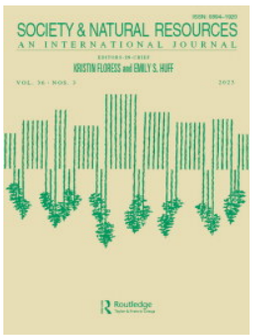

Routledge
Taylor & Francis Group

Society & Natural Resources
An International Journal

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/usnr20

Women on the Land: Perspectives on Women-Owned Forest Land in the Eastern United States

Olivia Lukacic, Paul Catanzaro, Emily S. Huff & Katri Hamunen

To cite this article: Olivia Lukacic, Paul Catanzaro, Emily S. Huff & Katri Hamunen (2023) Women on the Land: Perspectives on Women-Owned Forest Land in the Eastern United States, Society & Natural Resources, 36:3, 288-305, DOI: 10.1080/08941920.2022.2161682

To link to this article: https://doi.org/10.1080/08941920.2022.2161682

SOCIETY & NATURAL RESOURCES
2023, VOL. 36, NO. 3, 288–305
https://doi.org/10.1080/08941920.2022.2161682

Routledge
Taylor & Francis Group

Women on the Land: Perspectives on Women-Owned Forest Land in the Eastern United States

Olivia Lukacic[a], Paul Catanzaro[a], Emily S. Huff[b], and Katri Hamunen[c,d]

[a]Department of Environmental Conservation, University of Massachusetts Amherst, Amherst, MA, USA; [b]Department of Forestry, Michigan State University, East Lansing, MI, USA; [c]Department of Bioeconomy and Environment, Natural Resources Institute Finland, Joensuu, Yliopistokatu, Finland; [d]Stora Enso Oyj, Keskuskatu, Kontiolahti, Finland

ABSTRACT

Women represent a growing segment of the family forest owner population in the United States. This article seeks to identify how women in the eastern U.S. navigate forest land management. Inductive coding led to the development of five prominent themes: connections to the land, stewardship ethic, personal challenges, connections to others, and educational/programmatic challenges. Our research suggests that women have a strong connection to their land with diverse interests and objectives. Their stories challenge the current definition of engaged landowners and represent a need for programs and policies that support passive and more holistic active stewardship options.

ARTICLE HISTORY
Received 20 December 2021
Accepted 7 December 2022

KEYWORDS
Family forest owners; forest ownership; private forestlands; semi-structured interviews; stewardship; women

Introduction

Forests in the United States are divided between public and private ownership, with private family forest owners owning the plurality. This group includes individuals, families, trusts, and estates that own forestland and excludes large private corporations. In total, there are 9.6 million family forest owners (FFOs) in the U.S. with at least one acre of forestland, summing to 272 million acres (Butler et al. 2020). In the eastern U.S., FFOs collectively manage 51.6% of the forests (Butler et al. 2020). Forests provide many ecosystem services, including clean air, clean water, carbon storage and sequestration, biodiversity protection, and forest products. Forests also promote physical and emotional well-being and allow for spiritual and recreational spaces for communities (Daniel et al. 2012). Considering the important public and private benefits derived from their forests, FFOs are essential to provisioning services across the mosaic of landscape ownerships.

Data from the 2018 National Woodland Owner Survey (NWOS) show that women account for 24% of primary individual FFOs, up from 22% in 2013 and 11% in 2006 (Butler et al. 2020; Butler et al. 2016). Additionally, in 2013 women were the secondary owners in 83% of co-ownerships (Butler et al. 2016). The number of female landowners is anticipated to increase in the coming years as women tend to outlive men (Thornton 2019) and therefore inherit land from their husbands later in their lives and transition

CONTACT Olivia Lukacic olukacic@thetrustees.org University of Massachusetts – Amherst, Amherst, MA USA.

from co-owners to the primary owner (Butler et al. 2016). NWOS data provides gender-specific breakdowns of individual and joint ownership, but the complex dynamics of land ownership means decision making and planning often extends well beyond just the primary owner(s) to include children, siblings, and the owner's social network, many of which may also be women. At least 60% of the management and decision making for FFOs in the eastern U.S. involves women (Butler et al. 2020). Therefore, it is crucial for women to steward their forests confidently according to their interests and have accessible resources available to support the process of protecting the public benefits of FFO land.

