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ORIGINAL RESEARCH

How Do African American and White Family Forest Landowners Conceptualize Forest Legacy in Georgia, United States?

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Abstract

Legacy, sometimes called intergenerational land transfer or forestland bequest, is an important subject for family forest landowners. While the literature primarily addresses legacy from an economic perspective or as a function of landowner characteristics, this research explores how past, present, and future connections to forestland shape family forest landowners' conceptions of legacy. This research uses the Q method, a mixed qualitative/quantitative method, to explore differences between African American and White family forest landowners in Georgia, United States. It identifies four distinct typologies for landowner conceptualization of legacy: Family Forest Managers, Family Forest Investors, Family Forest Stewards, and Family Forest Skeptics. Despite historical and landowner characteristic differences, the differences between the typologies are minimal between the races. We found African American landowners are motivated by the collective struggle of African Americans to obtain and retain forestland. In contrast, White family forest landowners are motivated by personal identification with their forestland. For forest management professionals, understanding family forest landowners' conception of legacy and motivations concerning intergenerational land transfer is valuable for planning the future of forestlands in Georgia, and by extension, across the Southern United States.

Keywords Bequest intentions · Forest management · Q method · Race

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Introduction

With good cause the group of landowners once defined by what they were not, *non-industrial* private forest landowners, are now defined by one of their most important characteristics, *family* forest landowners. The key is family, and the importance of relationships between past, present, and future forest landowners is well documented (Majumdar et al. 2009; Karppinen 2012; Butler et al. 2017; Markowski-Lindsay et al. 2018). Family forest landowners have diverse views on forest management, and one of their few shared characteristics is the importance of family legacy to forestland ownership. Across the United States, a majority (68.2%) of family forest landowners considered family legacy, or intergenerational land transfer, to be an important objective (Butler et al. 2016). The importance of legacy was even more pronounced (76.2%) in the Southern United States (Butler et al. 2016), and in one Alabama study both African American (85%) and White (75%) family forest landowners considered legacy an important goal (Schelhas et al. 2012). Furthermore, nearly half of Southern family forest landowners (45.9%) inherited their land from the previous generations (Butler et al. 2016), and where data is available, there seem to be no substantial differences between African American and White forest landowners (Schelhas et al. 2012).

While forest legacy is important as an objective, it also affects forest management. For example, in their review of timber harvesting literature, Silver et al. (2015) identified a positive effect of family tenure/inheritance on timber harvesting. For African American family forest landowners, legacy goals have significant effect on management activities (Goyke et al. 2019b). Legacy may also maintain the continuity of forestlands on the landscape and play a role in environmental conservation (Markowski-Lindsay et al. 2016). For family forest landowners, the forest sector is a web of personal and professional relationships built on trust (Lind-Riehl et al. 2015; Hitchner et al. 2019), and introducing new generations into those relationships could maintain economic continuity as well. For African American forest landowners in particular, formalizing intergenerational land transfer can avoid a legacy of clouded land title (Hitchner et al. 2017) and open up many previously unviable management opportunities (Barlow and Bailey 2017).

Despite its apparent importance, legacy is understudied in the literature (Markowski-Lindsay et al. 2016). One key takeaway is that non-market and family values play an important role in bequest intentions (Amacher et al. 2002). In this article, we explore legacy through the lens of past, present, and future family connections to forestland, i.e. intergenerational connections.

It is important to understand differences in the ways African American and White family forest landowners consider intergenerational connections and legacy. The literature indicates that we should expect some differences because of different past, present, and future conditions. Historically, it was more difficult for African Americans than for White landowners to obtain real property (Copeland 2013), which may motivate some African American family forest landowners to make holding onto the family property as their primary objective (Schelhas

et al. 2017). Among contemporary landowners, there are barriers between African American family forest landowners and forest management. One barrier is the lack of trust in forestry professionals (Schelhas et al. 2018). Another is underutilization of cost-share programs, which to a degree, is an issue for landowners of all races. However, African Americans face barriers to participation because of racial discrimination (Christian et al. 2013b), while many White family forest landowners elect not to participate because of local historical social norms (Lind-Riehl et al. 2015). The threat of land loss also disproportionately affects African Americans (Christian et al. 2013a), particularly those with heirs' property issues (Dyer and Bailey 2008). Heirs' property is defined as tenancy in common where land is passed intestate, and all heirs have undivided, fractional interest (Hitchner et al. 2017); it is susceptible to a loss through tax and partition sales (Christian et al. 2013a). Finally, changing demographics may influence how landowners think about legacy, and this is especially true for African Americans as younger generations become increasingly urbanized (Goyke and Dwivedi 2018), and new immigrants fill niches on the rural landscape they once occupied (Crowley et al. 2015). These past, present, and future differences suggest that we should expect that African American and White family forest landowners perceive intergenerational connections and legacy differently.

