



Factors Affecting Minority Forest Landowners' Participation in Conservation Programs

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Abstract

Historically, racial minority private forest landowners have been underserved in conservation programs. We review the literature to explore the factors that influence landowners of color (LOCs) decisions to participate (or not) in conservation programs and the challenges they face in accessing these programs. Our review is largely based on the experiences of African American forest landowners (generally referred to as “landowners” throughout the paper) in the southeastern United States, though implications likely extend to other historically underserved minority groups in different geographical areas. Our narrative review highlights several key challenges facing LOCs, including disparities in land ownership, historic disinvestment, and discriminatory policies that limit economic mobility. We also identify opportunities for improved engagement with LOCs, including leveraging cultural values and connections to land, improving understanding of landowner motivations to incentivize participation, providing customized outreach and education, enhancing interagency collaboration, and increasing the cultural competency of support staff. Collective findings underscore unique opportunities for engaging with LOCs by addressing historic barriers that have prevented them from participating in private lands conservation programs and sustainable land management practices.

Keywords Accessibility · Barriers · Conservation reserve program (CRP) · Conservation programs · Engagement · Environmental justice · Heirs' property · Landowners · Minority landowners

Introduction

In the United States, where a majority of the land is privately owned (Denaroso et al. 2025), conservation programs that support sustainable forest management on private lands are critical. Many of these conservation programs are government-sponsored

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initiatives that provide financial and technical support to private landowners who have the desire to preserve the environment and promote conservation outcomes (Stubbs 2014; Farmer et al. 2017). Early initiatives were created to encourage small-scale forest landowners to address timber scarcity issues and ensure sustained yield in the wake of World War II (Kilgore et al. 2007). In recent years, these programs have evolved beyond supporting timber production to include conservation goals, with the intent of promoting sustainable forestry practices and generating ecosystem services on a broader scale (Farmer et al. 2017). Common sustainable forestry practices among private landowners have historically included conservation of soil and water quality, erosion control, planting native species, reducing the risk of wildfires, and protecting wildlife habitats (Aplet et al. 1993; Jacobson et al. 2006; Hahn and Knoke 2010; Allen and Vandever 2012). Sustainable forestry also includes the responsible stewardship of forest products, including wood, paper, and other forest-derived materials, and the inclusion of local communities in decisions about the management of their forests (Jacobson et al. 2016).

Typically, private landowners participating in conservation programs are required to shift agricultural or crop land out of production and into restorative lands such as grasslands and forests. By supporting these activities, conservation programs help protect natural resources, promote biodiversity, and mitigate the impacts of climate change (Lute et al. 2018). They also provide important economic benefits to rural communities by supporting sustainable land use practices and creating economic opportunities such as increased income, employment opportunities, and revenue from recreational activities such as hunting (Allen and Vandever 2012). In parts of the United States where most land is privately owned (i.e., east of the Mississippi River), these programs have become critical tools for achieving larger conservation goals (Farmer et al. 2017). Popular programs utilized in the US today include the Conservation Reserve Program (CRP), the Agricultural Conservation Easement Program (ACEP), the Environmental Quality Incentives Program (EQIP), and the Regional Conservation Partnership Program (RCPP). As environmental concern and awareness have increased, similar programs with climate-specific objectives (i.e., carbon programs) have also gained traction (Kelly et al. 2016).

Although many conservation programs offer benefits and incentives for participating landowners, not all landowners engage in these programs (Butler et al. 2016, 2021). A number of studies have reported a disparity in conservation program participation across racial and ethnic groups (Gan et al. 2005; Schelhas et al. 2017), with minority landowners of color (LOCs), including those who are African American (Black), Native American, Hispanic, and Asian, participating in these federal programs at a much lower rate than White landowners (Schelhas et al. 2017 & 2021; Van Sant et al. 2022). For example, Gyawali et al. (2003) discovered that White farmers were more likely to participate in CRP than African American farmers, noting that Georgia had the lowest African American-White gap (7%), and Alabama had the largest (33%) (Gyawali et al. 2003). Considering that, across the US, racial and ethnic minorities collectively own only about 5% of private land (Gilbert et al. 2002), these disparities are even more concerning. More recent studies have shown that 98.8% of landowners participating in other conservation programs (e.g., ACEP) are White (Van Sant et al. 2022). If LOCs are not participating in these programs,

then they are also lacking access to the potential environmental (Dunn et al. 1993; Schelhas et al. 2021) and economic benefits (Wu and Lin, 2010) these programs provide.