Forest management has historically been male-dominated (both the profession and through land ownership), and women landowners have often felt they do not have the skills or knowledge to fully and confidently engage in it (Huff 2017; Markowski-Lindsay et al. 2020; Hamunen et al. 2020). The long-term influence of masculine identities being the dominant role in forestry and forest ownership are deep-set cultural norms that are difficult to overcome with minor system changes (Coutinho-Sledge 2015). Land ownership is situated in a system of power, which for U.S. European settlers were historically patriarchal; land transfer was often patrilineal (Gruber and Szołtysek 2016). Owning land confers power to the primary decision-maker with implications for ecosystem services and the health/wellbeing of rural communities. Although the NWOS collects data on gender, only a few iterations collect information on both a primary and secondary decision-maker. State-wide or local surveys typically capture the gender of the person taking the survey (Floress et al. 2019) but are rarely able to disentangle complex partner-based decisions. Therefore, there is potential under-reporting of female forest landowner perspectives captured in these surveys, which are used to improve or legitimize landowner outreach and assistance programming.

Although there have only been a few studies that explore forestry as a "gendered landscape," we can learn from agricultural landowner literature that has explored this concept. Women have been excluded from outreach programs and policy-making processes (Wells and Eells 2011) often due to sexist attitudes and behaviors. Mounting evidence from professionals in the Women Owning Woodlands Network suggests that the timing of events may hinder participation in outreach programs and that male owners are often listed first (or exclusively) on property documents and thus are contacted for input and/or participation in programs and policy-making advocacy work, further centering male landowners. Gender has been a meaningful differentiating demographic characteristic because women's on-farm contributions are often "devalued" (Salamon and Keim 1979; Wells and Eells 2011). Carter (2019) found that women are reluctant to self-identify as a decision-maker and thus continue to be devalued despite contributing to on-farm labor and bringing meaningful experience and expertise, either as a partner or as a non-operating landowner.

Identifying the priorities of female FFOs and how to effectively engage them has increasingly been the focus of research and outreach in the U.S. in the past decade. Prior research concludes that women have greater concern for environmental issues (e.g., climate change) than their male counterparts (Markowski-Lindsay et al. 2020; McCright 2010). Additionally, women prioritize ownership for scenic beauty and protecting biodiversity and natural resources such as wildlife and water. In contrast to

men, women are less likely to use their land for hunting, privacy, and recreation and are less likely to have participated in timber management or government incentive programs (Markowski-Lindsay et al. 2020; Robillard et al. 2019).

The dominance of private ownership in the eastern U.S. is consistent with ownership patterns in Finland, Norway, and Sweden, yet there are differences in ownership objectives (Leppanen 2010; Haugen, Karlsson, and Westin 2016; Karppinen, Hänninen, and Horne 2020). Additionally, in northern Europe, the share of women forest owners is even higher than in the U.S. (Finland 41%, Europe 30% [Follo et al. 2017; Karppinen, Hänninen, and Horne 2020]). European women, regardless of nationality, tend to have a more diverse set of priorities than their male counterparts. According to a recent study of Swedish forest owners, women are almost equally interested in timber production as men; however, they are more interested in ecological, social, and recreational values in addition to timber (Umaerus, Högvall Nordin, and Lidestav 2019). Although there is a strong interest, Swedish women harvest less and conduct less silvicultural work (Häggqvist, Berg Lejon, and Lidestav 2014; Lidestav and Berg Lejon 2013; Lidestav and Nordfjell 2005). Similarly, in Finland, women highly value the recreational benefits of their woodlands and do not sell timber as often as men (Karppinen, Hänninen, and Horne 2020). They are less satisfied with the current forest management practices (Kumela and Hanninen 2013), and they value conservation and esthetics more than men (Häyrinen et al. 2015). For women whose families have earned their livelihood from timber sales, timber production-oriented forestry and silvicultural methods producing good timber are the main priorities of their forest ownership (Hamunen et al. 2020).