This study uses the Q method (Q), a mixed-methods technique to investigate two objectives. Our first objective is to explore the ways in which family forest landowners conceive of their intergenerational connections and their legacies. Our assumption is that despite the prevalence and importance of legacy in the family forest landowner literature, there is variability in the way family forest landowners think about their personal legacies. Our second objective is to compare the diverse legacy conceptions of African American and White family forest landowners. While exploring these two objectives, we to fill a gap in the family forest bequest literature, highlight the complexity of the legacy concept, and offer suggestions to forest management professionals to better engage with family forest landowners.

Methods

Participant Selection

This study took place in Georgia, United States, where family forest landowners own 55% of forestland (Oswalt et al. 2020) and are vital to the forestry sector, which contributes $36.3 billion to the state economy (Georgia Institute of Technology 2019). Most participants in this study live in the southern part of the state (Fig. 1), where the forestry sector accounts for 3–10% of the total employment in many counties (Georgia Institute of Technology 2016). African American participants hailed from 12 counties, White participants from 18 counties, and two counties had participants of both races. Participant selection was purposive, and participants were identified in collaboration with Fort Valley State University (FVSU) Cooperative Extension and the Greene-Morgan Forest Landowners Association. Purposive selection ensured that participants were family

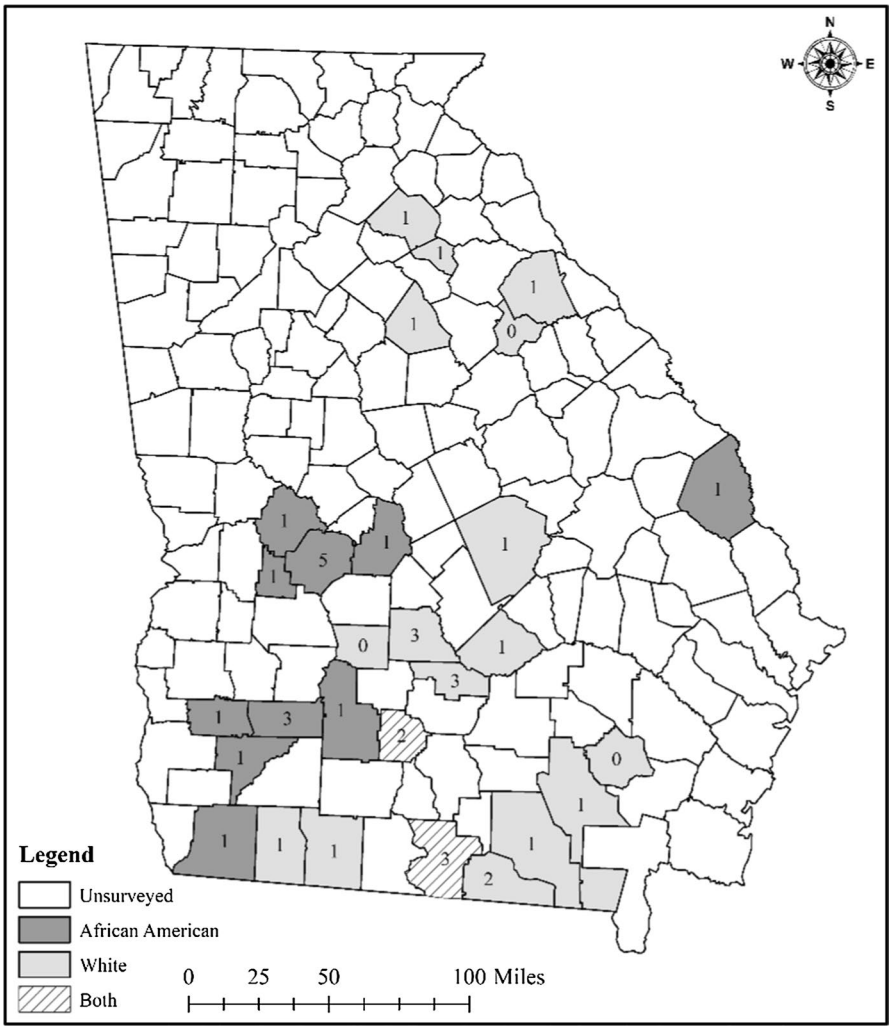

Fig. 1 Distribution of study participants. Counties shaded in dark grey represent those with African American participants. Counties shaded in light grey represent those with White participants. Counties with hatching had both African American and White participants. The label indicates the number of participants residing in each county. The label "0" indicates a county with forestland owned in absentia

forest landowners and were also interested and enthusiastic, important for productive dialogue during qualitative interviews. Some participants participated at workshops, and others were met individually at their residences. In all the cases, oral consent was solicited from participants, and they were clearly informed of their right to discontinue participation at any time.

