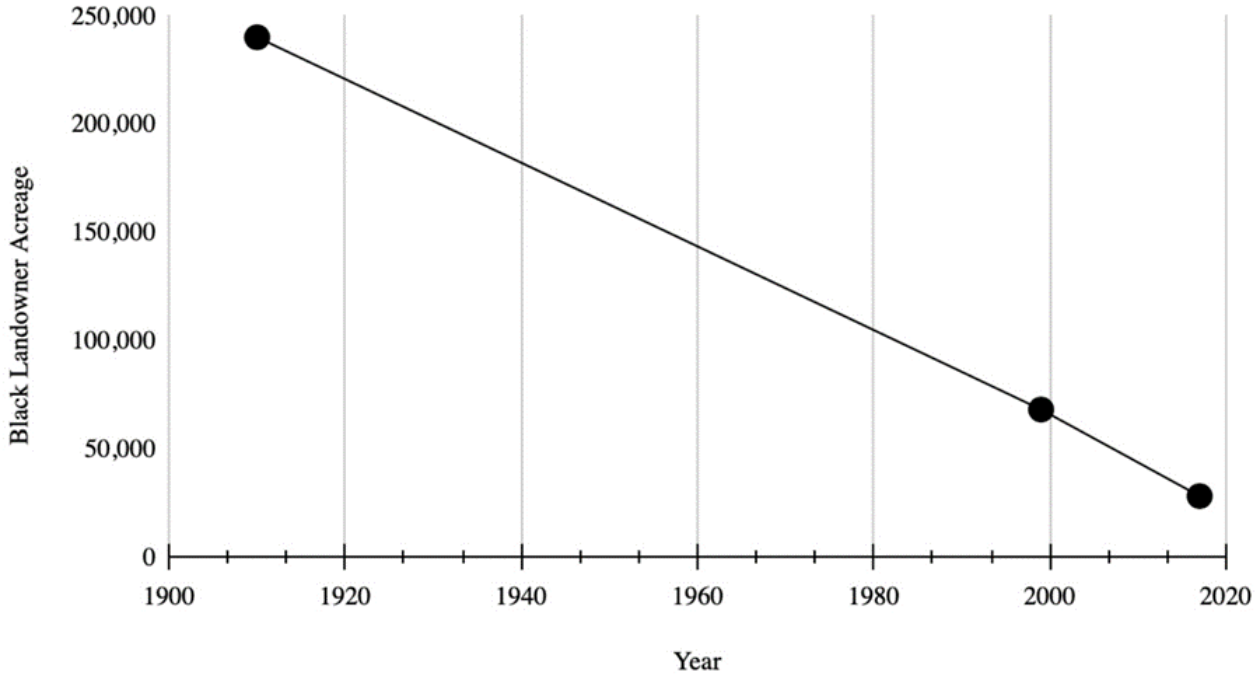

Figure 1 Black-owned acreage in the United States in the twentieth and twenty-first centuries.

owned 2.4 million acres (USDA Census of Agriculture 2017) (Figure 1). From 1910 to 2017, an 88.3% plummet was heavily facilitated by discriminatory practices, particularly those related to land tenure.

A portion of the Black-owned land that still exists today in much of the South previously existed as acres of plantation land for agriculture, hunting, or estate living that depended on slaves and eventually wage laborers. All these practices involved fire use. Post-enslavement, the pervasive cloak of racism deeply impacted displaced Black people and led to things like vagrancy charges being written into state legislatures as "Black Codes" (Morris 2017). Historians assert that this shift and the lack of safe livelihoods depleted resources for Black landowners as they began to acquire properties. There was not much legal counsel given on how to leave or share their land assets. This led Black landowners to have land passed down to the next generation through verbal agreements that typically did not include written documentation, like a last will and testament. Land in this situation is known as "heirs' property." Thus, these properties were left without a single, dominant landowner. As more generations joined the shared ownership, the number of owners grew, and land tenure became less secure for each individual landowner (Bailey et al. 2019). Of the laws and loopholes governing this legal issue, Black landowners are among the highest population to lose land due to the inconsistency of rights for tenants in common, foreclosure, and adverse possession (Mitchell 2001).

In this article, we present information from interviews that were conducted by L. Perkins with Black landowners in Alabama, Florida, and Georgia in 2019. The research team consisted of L. Perkins who is a fifth-generation descendant of the Red Hills region, and they interviewed landowners, provided the concept, methodology, analysis, and original writing. Their graduate advisor, T. Coates, contributed equally as a Southeastern fire ecologist to the concept, writing, and editing. J. Hiers hosted the research at Tall Timbers as a Southeastern fire ecologist and equally contributed to the concept, writing, and editing. C. Fowler contributed to the formal analysis, writing, and editing as an ethnographer, and S. Bigelow contributed to funding, editing, and writing.

Some of the interviewees featured in this research inherited their property, others purchased it, and others entered into lease-to-own agreements with family members or acquaintances (Table 1). Their stories featured connections in the community and in the shift from plantation culture to widespread landownership and the struggles to maintain it. Black landowners shared their knowledge about prescribed

Table 1 Interviewee county of residence, acreage, time of landownership, process of landownership, and evidence of prescribed fire use.