Potential explanations for these disparate participation patterns abound (Van Sant et al. 2022). Some research suggests that lower participation rates are due to a lack of access to information and resources, occasionally stemming from language barriers (Schelhas et al. 2017). Other studies describe how a variety of discriminatory historical and cultural practices have fueled distrust of government programs (Schelhas et al. 2017; Van Sant et al. 2022). Several class action lawsuits filed against the US Department of Agriculture (USDA) have alluded to racial discrimination in assistance programs (Schelhas 2002), and they offer insight into the barriers that LOCs may face when it comes to participating in conservation programs. An improved understanding of the conservation program participation gap—and what’s causing it—is critical, for inaction has the potential to negatively impact conservation success on private lands and affect the prosperity and well-being of diverse landowners. Recognizing these disparities, the USDA has launched initiatives designed to enhance engagement with “historically underserved” landowner communities, defined by “members subjected to racial or ethnic prejudice because of their identity as members of that group without regard to their individual qualities (e.g., African Americans, Hispanics, Asians, Indigenous Americans)” (US Department of Agriculture. (n.d.). Historically underserved farmers and ranchers. USDA). But the efficacy of these efforts remains unclear.

In this paper, we review existing literature to gain a better understanding of the factors that influence LOCs’ participation in conservation programs. We first examine the causes and consequences of inequities in minority land ownership in general, which has major implications for ownership of private forestland. We then explore specific barriers influencing LOCs’ participation in conservation programs and identify potential opportunities and solutions to this persistent problem.

Inequities in Minority Land Ownership: Causes and Consequences

Racial minorities make up a small percentage of all landowners in the United States. In urban areas, these disparities often manifest in inequitable home ownership rates, with home ownership rates for White Americans nearly double that of African Americans (Kuebler and Rugh 2013). Such disparities are exacerbated in rural areas of the US, where White landowners possess 96% of all privately owned acres of agricultural land (Gilbert et al. 2002). According to the latest numbers publicly available, landowners of African descent account for approximately 2.65 million acres of timberland, with 91% located in the south (Butler et al. 2016). An estimated 10.9 million families, individuals, trusts, and estates own approximately 259 million acres of forest in the United States (USDA Forest Service, 2023). Disparities in land ownership are significant drivers of poverty and economic inequality and have contributed to the marginalization of many communities (Shapiro et al. 2013), particularly those that were already marginalized and disadvantaged (Schell et al. 2020). Although race-based land ownership disparities are well-documented, the causes of

these disparities remain the subject of debate. Understanding land ownership inequities is critical, as a consistent set of factors, including structural racism, distrust, and heirs' property implications, contributes to the loss of Black-owned forestland (Allred et al. 2025).

Causes of Inequities

Exclusionary practices of land allocation, coupled with legacies of race-based discrimination, have left many minorities with limited access to land, which in turn limits their ability to generate income and build wealth (Ray et al. 2021). Examples of practices and policies that have contributed to land ownership disparities across the urban to rural gradient range from outright land seizures and displacements (Churchill 2002) to historic disinvestments such as redlining and exclusionary zoning (Lee et al. 2022). For example, across rural America, the US government spent decades forcibly removing Indigenous people from their native lands (Farrell et al. 2021). In cities, where exclusive practices were more clandestine, federal agencies engaged in redlining to systematically disadvantage communities of color (Hillier 2003). Beginning in the 1930s, maps produced by the Homeowners Loan Corporation (HOLC) frequently identified "redlined" or Type D neighborhoods that were deemed high risk or "hazardous," preventing them from receiving capital investments that might have improved the housing stock and economic opportunities for locals (Locke et al. 2021). In most cases, these neighborhoods were dominated by racial and ethnic minority populations (Lane et al. 2022). Although "redlining" was formally banned in 1968 with the Fair Housing Act (Maroney 1995), artifacts of this practice have persisted, and remain associated with disinvestment, racial discrimination, neighborhood declination, and the way that communities are structured today (Aaronson et al. 2021; Ryan 2018). Other exclusionary zoning policies have had a disproportionately negative impact on LOCs as well. As urban migration has progressed, elitists have often advocated for segregation of communities based on income, ethnicity, and racial group in order to combat demographic change and maintain the social and economic stature of existing communities (Fishback et al. 2024; Trounstein 2018), effectively creating a separation between homeowners who could afford multiple acres and those who could not (Whittemore 2021).

Historic disinvestment in minority landowners is not a problem unique to urban areas. Across rural areas of the United States, many LOCs have inherited land that has been passed down through generations following the emancipation of slavery (Hitchner et al. 2017), but they have not had access to the same resources and support as other landowners (Schelhas et al. 2017). Even before emancipation, African Americans faced systemic barriers to land ownership. In rare cases where African Americans were free, many of the rights and liberties granted to White citizens were withheld from them, including the right to own land. Some states, such as Georgia, had explicit legal prohibitions against Black land ownership (Copeland 2013); in 1818, the Georgia legislature passed a law barring persons of color from owning real property. These historical restrictions laid the foundation for continued disenfranchisement, making it difficult for African American landowners and their

descendants to acquire, retain, and benefit from landownership (Copeland 2013). Inheritance laws (e.g. heirs' property), government land use policies, and displacement are all factors that have had a significant impact on LOCs. Inheritance laws can determine who has the right to own and manage forest land, which can have implications for conservation and sustainable use (Yucer et al. 2016).