In the U.S., women are less likely than men to have received advice about their land from a forestry professional; if women have received information about how to interact with their land, it was likely to come from a friend or peer (Butler et al. 2018). Natural resource professionals have observed that women often do not feel comfortable seeking out information in typically male-dominated woodland owner programming (Huff 2017). Female-oriented woodland owner programming in the U.S. was developed in response to the need for engaged female landowners who faced barriers in traditional woodland owner programs. Women Owning Woodland Networks (WOWNets) exist at national, state, and local chapter levels (Dellorto-Blackwell and Hollins 2019). Programming typically involves a relaxed setting where women meet with a professional and have a round table discussion followed by a visit to a woman's forest property. This environment allows the group to become comfortable with one another and confident to ask questions they might otherwise shy away from in male-dominated groups (Huff 2017). Interactive sessions of this variety facilitate adult learning and foster greater levels of engagement (Kueper, Sagor, and Becker 2013). In Sweden, female landowner groups have grown in popularity and geographic spread. A study on these groups' strategy and function found that gendered spaces could expand discursive space and empower its members (Andersson and Lidestav 2016). Whether they embody a more masculine or feminine identity, gendered spaces and communication can support women's identities in forestry (Laszlo Ambjörnsson 2021). Additionally, a recent Finnish study explained that women are information seekers even when feeling less confident in their knowledge (Hamunen et al. 2020).

Despite the success of female-only programming, outreach events from WOWNets and other conservation organizations still experience challenges with recruitment and low attendance (Huff 2017). There is still much to be learned about how women make decisions regarding their land and what information they need to make those decisions. There is minimal understanding of the detailed priorities and challenges female woodland owners face in managing their woodlands. Redmore and Tynon (2011) focused a qualitative study on Oregon's WOWNet to identify women's roles and goals for forest management, but no comparative work exists for the eastern U.S. Additionally, the vast majority of the extension and outreach to landowners targets individuals pursuing active forestry management of larger properties, which ignores many of the female landowners who often inherit their land (Butler et al. 2018), take a passive approach, or own acreage too small to qualify for state and federal programs.

Our primary research objective is to identify how women FFOs navigate land ownership based on their interests, priorities, and unique set of challenges. Using semi-structured interviews of female landowners, we aim to provide a current and nuanced understanding of female landowners in the eastern U.S. and how professionals have reached them or failed to do so. Our research objective is explored through an inductive analysis identifying the following key themes emergent from the landowners' interviews: connection to the land, stewardship ethic, personal challenges, connections to others, and educational/programmatic challenges.

Methods

Study Area and Design

The study focused on a 20-state region identified as the Eastern Region (R9) by the United States Forest Service. This study region is the same geographic area as three established WOWNet regions and is classified as the northern region for NWOS. The geographic area was chosen for consistency in research methodology (such as NWOS) and regional grouping from the Forest Service. Over 40% of the U.S. population lives within this area, yet it is densely forested. The landscape has been historically logged and converted for agricultural land use. FFOs are the dominant ownership group, and forest types and owner demographics are similar throughout the region (Butler et al. 2020).

To elicit stories and experiences of female landowners in the eastern U.S., we chose a qualitative methodology that enabled a more in-depth understanding of the complexity of woodland ownership. Over four months in 2020, 23 female landowners were interviewed (Figure 1).

The purpose of conducting semi-structured interviews with female landowners was to gain a deeper understanding of the experience of female landowners, particularly their goals, challenges, and information sources. Sampling and interviews were designed to capture a range of demographics, ownership interests and intentions, ownership actions, and resource gaps for women in our study area and were derived from previous research and our objectives. The intent was not to compare women and men but to focus on the experiences and stories of women alone.

Figure 1. Eastern region of the United States and the distribution of the 23 interviewees.