Participant	County	Acreage	Years of Ownership	Acquisition	Use of Prescribed Fire	Organizations, Co-operatives, or other affiliated groups
P105282019	Jefferson County, AL	3	30	Purchased	None, but aware of the practice	N/A
P206032019	Dougherty County, GA	10	3	Purchased (lease to own following 5 years of working the land)	Annual burning	Fort Valley State University, Natural Resources Conservation Service, Southeastern African American Farmers' Organic Network
P306122019	Thomas County, GA	< 1 acre	N/A	Purchased	None, but aware of the practice	Jack Hadley Black History Museum
P406122019	Grady County, GA	37	>100	Heirs' Property (split between siblings)	Annual burning	University of Florida
P506142019	Mobile County, AL	30	16	Purchased (from previous owner)	Annual burning	Natural Resources Conservation Service, US Forest Service
P606142019	Mobile County, AL	221	100	Inherited (property from great-grandmother)	Burned once	Alabama Forestry Commission, local management programs
P706192019	Jackson County, FL	158	60	Purchased (cash sale; deed from father)	Annual burning	Florida Forest Service, US Forest Service, North Florida Co-op
P806192019	Thomas County, GA	365	136	Inherited (Original purchase ca. 1880)	Annual burning	Federation of Southern Cooperatives, Natural Resources Conservation Service
P906202019	Baker County, GA	2	N/A	Purchased	Conducts burns at the Jones Center at Ichuaway	The Jones Center at Ichuaway
P1006202019	Baker County, GA	1	N/A	Purchased	Conducts burns at the Jones Center at Ichuaway	The Jones Center at Ichuaway
P1106202019	Baker County, GA	0	N/A	Lives at the Jones Center at Ichuaway	Conducts burns at the Jones Center at Ichuaway	The Jones Center at Ichuaway

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Participant	County	Acreage	Years of Ownership	Acquisition	Use of Prescribed Fire	Organizations, Co-operatives, or other affiliated groups
P1206202019	Dougherty County, GA	55	7	Inherited (from father)	None, but landowner currently assists with burns at the Jones Center at Ichauway	The Jones Center at Ichuaway
P1306212019	Grady County, GA	54	38-39	Purchased	Biennial burning	Tall Timbers Research Station and Land Conservancy, Natural Resources Conservation Service, Federation of Southern Cooperatives
P1406262019	Grady County, GA	75-80	50	Purchased, (started off in great grandmother's possession)	Annual burning	Farm Service Agency
P1506272019	Thomas County, GA	140	39	Purchased (from father's employer)	Previously burned, but not active	N/A
P1606292019	Gadsden County, FL	1.5	79	Heirs' Property	Previously burned, but not active	Tall Timbers Research Station and Land Conservancy
P1707022019	Jackson County, FL	5	38-39	Purchased (father and son)	Annual burning	Florida Forest Service
P1807032019	Jefferson County, AL	17.5	55	Purchased (property in two different counties)	Previously burned, but not active	4H, Auburn Cooperative Extension Program, Natural Resources Conservation Service
P1907082019	Leon County, FL	15	80 - >100	Inherited (from grandmother)	Annual burning	Local fire department
P2007192019	Early County, GA	205	35	Heirs' Property (purchased from distant cousins)	Annual burning	Local group, Natural Resources Conservation Service
P2108082918	Jefferson County, FL	6	40	Purchased	Previously burned, but not active	Florida Forest Service

fire while discussing the changes in its use and persistence over time. To provide better context for the stories gathered through these interviews, there needs to be an understanding of the shift that occurred in the economic and social structure of the Red Hills. In this place, much knowledge about fire in the Southeast had been learned from the work of Black individuals. Their experiences helped develop modern fire science. The interviews provide insight into the factors that limit Black prescribed fire use today: access to educational and financial resources, land legacy, and underrepresentation.

Fire in the Red Hills Region

Transfer of Knowledge between Indigenous and Black Communities

There is little published evidence of direct person-to-person transfers of knowledge between members of Indigenous communities of Alabama, Florida, and Georgia and enslaved or freed Black people prior to the twentieth century. Nevertheless, some fire knowledge exchange likely occurred throughout the past 300 years (Foster and Cohen 2007). The initial implementers of prescribed fire in the Red Hills were Indigenous Americans who used fire to manage plants, obtain medicines, promote game hunting, ease travel, and conduct ceremonial or religious practices (Ryan et al. 2013).

Fire was considered an essential, divine element in Indigenous health, both natural and spiritual. The Muskogee (Creek) and Seminole, two Indigenous nations who live in the Red Hills and surrounding regions, upheld practices aligned with nature's duality. Common town fires or *talofas* were shared by Muskogee people along rivers and creeks in Alabama and Georgia for ceremony, celebration, and cooking (Haveman 2009). Muskogee and Seminole people believe the universe is divided into the opposing forces of order and chaos, represented by female and male, with fire representing the divine masculine.