Government land use policies can also play a role, as they can dictate how forest land is used and managed and can either support or hinder conservation efforts (Wang et al. 2022). These policies have also led to the displacement of marginalized communities (Gao et al. 2024). All of these factors are interconnected and have complex and long-lasting effects on forest ecosystems and the people who depend on them. Ultimately, there are numerous factors that cause disparities in wealth and land ownership between racial and ethnic minority and White populations. These disparities are not the result of isolated events or individual decisions or circumstances. Rather, wealth and landownership inequalities are a direct product of systematic barriers that have hindered the economic advancement of minority populations as well as the advancement of conservation efforts throughout the history of the US (Mullenbach et al. 2022; Schell et al. 2020). Notably, these inequalities persist despite the well documented attachment of LOCs to forest lands, which have historically served as culturally-significant places of refuge, shelter, and sustenance for minority communities (Hendricks and Lewis 2006).

Consequences of Inequities

The financial and cultural consequences of land ownership disparities amongst LOCs are extensive (Balvanz et al. 2011). Land ownership is often a key factor in wealth accumulation, providing a stable asset that can be passed down from one generation to the next. However, many minority communities have been historically excluded from this process due to their limited access to land which is as a result of exclusionary practices of land allocation, stemming from centuries of racially based discriminatory practices such as land seizures, displacement, and disinvestment through redlining and exclusionary zoning (Derenoncourt et al. 2022). As a result, minority individuals and families often struggle to build the same level of economic stability, security, and mobility as their White counterparts (Ray et al. 2021). The extraction of income and other essential resources that support economic and social mobility and community investment is exacerbated by residential segregation and the discriminatory policies that support it (Darity et al. 2018). For instance, discriminatory lending practices and zoning laws have made it more difficult for racial and ethnic minorities to build equity in their homes, which can be a key source of wealth accumulation (Schelhas et al. 2017; Whittemore 2021). In addition, many minority communities have been subjected to environmental racism, with toxic waste sites and other hazardous facilities disproportionately located in these areas (Bullard 1996). This has led to negative health effects (Nardone et al. 2020) and reduced property values, increasing financial strain and further limiting economic mobility (Davidai and Walker 2022). Such environmental injustices are especially prominent in rural

communities with limited agency and access to resources (Bullard 1996). Land ownership disparities can also impact access to high-quality schools, job training programs, and other resources that could help minority groups build the skills and knowledge needed for economic mobility (Warren et al. 2002). Research shows that school districts with a majority of White children earn \$23 billion more (in sum) from local property taxes, than those with a majority of Black, Latinx, and Asian students (Ray et al. 2021). Land ownership also impacts access to credit and financing. LOCs may have difficulty accessing traditional lending sources due to a lack of collateral or a limited credit history (Waddell 2019). This can make it more difficult to invest in their land or make improvements that increase property values. Without adequate land, many LOCs are also excluded from the financial benefits of conservation programs such as monetary compensation and tax benefits (Lynch and Lovell 2003; Schelhas 2002).

Inequitable land distribution among minorities in the US also impacts social and cultural values (Sampson et al. 2020). Land ownership forges place attachment that is tied to cultural identity (Low and Altman 1992); inequities in land ownership can therefore lead to the loss of cultural heritage and traditions (Sampson and Wilson 2020). For example, as younger generations of African Americans in the southern US lose access to heirs' property inherited and owned by their ancestors (via intestate inheritance, predatory land practices, financial insecurity, urban migration, unpaid property taxes, etc.), the stories and experiences linked to that land may also vanish (Chandler 2005). This can also fuel loss of connection to the natural environment, which can have significant implications for both environmental stewardship as well as mental health and well-being (Jennings et al. 2017). Land inequality can also contribute to the erosion of social values, as land is often an important contributor to social cohesion within a community (Mackenzie 2012).

This historical context offers a critical backdrop for the factors that constrain, or potentially facilitate, LOCs' participation in conservation programs. Addressing this issue requires a multifaceted approach that acknowledges the root causes of unequal land distribution (e.g., legacy of discrimination, exclusion from land ownership) described above and concurrently examines additional barriers to program participation.