Data Collection

Recruiting women for interviews followed a purposive and snowball sampling scheme (Tracy 2013) to pursue identity attributes and geographic distribution. Open access lists of public foresters, private foresters, and WOWNet regional contacts were the first point of communication. Per our Internal Review Board (IRB) protocol, the landowners were not contacted directly but through a professional or organization. Various networks were used to reach additional women across the region, including woodland owner groups, university Extensions, and online platforms.

A short screening over the phone or via email provided more information about the project and allowed the research team to assess the qualification of women landowners who expressed interest. Covid-19 prevented in-person interviews, instead, women were interviewed over Zoom. The semi-structured format of the interviews allowed the women to respond to the questions or topics that were the most meaningful to them and their situation. The interviews ranged from 17 to 84 minutes, with an average length of 46 minutes. Participants were asked a series of questions following the interview guide and follow-up questions were asked when appropriate. We continued to interview women following this methodology and select participants who reflected a pre-conceived range of landowner characteristics (Table 1) driven from NWOS and WOWNet data. Although the interview guide did not ask specific demographic questions, the women interviewed were all White, generally middle-aged to older, and well-educated. These characteristics align with survey results from NWOS

Table 1. Demographic characteristics of female landowners interviewed.

	Number ($n = 23$)	Percent (%)
Region		
Great Lakes	6	26
Mid-Atlantic	5	22
Northeast	12	52
Land acquisition		
Purchase	12	52
Inherit	10	44
Purchase + Inherit	1	4
Ownership type		
Primary	7	30
Co-owner	13	57
LLC	3	13
Property size		
1–9 aces	1	4
10–19 acres	1	4
20–49 acres	8	35
50–99 acres	5	22
100–199 acres	4	17
200–499 acres	2	9
1000–4999 acres	2	9

(Butler et al. 2020). It is important to note that the interviewer for this study was also a woman.

Data Analysis

Once an interview concluded, the transcript produced by Zoom was verified by listening to the audio recording and correcting transcription errors. Each transcript was coded using NVivo, which allows for comparison and analysis. While the interview guide was established by reviewing the current literature, themes were developed through rounds of inductive coding. In developing codes, a few transcripts were randomly selected for the research team to work on individually and then met to discuss emerging themes, how the data overlapped, and where further discussion was needed. After the first round, codes were further refined, and initial themes were established. The second round of inductive coding aimed to capture the variation found in the diversity of stories (Kuper, Reeves, and Levinson 2008). Qualitative content analysis was central to distilling the high volume of data to desired information by "systematically and objectively specific characteristics" (Reis and Judd 2000). Beyond the two coders, a third coder was introduced to do an inter-rater reliability (IRR) score. This initial testing provided an IRR kappa score of 0.493. Following a comparison of differencing in coding, a consensus around the mechanics of coding allowed for higher inter-rater reliability. For the usability of the data in this paper, each interviewee was randomly assigned a number to protect their identity while allowing their own words to tell their story.

Results

The landowners interviewed for this study provided a range of stories, experiences, and emotions about the intersection between their lives and their land. It is important to note that many of the landowners interviewed may not be the "average" female

woodland owner. By nature of our methodology in finding women who were part of landowner groups or in contact with professionals, the group is skewed to above average in engagement.

This study identified five prominent themes from the data. Table 2 outlines the connection between themes and some of the interview questions. Many of the interview questions aligned with multiple themes based on the storytelling of the interviewees.

Connections to the Land

All the women in the study expressed some level of emotional connection to their land. Furthermore, emotion and love for the land were often driving factors in the dedication of time and resources to their properties. Those who inherited land from their families or spouses felt connected to memories and had a sense of pride, resulting in wanting to care for the land for the legacy of their loved ones.

Respondents who purchased their land also felt connected to and responsible for their land. LO2 shared her emotional response to fulfilling a dream to have her own land: "The first time I stood on this ridge where my house is and looked down at the river, I just had peace come over me. I felt total contentment and peace. I said this is where I'm supposed to be, and I have never looked back since. I love it out here. Just love it." The connection to their properties can last for years, as described by LO8: "Many times, when I'm walking through the woods, I'm just overcome with 'I can't believe this is our land' … But to know that this is our property, it's awe-inspiring, and there's respect that we have for it."