The Indigenous communities of the Red Hills region lost land at the hands of Spanish, French, and English colonists. Even in times of displacement, the Creek practiced "carry[ing] the fire" and keeping the "eternal flame" (Fischer 2013). The Indian Removal Act of 1830, upheld by President Andrew Jackson, attempted to extirpate Indigenous ways of life, allowing attacks not only on Indigenous tribes but also on fleeing slaves (Green 1982; Herbert 2014; Jackson 1830). Some escaped slaves became warriors alongside Indigenous allies and fought against removal from the land, sometimes using fire as a tool in warfare (Herbert 2014). In addition to forming alliances in the war against colonizer-enslavers, interactions between Indigenous and Black peoples included enslavement of Black people by some Creek Indians and conjugal relationships whose offspring are referred to as Black Seminoles.

Enslaved Black people may have been knowledgeable about prescribed fire prior to the forced migration across the Atlantic. In western African countries where many enslaved Black people originated, subsistence burning continues to be used today (Shaffer 2010). For example, the Loma people of northwestern Liberia and Guinea use swidden agriculture to produce rice, ground nuts, and beans (Fraser et al. 2015; Leopold 2006). In the palm oil belt of southeastern Nigeria, bush fallow was a system of agricultural burning and crop rotation in the 1970s (Awanyo 2010). This method was believed to enhance long-term soil fertility. Another method commonly utilized in eastern Nigeria is ley farming. This method ensures that planted grasses and legumes are rotated for hay production (Lagemann 1977). Based upon these examples, one may assume enslaved Blacks possessed and shared similar applied knowledge and skills as they entered a new frontier.

Indigenous people may have shared knowledge with enslaved Africans, formerly enslaved Black people, and freed persons. We hypothesize that this shared, combined knowledge survives amongst all landowners in the Red Hills today, including Black landowners (Herbert 2014). Their African heritage, combined with Native culture in the Red Hills, presented new opportunities for Black people in the post-Civil War South to transfer knowledge about fire.

Centennial Landownership

Black landownership began to skyrocket in the late 1800s to 1930s when access to life-changing educational resources increased for Black sharecroppers and tenant farmers. The Morrill Acts of 1862 and 1890 created Agricultural and Mechanical universities, like the Tuskegee Institute in Alabama and the Florida Agricultural and Mechanical University in Florida. The Smith-Lever Act of 1914 instructed rural landowners on the scientific nature of farming and helped stabilize agriculture across the nation (Brown and Davis 2009; Seals 1991).

Interviewees with centennial land-ownership, one hundred years or more within a single family, are likely descendants of the first Black landowners to establish agriculture and fire culture within the region. One interviewee was a former agency employee turned hay farmer (Table 1). This interviewee's family legacy and fire knowledge shared through land stewardship and ownership was critical to his survival. The property was split among himself (37 acres), a brother (14 acres), and a sister who eventually gave her share to his brother. He stated that a home on his property had been owned by his family for over 100 years. Standing at the edge of his hay field he pointed and said:

> So, this is the property line here. The land that my dad owned came from here all the way back over to those trees over there. The 60 acres up to the road and that was the 60 acres, and we subdivided that up between the siblings. But when I was growing up, that was owned by Black folks, and up in the corner owned by Black folks. This owned by Black folks. But now it's changed hands.

His parents who purchased the property lived on it when most of the surrounding properties were Black-owned. Community members shared resources through a co-op managed by his dad, wrote petitions for proper equipment, and advocated for one another. However, things started to change as Northerners throughout the mid- to late 1900s continued to take interest in the heavily wooded landscapes surrounding U.S. Route 319 between Thomasville, Georgia and Tallahassee, Florida. They bought many properties, increasing land prices. This increased challenges for retaining ownership and fragmented the community so much that few large Black landowners exist there today. It led to changes from row agriculture to hay farming for this landowner. Even with social changes, the management goals of the hay farmer continued to require fire annually. He noted, "Well [his brother] and I burn this whole place right here," pointing to a few acres of longleaf pine (*Pinus palustris*) on their property in front of the four-wheeler we drove around that day. There was a focus on avoiding structural burns, like of the equipment barn and house. His pine stand previously was 10 to 12 years old when he cut and sold it. He planted new seedlings and hoped to avoid a disease that had damaged his previous stand. Regular prescribed fire use had maintained the new stand for several years.

Early Fire Science and Black Crew Members' Work with Prescribed Fire

People of European descent, generalized as White, contributed to the construction of knowledge about prescribed burning by formalizing knowledge and skills related to fire into a science. Two founders of fire ecology, Ellen Call Long and Herbert L. Stoddard, were based in the Red Hills region. Both of these advocates of prescribed fire understood its essential role in longleaf pine management. Long and Stoddard's work led to a socio-political and scientific transformation in prescribed burning for longleaf pine maintenance. They saw utility in burning regardless of the fire suppression legacy in many parts of the New World since the early colonial era, rooted in fears of wildfire outbreaks (Varner et al. 2005). Long was one of the first women to speak on the benefits and ecological necessity of prescribed fire in her address to the American Forest Congress in 1888. Long's (1888) report expressed concern for fire suppression's devastating effects on longleaf pine and was the first article in a national forestry publication to advocate for controlled burning (Waber 2016). In the 1920s, Herbert L. Stoddard began to interpret the patterns of fire that benefit longleaf pine and that were required to create a pine savanna. His findings and implementation of prescribed fire fostered life for not only the trees, but also unique flowers, gopher tortoises (*Gopherus polyphemus*), and Northern (bobwhite) quail (*Colinus virginianus*).