Barriers to Minority Landowner Participation in Conservation Programs

Although land ownership itself poses a major challenge for racial and ethnic minorities' participation in conservation programs, many other significant barriers impede participation rates as well. The following sections highlight some of the additional barriers LOCs face that limit their engagement in conservation programs. Our case study boxes highlight two prominent programs—the Conservation Reserve Program (Case Study 1) and emerging carbon programs (Case Study 2)—and some of the barriers that constrain participation in these specific contexts.

Socio-Demographic Factors

Demographic variables such as education and income are often linked to an increased likelihood of participation in conservation programs on private lands (Gan et al. 2005). Program participation rates tend to be higher among individuals who are younger, highly educated, wealthy, and White (Gan et al. 2005). In 2021, the US Census report found that 53.7% of Americans aged 25 and over had college degrees or industry recognized certificates. However, among Black Americans, this number was only 28.1% (US Census Bureau: Educational Attainment 2021).

Income disparities also pose significant barriers to LOCs' participation in conservation programs. In 2022, the average individual income for White, non-Hispanic individuals was \$71,750, compared to \$54,580 for Black individuals. For Asian individuals, the average income was \$87,930, while Hispanics had an average income of \$47,860. These income differences highlight the economic challenges faced by LOCs, which can limit their ability to engage in conservation initiatives that often require shared costs, financial investment or access to resources (US Census Bureau 2021). Research has shown that unequal access to credit can hinder program participation by preventing individuals from accessing the funds needed to invest in sustainable practices (Brown 2022). Additionally, the lack of credit history and collateral, combined with discrimination in lending practices, may negatively affect LOCs' ability to access loans needed to jumpstart participation in conservation programs (Havard 2001). Limited access to financial resources can also make it more difficult for landowners to match the cost-share requirements associated with participation in many conservation programs (Gordon et al. 2013; Egerson et al. 2025). Ultimately, without adequate education and income, many LOCs may not have access to the technical expertise or financial resources needed to engage in sustainable land management practices and implement conservation programs effectively.

Limited Access to Information and Social Networks

Limited access to information and social networks also has negative implications on conservation program participation among LOCs (Hitchner et al. 2019). Information is particularly important in this context, as it includes details about program requirements, points of contact, qualification information, and instructions regarding the application process. With limited access to such key information, it may be difficult for landowners to understand program rules and requirements, if their land qualifies, and what practices are acceptable.

In a study of the participation behavior of White and minority small landowners in Alabama, Gan et al. (2005) found that minority landowners were more likely than White landowners to be dissatisfied with the information they received about conservation program participation requirements, likely due to the methods of receiving information. For example, minority landowners preferred to be contacted directly or through in-field demonstrations as opposed to printed materials, which were preferred by White landowners (Gan et al. 2005). With limited access to land ownership organizations and low membership rates, LOCs' limited connection and networks

with other landowners who might have this information is also restricted (Gan et al. 2005). The value of social networks for information exchange has been documented in other rural conservation contexts (Larson et al. 2017). These networks also influence the success of conservation outreach, as community-centered interventions such as workshops allow private landowners to exchange ideas and learn about conservation programs (Kueper et al. 2013; Kadam et al. in press). However, a lack of familiarity and trust among LOCs and a sense of exclusion often limits the efficacy of conventional workshops, preventing these marginalized groups from utilizing professional forestry outreach and assistance that can be a key precursor to successful conservation program engagement (Hughes and Monaghan 2001).

Additionally, LOCs may have reduced contact with and trust of agencies that administer programs related to land conservation and management. A study conducted by Taylor (2015) found that minorities are underrepresented in all ranks of the staff and leadership of environmental organizations. This is problematic because distrust and inequitable power dynamics can negatively affect conservation partnerships and processes (Saif et al. 2022). A lack of connection, distrust, and skepticism associated with government interference can discourage LOCs and dissuade them from attempting to learn about and access programs that could provide unique benefits (Rice 2022); it also makes it hard to navigate the complex application and administrative processes that are often involved with government-sponsored conservation incentive programs (McCann and Claassen 2016). Without these connections, LOCs are challenged to identify suitable programs, understand the application process, and maximize their benefits. As such, addressing knowledge and networking barriers is a critical step in promoting greater equity and participation in land ownership and conservation programs.

Heirs' Property and Decision-Making Barriers

A unique challenge for LOCs, especially in the southeastern United States, relates to uncertainty regarding who owns the land and holds decision-making authority. In minority communities, "heirs' property" is a common form of land ownership (Rice 2022). Heirs' property refers to land that has been passed down through generations without a clear title or estate plan (Zabawa et al. 2023). Post-slavery African American land ownership in the United States peaked in 1910 at 15 million acres and fell dramatically after that, with land loss often due to heirs' property complications (Bailey et al. 2019). Despite this trend, a significant portion of land owned by African Americans in the South remains within heirs' property status—which poses challenges for conservation. For example, South Carolina alone has an estimated 1.5 million acres of heirs' property (Bailey et al. 2019).