Q Method

Q is a tool to measure subjectivity around a discourse (Brown 1980). It has been used to explore natural resources questions for decades (Pitt and Sube 1979), but has experienced increase use in recent years (Zabala et al. 2018; Goyke et al. 2019a; Upadhaya and Dwivedi 2019). While several methods are used to conduct typological research (Ficko et al. 2017), Q has several attractive features. Foremost among them is that Q efficiently highlights views that diverge from the mainstream, a useful characteristic in exploratory research (Eyvindson et al. 2015). Additionally, Q requires a relatively small sample size, an attractive feature when working with minority groups like African Americans (Goyke et al. 2019b). As per Watts and Stenner (2005), a large sample size in Q-based research could easily negate many of the subtle nuances, complexities, and hence many of the essential *qualities* contained in the data. Q also has several limitations. First, the typologies represent a spatiotemporal snapshot, subject to change with changes in the social/political environment (McKeown and Thomas 1988). Second, while the identified typologies can be definitively said to have existed, they do not represent an exhaustive list of all extant typologies, nor can we infer any representativeness about their distribution within a population (Brown 1980). Instead, the results of a Q study are best thought of as a starting place for researchers to explore and begin to understand a complex issue in the context of current social, economic, and policy environments.

We surveyed participants using a combination a short questionnaire, pile sorting, and interviews. First, each participant completed a short socio-demographic questionnaire. Second, each participant sorted 18 statements (Table 1) into approximately normal distribution (Fig. 2). The statements represented two themes (economic and cultural connections), with three dimensions (past, present future) and three iterations (positive, neutral, negative). The theme, dimension, iteration structure of the statements was meant to provide complete coverage of the discourse related to our specific research question. During pile sorting, participants were encouraged to share their thoughts related to individual statements as well as their rationale for how they sorted the statements. Eight African American and three White landowners agreed to participate in an interview. Although participants who participated in workshops were invited to interview after the workshop, most declined due to time constraints. Participants who choose not to participate in the interview were encouraged to leave comments on their record sheet.

The African American and White participants were separated for factor analysis. When deciding on how many factors to interpret, we considered four criteria. First, we selected a minimum eigenvalue of 1.00. Second, we made sure that at least two participants loaded significantly, including negative loadings, in each group. Third, we considered the interpretability of the factors selected, i.e., the subjective ability to construct a narrative around the sorted statements and supporting comments or interviews. Finally, we decided early in the research process to interpret the same number of factors for the African American group and the White group. We performed the analysis using PQMethod software available at http://schmolck.org/qmethod/.

Table 1 The Q statements used in the study

#	Theme	Dimension	Iteration	Statement
1	E	Pa	(/)	I don't consider the past when I manage my forestland.
2	E	Pr	(/)	I don't really think about my forestland in terms of economics.
3	C	Pr	(−)	Forestland ownership always seems to cause family headaches.
4	E	Pr	(+)	My forestland is or could be a good income source.
5	E	F	(+)	My forestland is a good long-term investment.
6	E	F	(−)	Investing in things other than forest management is more profitable in the long term.
7	C	Pr	(/)	I see my forestland as more of an investment than a part of my identity.
8	C	F	(+)	I would like to pass on my forestland to future generations.
9	E	Pa	(−)	Inherited land can be a source of difficulty.
10	C	F	(/)	I'd consider passing on my forestland to the next generation if they seem interested.
11	C	Pa	(/)	There isn't a connection between forestland and my family's heritage.
12	E	Pa	(+)	The struggle of past generations to get land motivates me to manage my land well.
13	C	Pa	(+)	Forestland is deeply connected to my family history.
14	E	Pr	(−)	Making my forestland profitable is not likely in the near future.
15	C	Pr	(+)	My forestland is something that is a part of my identity.
16	C	Pa	(−)	Owning forestland keeps people stuck in the past.
17	E	F	(/)	Future generations are responsible for future management of my land.
18	C	F	(−)	I do not want to burden the next generation with forestland ownership.