The same ecosystems that Long and Stoddard's work highlighted have been maintained by the practices passed down through generations of Black people. Their land management methods protected crops, livestock, and wildlife, kept the forest floor clear enough for turpentining, and promoted timber production. Black people's knowledge and skills were also indispensable to the success of White landowners' operations in the twentieth century and into the twenty-first century.

This claim is illustrated by interviews conducted at Tall Timbers Research Station (Tallahassee, Florida) and the Jones Center at Ichauway (formerly known as Ichauway in Newton, Georgia). Both institutions are in the Red Hills region. In July of 2019, three individuals were interviewed and were connected to Ichauway by birth or through family members who were employed there (Table 1). Of these the most memorable was "Frog," the eldest interviewee, whose wife was seated near him when we spoke. Frog was

rife with knowledge on setting prescribed fire at Ichauway. Frog was born on the river near Ichauway while the owner and founder, Mr. Robert W. Woodruff, also lived there. Frog recreated on Woodruff's land and worked on his property beginning at age 13. He eventually advanced to the burn team and became known for training hunting dogs. He learned burning primarily through experience. As Frog remembered,

> Well pretty much you are there on your own. They'll show you a spot. ... We would wanna burn a certain spot in there. We wouldn't burn it all at that one time.

He revealed that instruction on fire was not always free of oppressive behavior or attitudes; in fact, it often highlighted issues of race, class, and labor relations. Frog was a member of an all-Black burn team at Ichauway where stark gaps existed between the livelihoods of Black people and their mostly White supervisors. Frog and I (L. Perkins) sort of chuckled after hearing his remarks because we each encountered racism and underrepresentation through our lived experiences. Frog and the other former members of Ichauway's fire crew who served on burn teams there learned where to watch the wind, how to plant pines, how to set back-fires, and how to build fire lines. As they became experts alongside hunting property owners and researchers, they leveraged their knowledge in a broader community of small landowners who followed suit and were employed to conduct prescribed burns on other properties. Frog stated,

> It uh ... other folks have a lil spot 'bout 5 or 6 acres. We had a get it burnt. We would burn it large while we was burning. So we wouldn't mess up they hunting.

Because of their roles in managing fire, the Black men who worked at Ichauway and other estates in the region influenced burning practices of local community members off of the plantation grounds.

One former burn team member from Ichauway who continues to volunteer there said,

> They [neighbors around the property] see you burning, they gone light a fire. That's the way it was. They go in there and light a match down, let it burn, then they call somebody. 'We got a fire over here,' so and so a say. 'Oh watch at that fire. Let it burn.' Well they didn't believe in no permit back in them days. Just go and set a spot on fire.

Black "firelighters," those that use prescribed fire for management purposes, comprised landowners, tenants, and firefighters who nourished the Red Hills acre by acre with the application of fire. In the early 1900s, Black landowners and firelighters valued land for food, religion, play, familial abundance, and promise for the future. Unfortunately, over the course of the twentieth and twenty-first centuries, the extent of Black-owned lands has decreased due to land loss, residential development, increased liabilities, and burdensome permitting. Yet the methods Black firelighters applied are not forgotten, and instead live on in the present policies and ecosystems.

Among the Black landowners interviewed, 71.4% (15 individuals) used prescribed fire on their property and 14.3% (3 individuals) used prescribed fire as tenants (Figure 2). Only 14.3% (3 individuals) did not use prescribed fire. Forty-three percent of landowners (9 individuals) described using prescribed fire annually or biennially. Twenty-eight percent (6 individuals) reported infrequent use of prescribed fire ranging from once every 5 years to over 40 years ago. The Black firelighters interviewed possessed similar knowledge and used similar practices as prescribed burners elsewhere, including knowledge of wind patterns; burning in the spring for wildlife management or in the early winter for fuels reduction; and working towards conserving native ecosystems and species. The sentiments of Black firelighters may have been lost over time, at many communities like the one at Ichauway. Fire had been used on these lands for generations and users of fire knew both the benefits of frequent, low intensity fire as well as the consequences of fire exclusion, which at the time was largely ignored by agency officials (Brenner and Wade 2003).

Black-Owned Land in the Past, Present, and Future

Black people in the U.S. South have long maintained a strong connection to farming. The USDA Census of Agriculture (2017) found that 30,339 out of 32,910 Black-owned farms were located within the 15 southern states (92%). Southern Black farmers participate in row cropping, cattle farming, and timber management (Adams 2010). However, little is known about the techniques Black farmers use to manage their properties in the Red Hills region and throughout the South (J. K. Hiers pers. observation 2019). Black landowners and tenants living within Tall