The decision-making process regarding land management for heirs' property can be complicated, as there may be multiple family members with competing interests and priorities (Hitchner et al. 2017). In these situations, it can be difficult to reach agreement about how to manage the land or make decisions about its future, which can lead to legal challenges and disputes. These issues create considerable stress and financial strain for LOCs, who may not have access to the same level of legal support as other,

wealthier landowners. Collectively, the challenges that often accompany heirs' property can hinder landowners' ability to generate income from forest land, build wealth, and become economically independent (Thompson 2017). Under these decision-making and management conditions, it can be hard for LOCs to follow through with conservation program engagement, even when a desire to do so is present.

Case Study 1: Conservation Reserve Program

The Conservation Reserve Program (CRP) is one of the most successful federal conservation programs for private landowners (Stubbs 2014). Participants agree to withdraw environmentally sensitive land from agricultural production and implement conservation measures in exchange for annual rental payments and cost-sharing assistance for 10–15 years (Dunn et al. 1993). These measures, such as planting permanent land cover like grasslands or forests, aim to restore land, enhance water quality, reduce soil erosion, and preserve wildlife habitat (Pratt and Wallander 2022; Sullivan et al. 2004). Evidence highlights CRP's success; in Alabama, soil loss on enrolled acres dropped from 10.7 million tons per year to 687,000 tons (Onianwa and Wheelock 1995). In North Dakota, enhanced wildlife populations have expanded recreational opportunities such as hunting, bird watching, and bird dog training. The increase in demand for hunting related services has also provided significant revenue to local businesses (Sullivan et al. 2004).

The program generates substantial economic benefits, with Natural Resources Conservation Service (NRCS) reporting \$8 billion annually nationwide. CRP payments have also helped to stabilize income, which has often been used as a transition to retirement (Sullivan et al. 2004). CRP remains vital for promoting sustainable land use, especially among resource-constrained landowners (Molnar et al. 2000).

However, CRP has not equally benefited all landowners. Historically underserved landowners participate in CRP at disproportionately low rates. For example, Black landowners represent only 2.2% of CRP enrollees in Alabama and 0.9% in Florida (USDA 2023; Hitchner et al. 2024). The Pigford v. Glickman class action lawsuit, filed in 1997, highlighted the historical injustices faced by Black farmers and landowners through discriminatory practices of the USDA. The lawsuit revealed that many Black farmers were denied loans, assistance, and fair treatment in USDA programs, including the CRP (Grim 2012). Unequal credit access and discriminatory lending further restricts their participation (Gordon et al. 2013; Brown 2022). Further, limited outreach and culturally relevant communication prevent historically underserved landowners from learning about CRP opportunities. Navigating bureaucratic processes without technical assistance adds to these challenges (Reimer and Prokopy 2014; Stukes 2023). Also, informal land inheritance results in unclear titles, preventing historically underserved landowners from enrolling in CRP. Developers often exploit heirs' property laws to force sales, stripping families of generational wealth (Bailey et al. 2019; Hitchner et al. 2019). While new research is highlighting general motivations and barriers to CRP participation (Egerson et al. 2025), these studies generally say very little about barriers facing minority landowners. Targeted outreach, improved technical assistance, increased financial support, and legal reforms for heirs' property are essential for improving participation among historically underserved landowners (Allred et al. 2025). Addressing these issues can ensure the benefits of conservation programs are equitably distributed, which will foster greater inclusion, economic opportunity for landowners, and improved environmental stewardship.

CRP is just one of many examples of programs helping landowners engage in more sustainable forestry practices, but the overall efficacy of these programs depends on landowner participation and, thus, programs that equitably serve LOCs.

Case Study 2: Carbon Programs

Carbon programs and the offset markets they produce are one of the newest forms of conservation programs within the United States. These programs create a framework for emitters to pay individuals or groups participating in pro-environmental behaviors to continue engaging in these behaviors, with the carbon emissions mitigated as a result of these behaviors being “offset” or subtracted from the emitter’s total (Wilman and Mahendrarajah, 2002). Therefore, carbon programs are ideally a win for all parties involved, as emitters can claim less emissions than they truly emit, those who engage in the pro-environmental behaviors benefit from higher revenue for relatively little behavioral change, and additional carbon is stored terrestrially (Tahvonen and Rautiainen, 2017). These programs, similar to many other conservation programs, typically attract younger, more educated females, who believe strongly in climate change action and are willing to alter their current forest management practices to achieve stewardship goals (Miller et al. 2012). The largest motivator of participation within carbon programs was not an ethical or ecological motivation, but motivation based on potential revenue gain from the program (Layton and Siikamäki, 2009). However, biocentric reasons focused on enhanced ecosystem services do serve as an important motivator for many participants, particularly those who have multigenerational family forests (Bliss et al. 1997). Difficulties arise in increasing enrollment, however, as knowledge and familiarity of these programs is not correlated with participation. Increasing participation seems to be built largely around the two stated goals of increasing return on investment for the landowner and the landowner’s “investment” in nature (Dickinson et al. 2012; Miller et al. 2012).