The themes are economic (E) and cultural (C) connections. The dimensions are past (Pa), present (Pr), and future (F). The iterations are positive (+), negative (−), and neutral (/). The statements were randomly numbered to reduce bias

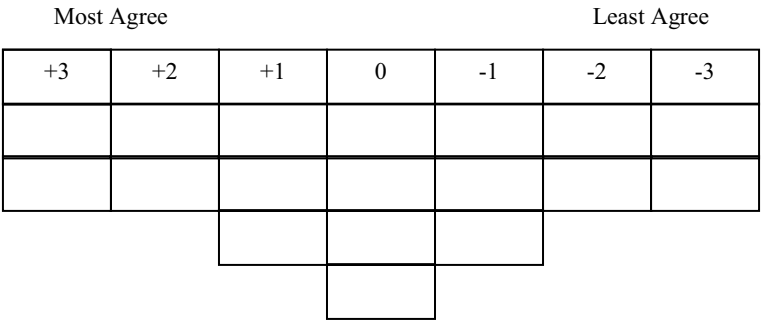

Fig. 2 The forced normal distribution. Participants were asked to sort statements to fit a quasi-normal distribution

Results

Landowner Profile

We surveyed 23 African American and 26 White family forest landowners (Table 2). A Wilcoxon rank sum test showed no significant difference ($\alpha = 0.10$) in the distribution of age in years ($p = 0.22$), landholding size in acres ($p = 0.75$) or forest holdings in acres ($p = 0.28$) between White and African American family forest landowners. A Chi square test showed no significant difference in education attainment ($p = 0.25$), and Fisher's exact test showed no significant difference in residency ($p = 0.26$) between the two races. The prevalence of recent management ($p = 0.10$) was significantly higher for African Americans, which is likely a result of recruiting participants through FVSU Cooperative Extension. African Americans were significantly more likely to have family land ($p = 0.07$). There were significantly more female landowners among White family forest landowners ($p = 0.04$). We are cognizant of the possible effect these differences may have on our results and believe

Table 2 Characteristics of African American and White family forest landowners

	African American	White
N	23	26
Age	59	63
Female	27%	54%
Male	73%	46%
Acres (median)	155	106
Forest acres (median)	27	44
Absentee	13%	19%
Resident	87%	81%
Family land	95%	75%
Management	45%	25%
Heirs' property	35%	–

that the last two differences partly explain the differences in our findings between African American and White landowners.

Typologies of African American Family Forest Landowners

The three African American family forest landowner typologies are Family Forest Manager (FFM), Family Forest Investor (FFI), and Family Forest Steward (FFSt) (Fig. 3). Although the sample is too small to be tested for statistically significant differences between typologies, there are some apparent demographic differences among them (Table 3). For example, Family Forest Managers tended to be younger age and have larger forest acreages. Family Forest Investors stand out for their lower educational achievement, as the only group with absentee owners, and lack of management activity. Family Forest Stewards exhibit the highest rates of management activity and the lowest rates of inherited property. In the typologies presented below, numbers in parentheses refer to the relevant Q statement. Statements marked with an asterisk (*) are significantly different from in the other typologies at $\alpha = 0.05$. Some landowners did not load significantly for any of the three typologies.

Typology 1: Family Forest Manager

The Family Forest Manager is best described as a future-oriented forest manager motivated by the past. The defining statement for the typology is that the struggles of past generations motivate present management (#12*). To quote one landowner: "I used to hear my dad say how hard it was on them to purchase. Which he did eventually…against the odds." Another said: "[My father] made a lot of sacrifices to keep that land." Family Forest Managers explicitly acknowledge that they consider the past when making a management decision (#1*). Their connections to the past are very personal, with forestland playing an important role in family history

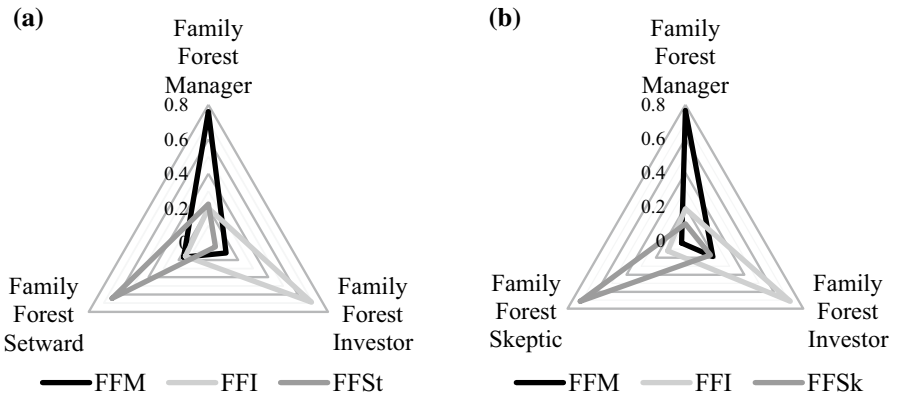

Fig. 3 Average factor loadings for participants who load significantly for each factor. Neither African American (**a**) nor White (**b**) participants loaded entirely for a single factor. Instead, participants loading primarily for one factor while having some characteristics of the other two

Table 3 Selected characteristics of participating African American family forest landowners