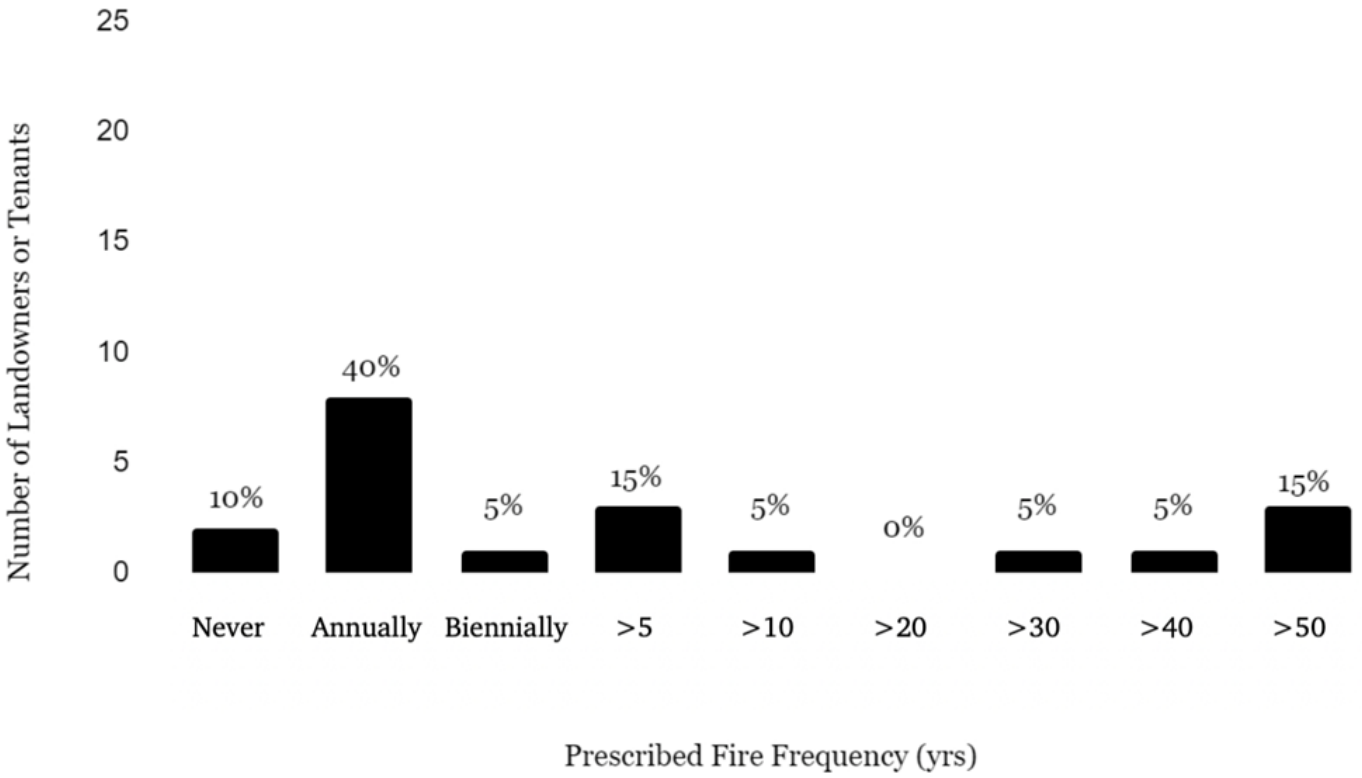

Figure 2 Prescribed fire frequency of interviewees in Alabama, Florida, and Georgia.

Timbers Research Station's conservation planning area are spread out among 52 counties across southeastern Alabama, northwestern Florida, and southwestern Georgia.

In Thomas County, Georgia, a family has managed their farm through row crop agriculture, raising cattle, and annual prescribed fire since 1883 (over 139 years) (Table 1). Regarding fire, they said, "[We] just did it ... and it helps maintain undergrowth and keeps the veg./fuel [vegetative fuels].. you know you get too many leaves in pine it gets built up. Too much fuel. So, you try to keep that from happening. That way if a fire happens it just won't get out of control."

Safety, long-term maintenance, and land legacy were the focus of this family's land stewardship practices. Over time, rapid development had taken a toll on a practice they suggested at one time, "Everybody did." When asked if other people in the area still burned, they noted,

> They've been burning here lately, yes. But if you note there is a lot of deforestation going on. But I think for the most part we still, if you look around here, it's probably one of the most forested areas. They do burn, I noticed. On the plantation sometimes they burn. I noticed they burn. They've been burning a lot more often here lately than they have in a minute. Now they burn pretty much every year or two.

This family briefly made note of the shifts in Black and plantation owners' prescribed fire practices and roles in wildfire mitigation. Their oral histories tell us that burning woody debris on agricultural lands has been entrenched in Southeastern fire-adapted ecosystems for generations.

The transition from the past into the present is best captured in the resilience of the Black landowners and tenants. A cattleman, whose father was a retired firefighter who died tragically in an equipment fire, was a great representation of this resilience. He discussed his continuous search for knowledge to maintain the land he now came to value. He said,

> I'd like to get around more African Americans and see how they go about managing and funding, keeping everything going. I realized when my daddy passed. I realized the value of the land and not just

> money-wise. What it was symbolic of and just keeping it going. You just hate to see something go to waste that he put so much time in, and that's what I really been focused on.