Numerous barriers to entry exist for carbon programs, largely lying along historic distributions of education and investment capital (Eastman et al. 2025). Because there is a strong correlation between participation in these programs and belief in climate change and sustainable forestry practices, there is a functional ceiling to the number of forest landowners who are willing to participate in these programs (Kilgore et al. 2007). This educational barrier is compounded by the considerable financial risk that a landowner must incur in order to enter into a market, especially at the large-scale of land that offset markets are typically best equipped to contribute to carbon storage. This can serve as a considerable barrier to entry for smaller landowners, as additional revenue gained from payments from offsetting may not be enough to compensate for delayed, or even lost revenue from the point of the original investment until the eventual payment (Baker et al. 2010). Such barriers are particularly prominent among LOCs, as disparities in land ownership alongside historical underserving of educational needs within these communities limit the potential benefits that can be gained from LOCs through these programs (Schelhas et al. 2012). These factors create a limiting checklist for landowners, largely requiring them to be educated and risk tolerant, with ample land to benefit at scale. Additional research is needed to quantify the size of the land-owning population that would satisfy this checklist, however even greater efforts need to be made in order to reduce the high barriers for entry into offset markets in the first place, largely through increasing educational efforts to combat climate-change disbelief and connecting rural landowners to specific markets that may benefit them, as well as standardizing market regulations, therefore decreasing individual risk-incurred through entry into the market.

Strategies for Increasing Minority Landowner Participation in Conservation Programs

Addressing the multitude of inequities and barriers described above is crucial for promoting participation of LOCs in conservation programs, with the goal of creating a more inclusive and equitable conservation movement that benefits all communities. To address these challenges, it is critical to recognize the unique needs and experiences of LOCs and their relationship to conservation programs (Selinske et al. 2015; Lindell and Dayer, 2022). The following section explores opportunities for enhancing LOCs’ engagement in conservation programs (Fig. 1).