Factor (*n*)	Owner age	Female (%)	College education (%)	Absentee ownership (%)	Forest acres	% Forest	Family land (%)	Mgmt. activity (%)	Heirs' property (%)
FFM (11)	55	36	91	0	71	37	91	45	45
FFI (4)	63	25	50	25	17	17	75	0	25
FFSt (3)	64	0	100	0	37	30	67	67	33
None (5)	64	20	80	20	55	37	80	40	0

Age and forest acres are the mean values. College Education is the percent of participants with a college degree. Absentee ownership is defined as living in a different county than the forestland property. Percentage forest is the number of forested acres relative to the total property size. Family land is land that was passed from the preceding generation. Management (Mgmt.) activity refers to landowners who self-identify as engaging in forest management

and heritage (#11*, #13), understandable since 91% reported directly inheriting their land from the previous generation. One landowner said: "We're the third generation. We're training the fourth [generation] now." Another said: "I think there's a deed in the courthouse showing 1868. We live on the original plot. It's in your blood." The Family Forest Manager is far from backward-looking (#16) and considers passing on their forestland very important (#8, #10). Family Forest Managers also take the economics of forest ownership seriously (#2*). While the Family Forest Manager does not necessarily consider forestry the best investment (#6*), they believe that forestry is a good future investment and source of income (#4, #5). Landowners said: "[I like my forest] as an investment… make some money," and "The trees will eventually make money." This may indicate the importance of family heritage and legacy in the calculus to consider managing the land in forestry; forest management accomplishes the dual objectives of economic gain and keeping the land in the family. For these landowners, forest management may be a particularly attractive option because they have relatively large forest holdings and are, on average young enough that they can expect to live through the length of an entire rotation, about 25 years. Of the three typologies, Family Forest Managers are the most likely to acknowledge the potential of family forestland to cause family conflict (#3*). One landowner admitted: "there are a lot of problems with families and farms," another said: "you're putting people… as directorship [of an LLC], they might not have the same interests as you." The Family Forest Manager is motivated by family history and heritage to manage their forest as an economic investment and a legacy for future generations.

Typology 2: Family Forest Investor

The Family Forest Investor is best defined by the economic potential they see in their forestland. For the Family Forest Investor, forestry is the best possible investment (#6*, #5), and a good source of income (#4, #14). One landowner said simply: "Really, this place… was an investment for me." Like the other typologies, Family Forest Investors are motivated by previous generations' struggles (#12), but to a lesser degree (#1). For example, they do not see a strong connection between family heritage and forestry (#11, #13*) and instead consider forestland primarily an investment (#7*, #15). As the only typology with absentee owners, the lowest rate of heirs' property issues, and no individual reporting forest management activity, we were led to understand that many Family Forest Investors consider the land itself an investment, with the timber on the land a sort of bonus income opportunity. This may explain why many Family Forest Investors expressed ambivalence about their land as a legacy to future generations; they intend to sell the land in the future. While Family Forest Investors are not interested by default in passing on their land (#8*), they would consider passing it on if a family member were to express interest in owning and managing the land (#10). The problem in the eyes of one landowner was interest: "My kids they're in the City. They abhor this place." While the Family Forest Investor does not agree that forestland ownership causes hardships (#3), they do see their land as a potential source of difficulty for the next generation (#9*). As one landowner said, "Some of them would probably take it. They just have to pay the taxes." Minimizing family stresses may be why the Family Forest Investor is

only interested in passing down their land to an interested family member. Indeed, Family Forest Investors are adamant that future generations decide on their own way to use the land, rather than look to the past (#17*), again perhaps to avoid potential difficulty. The Family Forest Investor views their forestland primarily as a good investment and/or source of income instead of a part of their heritage and would be interested in passing on their forestland as a legacy only to an interested family member.

Typology 3: Family Forest Steward

The Family Forest Steward is best described as the custodian of the family legacy. They consider their most important duty passing their land on to the next generation (#8, #10*). One landowner summed up the typology saying: "My goal is to pass the land on to [my kids]. That's my primary goal." Their motivation comes partly from the struggle of past generations to get land (#12), but primarily from their family heritage (#11, #13) and personal identity as a forest landowner (#15*). Said one landowner: "This was family land. I wanted it… because it was family land." For the Family Forest Steward, forestland is not a source of difficulty (#9) or family problems (#3) and is to be considered a boon rather than a burden (#18). The Family Forest Steward does not consider their forestland in terms of economics (#2) or investment (#6*), and explicitly reject the notion that their forestland is (#4*) or could be (#5*) a good investment. One landowner said: "Trees are a long, drawn-out thing. There won't be any harvest anytime soon." This downplaying of the economic potential of forestland, including the potential for timber income to pay for the cost of land ownership, is a sharp contrast with Family Forest Managers, who consider timber income a means to land retention. Family Forest Stewards place a low emphasis on the economic value of their forestland. Instead, they maintain it for its value as a bridge to family history and heritage, and they believe that it will in turn serve as a bridge to future generations.