Carolyn Finney (2014:xv–xvi) states, "Black people have laid it all down to feed their children, plant their dreams, and share their experience and history with the environment." The land exists as a symbol of life and ancestral love (Crook 2008). This may be due to the discriminatory practices Black people in America have faced since being enslaved or the simple trials of taking on the management of 0.5- to 365-acre properties. Those landowners who live, work, and love through their land seem to retain it longer and gain more reward from their ownership (Adams 2010). These connections may be expressed recreationally through hunting and fishing, spiritually through their religious perspectives, or economically through commodity production (Gordon et al. 2013). Since many Black people have subsisted on their lands, currently or in their ancestral lineage, it is reasonable to assume they have maintained unique connections with their lands, including a love of fire. As one Black firelighter put it, "Fire is my love, so that's what I did. ... I was a firefighter for like 28 years."

This same message was echoed in different forms from interviewees who wanted to hold on to the land, the legacy, and the specific land management practice of fire that kept them going. Black landowners in the Red Hills have a variety of management goals. Of these, most were like the management goals for landowners of other ethnic groups while including conservation practices required to protect native species within their region. Historically, Black landowners have participated in the USDA Conservation Reserve Program (CRP)—a program that allows landowners to remove environmentally sensitive land from agricultural production and plant species that will improve environmental health and quality—more than other minority groups (Gilbert et. al 2002).

Within their range of management goals, there were limitations that affected their use of prescribed fire and, vice versa, affected their tenure as landowners. Black landowners frequently identified the need for a next of kin to carry land management into the next generation. They also identified a need for better access to prescribed fire resources and improved collaborations with organizations. As one young innovative farmer noted,

> If forestry [USDA, USFS, or other local/state forestry groups] did more programs promoting, like having to go to different counties and say, 'We're hosting a training on forestry management,' that way they can just go around or people who wanna get into it [can go]. That's how farmers learn about different programs so, you can't just look for them to come to you, you have to ... [go to them].

Education and its limitations were brought up in 57% of the interviews. Black landowners mentioned the desire for more information about safety, permitting, long-term management planning, and landowner assistance programs. They also inquired about working within natural resource organizations. Ninety percent of the interviewees were over age 50 and felt insecure about the continuation of their land-ownership legacy. Underrepresentation in land management agencies and organizations was mentioned in 33% of the interviews as a third potential limitation to fire use by Black landowners. Better community-based outreach, more financial incentives or tax breaks, safety assurances, liability protections, and the protection of legacies are necessary for the viability of prescribed fire on Black-owned land and for the security of Black landownership.

A landowner who serves as part of a local farm collective noted the need for additional education and advocacy efforts related to managing timber for small acreage farmers when he said,

> It's just unmanaged. They don't manage their timber. If you don't manage your timber, you have no use for prescribed burning. So ... when I came back, there was actually other farmers local farmers that [suggested] I should manage my timber and no one knew the [answers to] the questions [I had]. So that's how I got involved. So I started attending these little seminars.

He mentioned having to travel over 200 miles north to attend seminars held by the Longleaf Alliance which gave him more knowledge on using prescribed fire as a management tool. Even so, he had struggled to have fruitful conversations with neighboring farmers in his county about the use of this practice. He surmised that his neighbors did not use or delayed

burning because of uncertainties about the dynamics of fire use, worries about wildfire risk, and a mismatch with their set management goals.

Knowledge and Practices Related to Fire Use within the Community of Black Landowners

Some Black landowners burn because of the history of fire and its interconnected history with Black people. A female landowner, who had managed prescribed burns on a centennial farm owned and occupied by her family, reminisced on their burning as an alternative to mowing, saying,

> ... the central part of the property, which is between my house and my brother's house and where my grandparents' original house was and still part of, it still is [burned]. My mom, they would actually [burn] each year. ... They like to keep burning off because it's not a place you can really mow because of the trees. ... It's kind of hard to get the mower in there. So every year she would like burn it off just to keep the brush down, but it's not near the property line so no danger of getting to you know [someone] else's property.

Fuel treatments varied by the landowners' intended management goals. Several landowners noted more focus on row crop agriculture or soil health and would mention mowing and tilling agricultural lands. Timber and crop production were reasons for burning as farmers and foresters noticed increases in the growth of oaks, pines, hardwoods, sugar cane, peanuts, fruit trees, hemp, and medical marijuana. Burning revolved heavily around a focused approach to wildlife management, fuels management, and pest reduction, all conducted with respect to structural and human safety.

Black landowners used similar tools and equipment as the neighboring plantation owners, such as matches or drip torches, for fire ignition. Black landowners with smaller holdings who work among family members shared mules, tractors, and four-wheelers, which they used to conduct backing fires, strip burning, and windrow burns. Landowners' understanding of their land did not always originate from an ancestral source. Some landowners had previously moved out of the region and returned to the community where they noticed differences in people and their approaches to land management.