STRATEGIES FOR INCREASING MINORITY LANDOWNER PARTICIPATION IN CONSERVATION PROGRAMS

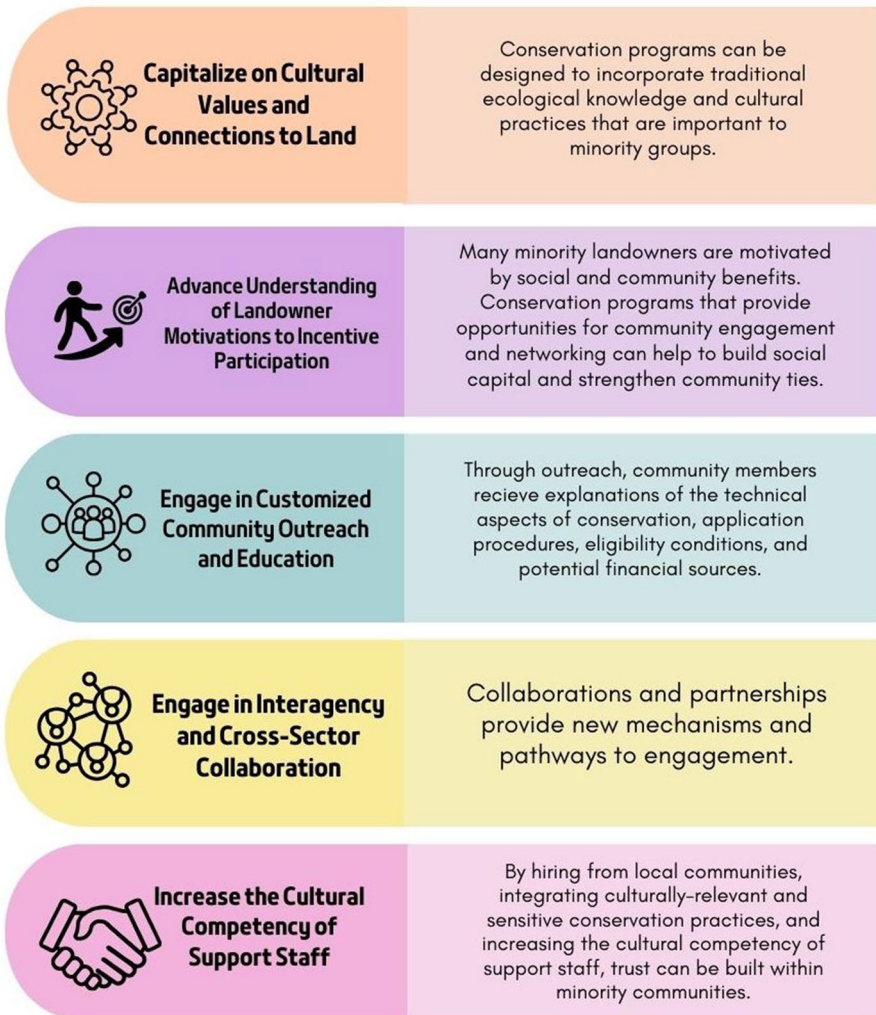


Fig. 1 Strategies for increasing landowner participation in conservation programs

Opportunity #1—Capitalize on Cultural Values and Connections to Land

LOCs have a unique connection to the land that is rooted in their cultural heritage and history (Rice 2022). For many minority groups, land ownership has been an important way to maintain cultural traditions and to preserve their ancestral homelands

(Berkes et al. 1994). As a result, LOCs often have a deep understanding of the ecological and cultural significance of their land. They may also have a strong sense of responsibility to protect and steward their land for future generations (Berkes et al. 1994). This strong sense of responsibility and connection can be directly linked to place attachment, or an affective connection to a specific locale (Mook et al. 2022; Stukes 2023). Research shows that place attachment can be linked to stewardship behavior (Larson et al. 2018, Trimbach, 2022). However, LOCs's connection to the land might not always be positive. Certain minority groups have a negative association with forests due to historic tragedies such as slavery and racially motivated violence that often occurred in forested environments (Johnson 1998; Johnson and Bowker 2004; Finney 2014). These complex relationships and perspectives must be acknowledged by any practitioners working with LOCs. When positive connections to the land exist, they can be used to encourage participation of LOCs in conservation programs. For example, conservation programs can be designed to incorporate traditional ecological knowledge and cultural practices that are important to minority groups (Watson et al. 2003). This can help to build trust and empower minority landowners to ensure that conservation practices are culturally appropriate and sustainable. Additionally, conservation programs can be designed to provide economic and social benefits to LOCs, such as increased income, improved access to markets, and strengthened community ties. By recognizing and building on the unique connection that LOCs have to the land, conservation programs can be more appealing, inclusive, and sustainable.

Opportunity #2—Advance Understanding of Landowner Motivations to Incentive Participation

Landowner motivations to practice conservation have been broadly separated into two categories based on financial incentives (extrinsic motivation) and internal satisfaction (intrinsic motivation) (Dayer et al. 2018; Selinske et al. 2015). While payments and income are clearly a strong incentive for participation in conservation programs (Bremer et al. 2014), there are other motivations and incentives that can be equally important for minority landowners. For example, many LOCs are motivated by a desire to maintain their cultural heritage and to preserve their ancestral homelands (Rotarangi and Stephenson 2014). By incorporating traditional ecological knowledge and cultural practices into conservation programs, LOCs can feel a sense of pride and accomplishment in protecting their land in a way that is both culturally appropriate and sustainable (Rotarangi and Stephenson 2014). In addition to cultural motivations, many LOCs are also motivated by social and community benefits (Berkes et al. 1994). For example, conservation programs that provide opportunities for community engagement and networking can help to build social capital and strengthen community ties (Mumaw et al. 2019). Similarly, conservation programs that provide training and education opportunities can help to build skills and knowledge that can be applied in other areas of life, creating even more incentives for participation. By recognizing and building on these motivations and incentives, conservation programs can more effectively engage LOCs.

Opportunity #3—Engage in Customized Community Outreach and Education

After identifying landowner needs and motivations, it is important for state and federal agencies to provide outreach and education opportunities that align with those specific needs and concerns (Selinske et al. 2015). Research shows that effective community outreach and education programs can increase conservation program participation among LOCs (Ma et al. 2012). This might include targeted technical support and assistance, such as talking about what programs and practices to pursue and why, covering application procedures and eligibility requirements, and drawing distinctions between the variety of conservation programs that exist and how they differ. It might also underscore the critical importance of a management plan and its technical components (e.g., pest control, soil health, water supply, financing options), which is typically needed for successful conservation practices (Farmer et al. 2017). All of these may seem daunting or inaccessible to landowners who are not familiar with conservation programs (Niemiec et al. 2019). Finding the right ways to distribute information in minority communities to increase awareness and build trust is also imperative. In minority communities, key networks and information channels might include trusted organizations such as the National Association for the Advancement of Colored People (NAACP) or community gathering places such as schools or churches. Vidal et al. (2002) found that effective outreach often has more than one source of leadership, and outreach efforts were most effective when information-bearing individuals were respected by peers and influential with administration. This could include testimonials from current LOC participants, which might increase trust and exposure. In addition to providing critical information, well-designed outreach initiatives give program managers the ability to engage with the community to address other problems that limit participation such as language barriers, distrust of government, and the perceived inadequacy of financial resources.