Typologies of White Family Forest Landowners

The three White family forest landowner typologies are Family Forest Manager (FFM), Family Forest Investor (FFI), and Family Forest Skeptic (FFSk) (Fig. 3). Although the sample is too small to be tested for statistically significant differences between typologies, there are some apparent demographic differences among them (Table 4). Particularly striking is the gender difference between Family Forest Investors and the other typologies. High rates of absenteeism and large forest acreages of the Family Forest Managers are in especially sharp contrast with the small forest acreages of the Family Forest Skeptics. We did not identify heirs' property issues for the participating White landowners. While heirs' property is certainly not only an African American issue (Deaton 2005), it seems to be far more prevalent among African Americans in the Southern United States due to historical discrimination against African Americans and their distrust of the legal system (Dwivedi et al. 2016). In the typologies presented below,

Table 4 Selected characteristics of White participants

Factor (*n*)	Owner age	Female (%)	College education (%)	Absentee ownership (%)	Forest acres	% Forest	Family land (%)	Mgmt. activity (%)
FFM (11)	61	73	73	45	181	79	82	27
FFI (7)	61	14	57	0	60	53	57	0
FFSk (4)	63	75	100	0	19	25	75	25
None (4)	72	50	50	0	88	59	50	50

Age and forest acres are the mean values. College Education is the percent of participants with a college degree. Absentee ownership is defined as living in a different county than the forestland property. Percent forest is the number of forested acres relative to the total property size. Family land is land that was passed from the preceding generation. Management (Mgmt.) activity refers to landowners, who self-identify as engaging in forest management

numbers in parentheses refer to the relevant Q statement. Statements marked with an asterisk (*) are significantly different from in the other typologies at $\alpha = 0.05$ level. Some landowners did not load significantly for any of the three typologies.

Typology 1: Family Forest Manager

The Family Forest Manager is best defined by the importance of forestland ownership to their personal identity (#15*) and family history (#11, #13*). Indeed, for the Family Forest Manager, family and identity are what motivate management and investment (#7). The high rate of land inheritance for members of the typology supports this idea. Family Forest Managers value the economic benefits of forest ownership (#2*) and consider forests to be a good source of present (#4) and future income (#5*, #14), which may be strongly related to their large forest acreages. One landowner commented on their record sheet about the importance of income from hunting leases as well as timber sales. Still, family heritage is so important to the Family Forest Manager that they explicitly acknowledge considering the past when making management decisions (#1). However, they do not feel anchored in the past (#16) and do not expect future generations to follow exactly in their managerial footsteps (#17). What is important to the Family Forest Manager is passing on the land to future generations (#8), especially to those who are interested in future management (#10). One landowner typified the typology when they said: "Keeping land in the family is important, no matter what." Importantly, the Family Forest Manager is aware of the potential difficulties of family forest ownership (#3*, #9) and do not wish to burden future generations with forestland (#18*). Still, in the eyes of the Family Forest Manager, the potential downside is minimal, and they consider forestland an important legacy. As one landowner said: "[Forestland] is a blessing, not a burden." The Family Forest Manager is motivated by family history and personal connection to their forestland to manage their forest as an economic investment and a legacy for future generations.

Typology 2: Family Forest Investor

For the Family Forest Investor, family forest ownership is an investment more than an identity (#7*), and Family Forest Investors are very optimistic about the present (#4) and future (#5*) economic benefits of forest ownership. Said one landowner: "Other things could be a better investment, but I don't want to [invest in anything else]." Indeed, the Family Forest Investor does not consider forest ownership an important part of their heritage (#13) or personal identity (#11, #15), although one landowner said: "[Forest ownership] has grown on me over time." Another said: "I like [forest ownership], but it's not ME." Furthermore, the past and future connections to it are unimportant to the future-oriented Family Forest Investor (#1, #12, #16). While the Family Forest Investor is future-oriented in terms of economics, they place less value on passing their forestland on to future generations compared to other typologies. Like with African American Family Forest Investors, low rates of management activity may suggest Family Forest Investors consider the land itself an investment, with timber as a bonus. One landowner typified the indifference of this typology to legacy, saying: "The next generation can manage it, or they can sell it." Interestingly, despite the Family Forest Investors relative disinterest in leaving the land as a legacy, they do not foresee any difficulty of forest ownership (#3*). This apparent paradox is resolved after considering that the Family Forest Investor only considers passing on land to heirs who express interest in managing it (#10, #17) to avoid saddling future generations with forestland they do not want. The Family Forest Investor sees a lot of economic benefit in owning forestland and would consider passing it on to future generations, but only to someone who expressed interest.