Seventy-six percent of interviewees had a connection to at least one governmental agency or nongovernmental organization (Table 1). Among the organizations that interviewees interacted with were the U.S. Department of Agriculture's Natural Resource Conservation Service (NRCS) and Farm Service Agency (FSA), Tall Timbers Research Station and Land Conservancy, the Jones Center at Ichauway, the Southeastern African American Farmers' Organic Network (SAAFON), the North Florida Co-op, state and local forestry commissions, volunteer fire departments, fire and rescue services, Auburn Cooperative Extension, and 4H. These organizations have contributed to debt relief, legal protections, mechanical and technical assistance, and relationship-building with private landowners. The Federation of Southern Cooperatives stood out as a leader in the commitment to support and advocate on behalf of the almost 20,000 Black farmers and farmers of color taxed with financial and technical support issues. Some landowners participated in committees, workshops, and leadership roles within agencies or organizations, often as the only people of color working to make space for their communities' voices and concerns.

Closing

The culture of prescribed burning in the Red Hills has been constructed by multiple ethnic groups: Seminole, Creek, enslaved West Africans, and White researchers. Because White contributors, like Stoddard, receive an elevated credibility as fire experts, we looked to the Black landowners of the Red Hills region to show how historically deep and profoundly knowledgeable and skilled they are with prescribed burning. This, coupled with the skills of Indigenous peoples who have lived in this region for thousands of years, is why prescribed fire in the Red Hills has fostered strong, resilient ecosystems. We found that a majority of the Black landowners and tenants in this study conduct prescribed fire (Figure 2; Table 1). Black people's life stories in the Red Hills are intertwined in their ownership and management of land, many of which include the longleaf pine ecosystem.

To support prescribed burning among Black landowners, policymakers, and fire scientists should focus on improving access to education, securing landowning legacies, and increasing the representation of Black people as landowners, foresters, and fire experts. State and federal legislation providing debt relief, environmental justice, and securing heirs' property has been proposed. In 2021, federal legislation like, The Justice for Black Farmers Act and

Environmental Justice for All Act, sought to provide relief for long-term issues facing farmers. While these specific acts have not passed, others have. The Emergency Relief for Farmers of Color Act of 2021 was a part of the Inflation Reduction Act of 2022, which passed and promised over 4 billion dollars to Black farmers. Unfortunately, many Black farmers have been delayed in their receipt of this aid due to resistance from White landowners, who have pursued lawsuits accusing these programs or relief of being a form of discrimination toward White landowners. At the state level, as of 2022, 21 states enacted and passed the Uniform Partition of Heirs' Property Act created to alleviate the devastating effects of partition sales on heirs by ceasing buyouts and providing opportunities and legal education for shareholders to purchase or negotiate land sales.

Black landowners' roles as farmers and foresters affect us greatly as a nation, and Black landowners are a cornerstone to the viability of fire-adapted ecosystems in the Red Hills. Policies that atone for historical losses, increase financial security, and encourage conservation among Black landowners and firelighters should be encouraged. Government agencies will benefit as they establish rapport with their constituency, help reduce legal burdens, and mitigate potential financial losses. When we understand the management objectives of Black landowners and the unique obstacles they face within the broader historical and social contexts, we can implement more equitable solutions for nature and people.

Notes

[1]The terms of reference for different ethnic groups used here (Black people/landowners, White people/researchers, Seminole, Muskogee (Creek), Black Seminoles) are those employed by the individuals interviewed and are most commonly employed by people in the Red Hills region today.

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Declarations

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References Cited

Adams, K. 2010. A Study of African American Forest Landowners in South Carolina: Implications for Land Ethic and Forest Stewardship. Doctoral Dissertation, Department of Forestry and Environmental Conservation, Clemson University, Clemson, SC.

Awanyo, L. 2010. Bush Fallow Farming. In *Encyclopedia of Geography*, edited by B. Warf, p. 302. SAGE Publications, Inc., Thousand Oaks, CA.

Bailey, C., B. Barlow, and J. Dyer. 2019. Practical Constraints to Timber Management Among African American Owners of Heir's Property. *Landscape and Urban Planning* 188:1–8. DOI:10.1016/j.landurbplan.2019.03.008.

Brenner, J., and D. Wade. 2003. Florida's Revised Prescribed Fire Law: Protection for Responsible Burners. In *Proceedings of Fire Conference 2000: The First National Congress on Fire Ecology, Prevention, and Management, Miscellaneous Publication No. 13*, edited by K. E. M. Galley, R. C. Klinger, and N. G. Sugihara, pp. 132–136. Tall Timbers Research Station, Tallahassee, FL.

Brown, M. C., and J. E. Davis. 2009. The Historically Black College as a Social Contract, Social Capital, and Social Equalizer. *Peabody Journal of Education* 76:31–49. DOI:10.1207/S15327930PJE7601_03.

Crook, R. 2008. Gullah-Geechee Archaeology: The Living Space of enslaved Geechee on Sapelo Island. *African Diaspora Archaeology Newsletter* 11:2–29.

Finney, C. 2014. Preface. In *Black Faces, White Spaces: Reimagining the Relationship of African Americans to the Great Outdoors*, pp. xv–xvi. University of North Carolina Press, Chapel Hill, NC.

Fischer Jr., W. 2013. *Creek Nation Council Oak Memorial*. The Historical Marker Database. Available at: https://www.hmdb.org/m.asp?m=68043. Accessed on May 18, 2021.