Opportunity #4—Engage in Interagency and Cross-Sector Collaboration

To effectively engage with communities and offer appropriate support and direction, different agencies must work together to help landowners understand the complex program space and identify the best solution(s) given their goals (Rodewald 2002). For example, USDA might administer different conservation programs via NRCS, USDA Forest Service, and other entities, while state forest services offer various other forms of complementary support and assistance, creating a confusing landscape that is difficult to navigate. Managers should collaborate to bridge gaps and help landowners find the right programs that fit their needs. Partnerships bring together government agencies, non-profits, private businesses, land grant institutions, and community-based organizations. Collaborations with other entities such as community organizations and agencies are imperative for LOCs who have been historically excluded from conservation programs, as they facilitate understanding of options and provide new mechanisms and pathways to engagement (Ceasar et al. 2017). Cooke et al. (2012) suggested that collaboration has the potential to remedy

and address agency-landholder conflict. To develop creative approaches for including minority populations in conservation initiatives, collaboration allows for the productive exchange of resources, knowledge, and distinctive, diverse experiences (Gavin et al. 2018). This can be achieved through early, widespread engagement, which has the potential to increase the level of trust between landowners and conservation agencies (Cooke et al. 2012).

Opportunity #5—Increase the Cultural Competency of Support Staff

Engagement with LOCs is not a one-size-fits all approach (Butler et al. 2020), and the same practices that are effective for traditional (i.e., White) landowners may not work in all settings. Agency staff must recognize and account for the historic legacies and discriminatory policies that contribute to under-participation, hesitancy, and distrust of government (in general) and conservation programs (specifically). Increased participation of LOCs in conservation programs requires staff that promote cultural competency and inclusivity (Butler et al. 2020) as well as services that recognize and incorporate the distinctive cultural practices and experiences of marginalized communities (Norman and Gooden 2012). To be culturally competent, agencies must customize outreach, instruction, and technical support that take cultural norms, customs, and communication styles into account. To build trust among LOCs, agencies can hire from local communities, integrate culturally-relevant and sensitive conservation practices, and increase the cultural competency of support staff (Bonta and Jordan, 2007). Creating an inclusive atmosphere where LOCs feel respected and valued involves valuing diversity and promoting equity. Examples of inclusiveness include conducting a needs assessment to understand unique challenges facing minority populations (e.g., landowner listening sessions; Sketch et al. 2020), facilitating participation of minority groups in decision-making procedures (e.g., soil and water conservation district, state conservation board), incorporating cultural sensitivity into conservation methods, and promoting fair access to resources and services (Norman and Gooden 2012). The creation of outreach initiatives should be influenced by an understanding of these requirements, obstacles, and opportunities.

Conclusion

The success of forest conservation efforts in the United States largely depends on the actions of private landowners. Many conservation programs have been designed and implemented to help landowners protect natural areas, preserve ecosystem services, and derive economic benefits in the process. Some of these programs are older and more established (e.g., Conservation Reserve Program), while others are relatively new and innovative (e.g., carbon programs). However, all of these programs have failed to adequately serve a key demographic group: landowners of color (LOCs). Focusing primarily on African American landowners in the southeastern US, this paper identified general reasons why this problem persists, including disparities

in land ownership due to discriminatory policies, socio-demographic factors such as education and income, lack of access to key information, and decision-making barriers that accompany heirs' property. Future research could explore how these and other barriers manifest across diverse populations and compare the efficacy (in terms of ecological health and other benefits) of alternative stewardship and management models (e.g., utilization of traditional ecological knowledge) that might be more appealing to LOCs than government-sponsored programs (Schelhas et al. 2021; Kreye et al. 2019). Nevertheless, to ensure the success and sustainability of private land conservation efforts, conservation groups should strategize to increase LOCs' participation in conservation programs. This can be done by assuring the incorporation of diverse viewpoints and perspectives, capitalizing on cultural values, engaging in effective and customized community outreach, encouraging interagency collaboration, and increasing the cultural competency of support staff. By taking a more inclusive approach to conservation programs, agencies can work to overcome legacies of discrimination and disinvestment and promote sustainable land management practices among all private landowners.

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