Typology 3: Family Forest Skeptic

The Family Forest Skeptic is differentiated from the other typologies primarily by their strong agreement that family forest ownership is a source of difficulty (#3*, #9*). The Family Forest Skeptic does not consider their forestland important to their identity (#13, #15) or family heritage (#11*), and they reject the notion that the past influences their management decisions, for good or ill (#1*, #12, #16). The Family Forest Skeptic also does not consider it an economic asset (#2, #7). In fact, their other defining feature is their skepticism toward the income (#4*, #14) or investment potential of their forestland (#5*), perhaps because they tend to own relatively small forest acreages. Despite their outlook, Family Forest Skeptics feel strongly about passing their land on to the next generation (#8). The caveat to that is that since they perceive the limited economic value and the potential for problems in forestland ownership, the Family Forest Skeptic is primarily interested in passing on land to an interested heir (#10*). Otherwise, they fear the gift will be a burden (*18). The Family Forest Skeptic sees little economic value in their forestland and instead considers it a potential problem. While they have no strong interest in retaining their forestland and no qualms about selling it, they generally express openness to passing on their land to an heir who expresses active interest in it.

Differences

The African American and White Family Forest Managers are very similar in most ways. The most important difference is the positional swapping of statements #12 (the struggle of past generations motivates me) and #15 (forestland is part of my identity). For the African American Family Forest Manager, statement #12 is significant and positive, while statement #15 is neutral. The opposite is true for the White Family Forest Manager, implying that while African American family forest landowners are motivated by cultural and racial heritage, White family forest landowners' motivation comes from more personal connections to their forestland. The African American and White Family Forest Investors are also very similar, with two key differences. African American Family Forest Investors are much more optimistic about the economic potential of forest management specifically (#6), and they are less invested in passing their land on to the next generation (#8). Indeed, of all the typologies, only African American Family Forest Investors disagree that they would like to pass on their forestland to future generations. Both the Family Forest Steward and Family Forest Skeptic are pessimistic about the economic potential of their forestland. However, while the Family Forest Steward is defined by intergenerational connections, the Family Forest Skeptic emphasizes the difficulties, problems, and uncertainty of their forestland legacy.

Discussion

Ample literature exist on family forest landowner typologies (Urquhart et al. 2012; Blanco et al. 2015; Silver et al. 2015; Ficko et al. 2017). Generally, published typologies emphasize management activities and behaviors (Blanco et al. 2015; Silver et al. 2015). They tend to follow the Production, Consumption, Protection framework outline by Urquhart and Courtney (2011), a framework that excludes questions of legacy and intergenerational connections. Similarly, the themes or problems explored in family forest landowner typologies are questions of production or policy (Ficko et al. 2017), and legacy appears to be a novel theme to the research related with family forest landowner typologies. However, despite never appearing as defined typologies, the six typologies presented here all align with what might have been expected based on the literature.

Both the African American and White Family Forest Managers had large acreages and high educational attainment, and the literature suggests that they should be engaged in forest management (Floress et al. 2018). Family Forest Managers of both races were also the youngest typology for both races, and the literature suggests younger family forest owners are more likely to engage in forest management (Silver et al. 2015; Floress et al. 2018). African American Family Forest Managers already displayed the characteristics that they considered important, having family land and practicing forest management. This is important, as past behavior is a significant predictor of future forest management (Floress et al. 2018). Among African American Family Forest Managers, almost half had heirs' property issues. This may not be as substantial a barrier to legacy or forest management as the literature implies

(Barlow and Bailey 2017), as research suggests that for some African Americans heirs' property is a mechanism to ensure a legacy (Dyer and Bailey 2008; Hitchner et al. 2017) and empirical evidence demonstrates heirs' property issues have no significant effect on forest management activity (Goyke et al. 2019b). No African American Family Forest Managers were absentee owners, which makes sense, as the literature suggests absentee ownership has a negative effect on management (Silver et al. 2015). On the other hand, White Family Forest Managers had high rates of absenteeism, which some studies have found to be irrelevant (Floress et al. 2018), especially considering that White Family Forest Managers have substantially larger than average forest properties (Butler et al. 2016). It is worth noting the large gender disparity between the African American and White Family Forest Managers. While some scholarship suggests male and female landowners behave (and perhaps think) differently (Schelhas et al. 2012), other recent work suggests that for many forest management behaviors gender does not have a significant effect (Butler et al. 2018; Floress et al. 2018).