Foster, H. T., and A. D. Cohen. 2007. Palynological Evidence of the Effects of the Deerskin Trade on Forest Fires During the Eighteenth Century in Southeastern North America. *American Antiquity* 72:35–51. DOI:10.2307/40035297.

Fraser, J. A., V. Frausin, and A. Jarvis. 2015. An Intergenerational Transmission of Sustainability? Ancestral Habitus and Food Production in a Traditional Agro-ecosystem of the Upper Guinea Forest, West Africa. *Global Environmental Change* 31:226–238. DOI:10.1016/j.gloenvcha.2015.01.013.

Gilbert, J., S. D. Wood, and G. Sharp. 2002. Who Owns the Land?: Agricultural Land Ownership by Race/Ethnicity. *Rural America* 17:55–62. DOI:10.22004/ad.econ.289693.

Gordon, J. S., A. Barton, and K. Adams. 2013. An Exploration of African American Forest Landowners in Mississippi. *Rural Sociology* 78:473–497. DOI:10.1111/ruso.12014.

Green, M. D. 1982. *The Politics of Indian Removal: Creek Government and Society in Crisis*. University of Nebraska Press, Lincoln, NE.

Haveman, C. D. 2009. The Removal of The Creek Indians from the Southeast, 1825–1838. Doctoral Dissertation, Department of History, Auburn University, Auburn, AL.

Herbert, J. 2014. Rapid Approximation: African Americans and the Transformation of Muskogee Society, 1700-1819. *Fairmount Folio Journal of History* 15:36–57.

Jackson, A. 1830. On Indian Removal. Message to Congress, December 6, 1830. Available at: https://www.archives.gov/milestone-documents/jacksons-message-to-congress-on-indian-removal. Accessed on November 1, 2022.

Lagemann, J. 1977. *Traditional African Farming Systems in Eastern Nigeria: An Analysis of Reaction to Increasing Population Pressure*. Hurst and Company Publishers, London, UK.

Leopold, R. 2006. A Brief History of the Loma People. *Liberian Studies Journal* 31:3–30.

Long, Ellen Call. 1888. Notes on Some of the Forest Features of Florida with Items of Tree Growth in That State. In *Proceedings of the 7th Annual Meeting of the American Forestry Congress*, pp. 38–41. Atlanta, Georgia. December 1888.

Melvin, M. 2018. 2018 National Prescribed Fire Use Survey Report. *Coalition of Prescribed Fire Councils Inc.* 3:1–23.

Mitchell, T. W. 2001. From Reconstruction to Deconstruction: Undermining Black Landownership, Political Independence, and Community through Partition Sales of Tenancies in Common. *Northwestern University Law Review* 95:505–577.

Morris, J. B. 2017. *Yes, Lord, I Know The Road: A Documentary History of African Americans in South Carolina, 1526-2008*. University of South Carolina Press, Columbia, SC.

Ryan, K. C., E. E. Knapp, and J. M. Varner. 2013. Prescribed Fire in North American Forests and Woodlands: History, Current Practice, and Challenges. *Frontiers in Ecology and Environment* 11:15–24. DOI:10.1890/120329.

Seals, R. G. 1991. The Formation of Agricultural and Rural Development Policy with Emphasis on African Americans: II. The Hatch-George and Smith-Lever Acts. *Agricultural History* 65:12–34.

Shaffer, L. J. 2010. Indigenous Fire Use to Manage Savanna Landscapes in Southern Mozambique. *Fire Ecology* 6:43–59. DOI:10.4996/fireecology.0602043.

Siby, R. 2013. Social Equity in Public Administration: The Work of the Federation of Southern Cooperatives/Land Assistance Fund. Internship Paper, Department of Political Science and International Affairs, Kennesaw State University, Kennesaw, GA.

USDA Census. 1910. Chapter 3: Race, Nativity, and Tenure of Farmers. Census of Agricultural History Archive. Available at: https://bit.ly/3bRq8GW. Accessed April 2, 2019.

USDA Census of Agriculture. 2017. USDA Census of Agriculture: Selected Farm Characteristics by Race and Black or African American Producers. Available at: https://bit.ly/3f1Ro7L. Accessed on November 15, 2018.

USDA ERS. 1999. All Private Agricultural Landowners, Acres Owned, and Value of Land and Buildings, by Race and Ethnicity. USDA Agricultural Economics and Land Ownership Survey. Available at: https://bit.ly/2SkDt37. Accessed on April 2, 2019.

Uniform Law Commission. 2010. Partition of Heirs Property Act [web page]. Available at: https://www.uniformlaws.org/committees/community-home?CommunityKey=50724584-e808-4255-bc5d-8ea4e588371d. Accessed on 2, 2019.

Varner, J. M., D. R. Gordon, F. E. Putz, and J. K. Hiers. 2005. Restoring Fire to Long-unburned *Pinus palustris* Ecosystems: Novel Fire Effects and Consequences for Long-unburned Ecosystems. *Restoration Ecology* 13:536–544. DOI:10.1111/j.1526-100X.2005.00067.x.

Waber, A. 2016. Sounding the First Discordant Notes: Ellen Call Long and Her Legacy in the Field of Fire Ecology. *Tall Timbers eJournal* 3:24.