Like Family Forest Managers, African American and White Family Forest Investors share some characteristics: lower educational attainment, and no recent management activity. The effect of education on forest management is mixed in the literature (Silver et al. 2015; Floress et al. 2018), and past behavior is generally a significant predictor of future forest management behavior. However, there may be an even more important factor as Family Forest Investors of both races had the highest share of farmers among their number. While farm owning family forest landowners tend to be older and have larger properties than non-farmers (Huff et al. 2019), there is no consensus in the literature of the effect of being a farmer on forest management (Silver et al. 2015), but the attitudes described by the Family Forest Investor fit the behaviors described elsewhere in the literature (Silver et al. 2015; Goyke et al. 2019a) of farmers who retain forestland to diversify their agricultural holdings.

Three characteristics differentiate Family Forest Stewards from Family Forest Managers, two of which may help explain why Family Forest Stewards consider intergenerational connections important, but not economics. First, Family Forest Stewards are older, and older family forest owners are significantly less likely to engage in forest management (Silver et al. 2015; Floress et al. 2018). Second, Family Forest Stewards generally have small (< 50 ac) tracts, which are usually considered non-operationally sized. Additionally, Family Forest Stewards have the lowest rate of family land among African Americans. Their motivation to keep the land may outweigh all other objectives because rather than being motivated by the difficulty previous generations had in obtaining the land, they are motivated by their own acquisition experience and the desire to establish a legacy. Despite their claimed disinterest in economics, Family Forest Stewards practice the highest rate of forest management of any typology. This fits with the literature; for African Americans, legacy goals, and not management goals, had a significant effect on management activity (Goyke et al. 2019b).

The Family Forest Skeptic is substantially different from all other typologies. Perhaps the best explanation for the differences can be traced to the high percentage of female landowners in the typology. As previously stated, there is evidence to suggest male and female landowners are not significantly different in many respects.

However, there is literature that also suggest the views expressed by the Family Forest Skeptic align with a particular group of women, forest owning widows (Schelhas et al. 2012). The characteristics of the Family Forest Skeptic, predominantly female, advanced age, the prevalence of family land are all characteristics we might expect of a widowed (or widower) forest landowner. One landowner even indicated her land belonged to her husband's family, not her own. We consider identifying this typology invaluable, because it sheds light on the complexity of the often monolithic concept of family land, and we hope that it will encourage researchers to consider the question of the definition of family as such in the future research.

When discussing the Family Forest Steward and Family Forest Skeptic, it is important to reiterate several important points about Q. First, identified typologies do exist, but it does not mean that unidentified typologies do not exist. Therefore, it is possible that there are African American Family Forest Skeptics and White Family Forest Stewards, but we cannot say definitively one way or the other. We suspected that we would identify something along the lines of the Family Forest Steward typology, as the theme of land retention and family land retention is prevalent in the literature (Gilbert et al. 2002; Gordon et al. 2013; Hitchner et al. 2017). As for the Family Forest Skeptic, we can only speculate as to why we did not find something similar among African American family forest landowners. It may be we simply missed them or missed them in a critical mass in our sample. It may be intergenerational or familial connections are stronger or that both partners bringing land into the marriage are more prevalent among African Americans, something we witnessed anecdotally, and that the distinction about whose family the land belonged to blurs.

Conclusion

The literature make it clear that legacy and intergeneration connections are important to many family forest landowners. This research shows those ideas are not as monolithic as typically presented. It also shows that despite the differences in the historical and contemporary circumstances, differences that have resulted in unequal land holdings, clouded title, and technical deficiencies for African Americans, both races have similar views when it comes to intergenerational connections and legacy. Yet there are differences, and they seem to relate to African American's struggle to obtain land. For African American Family Forest Managers, the struggle of all African Americans was a significant motivator to keep their forestland in the family. For African American Family Forest Investors, forest ownership seems to be such a struggle that they have no desire to burden the next generation with it. Family Forest Stewards experiences with family and personal struggles to obtain forestland seem to motivate them to keep land in the family at all costs. In contrast, the absence of those struggles for Family Forest Skeptic may play a role in their devaluing forestland ownership.

From an applicability perspective, the key takeaway from this research is that forest management professionals must be aware of the complexity in the idea of legacy. Not only is it essential to recognize the diversity of legacy outlooks, it is also

important to be aware of the differences between ideas of African American and White family forest landowners and to understand that while the motivations of a Family Forest Steward may be economically irrational, but they are also perfectly logical in the context of personal and family experiences. Finally, it is essential that forestry professionals keep in mind that while management plans and goals are useful tools, legacy may be the strongest driver of forest management activity.

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Author's Contribution NG collected and analyzed the data and wrote the paper. PD conceptualized the idea, wrote the paper, and supervised the research.

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Compliance with Ethical Standards

Conflict of interest The authors of this manuscript declare that they have no competing interests between the work presented in this manuscript and any other work in which they are engaged.

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