In inquiring about their priorities for the land, it was clear that many of the interviewees cared more about the enjoyment of their woods than what they could extract in

Table 2. Relationship of interview questions and associated prominent themes derived from coding.

Prominent theme	Example interview questions
Connection to the land	• What do you like most about your woodland? • What are your future goals for your woodland?
Stewardship ethic	• What do you enjoy about owning your woodland? • What do you envision happening to your land after you are no longer the owner? • What decisions about your land have you made in the past 5 years? 10 years? • What concerns do you have for your land?
Personal challenges	• Was there ever a time you did not feel comfortable seeking out information about your woodland and how to manage it? • What do you find challenging about owning your woodland?
Connections to others	• What resources have helped you make decisions about your land? These could include talking to a professional, attending a workshop or event, talking with family and friends, websites, etc.? • What do you find challenging about owning your woodland?
Educational/Programmatic challenges	• How have you found these resources in the past? Through friends, family, natural resource professionals, neighbors, etc.? • How do you like to receive information or advice about your land?

a monetized way. As LO6 described, "when my husband died, my first husband, we got some insurance money. I decided that the way I wanted to spend it was to create some open space in the town where we lived and that we love … We bought it to protect it from development, to encourage wildlife in the area because it has a variety of habitats that are very appealing to wildlife, and to protect water quality on the lake." This sentiment was especially true for women interviewed who lived on their property or visited frequently.

Privacy was not one of the highest priorities for the respondents owning land, but some keep access limited to their families and close friends. However, for about one-third of the women interviewed, there was a strong focus on access to their properties for the benefit of the public. One woman maintains a Facebook page for wildlife photographs and events on her property and collaborates with conservation groups to host field visits. Two women have trail easements to allow the public to use trails and recreate on their lands. About half of the women were highly involved with their state's landowner association and would host woods walks and site visits for members and coordinate school field trips. A few properties were involved with local colleges and universities and allowed access for classes and students to do fieldwork and projects on-site. A couple of the women were highly interested in hosting these types of community outreach on their properties but had yet to do so. These examples allow individuals beyond the landowner to establish a connection to the land.

Stewardship Ethic

The connection that developed from a relationship with the land was expressed in their goals and, ultimately, a strong stewardship ethic. In teasing apart the spark for their stewardship ethic, several women felt it derived from a family member such as a parent, but for the remaining interviewees, it was hard to identify where it came from. Those who shared the ownership responsibilities saw their identities as women and stewards as beneficial. LO9 owns her land with her husband but shared, "it's just a good thing to have women in the picture because it is a conversation that has to happen between the partners or among partners. It is a partnership. It is not just men or women; it is all of us in partnership to be good stewards." This landowner and others felt their perspectives and stewardship were helpful in the long-term care of the land.

When asked about their goals for their property, some respondents were unsure how to answer. The women interviewed often had a sense of responsibility but needed guidance to turn those thoughts and feelings into concrete goals. LO21 had owned her property for just over a year and was in the process of articulating her goals: "I mean, aside from just cleaning up the property, I don't know if I have these grand visions. My ultimate goal is to make sure that this never gets developed. I want to see it protected somehow. So, it's not like I have plans to sell it. I'm very much committed to living here."

It was clear that the women interviewed desired to protect and nurture the land to help it reach its full ecological potential within their unique physical, time, knowledge, and monetary constraints. The respondents were often driven by a love of the natural world and an internal drive to steward and take care of the land in all the ways they

could. This was frequently a rewarding process for them, as illustrated by LO2: "I feel that I'm supposed to be here, and I have a responsibility to take care of these woods, to improve them, to make them more habitable for the animals." LO3 described shifting the land to a conservation focus: "Our mission or goal is to allow [the land] to come back naturally, put it more in a conservation state as opposed to farming on it. So, we have areas where we're going to do pollinators in the back pasture."

The respondents were not all at the same place in their stewardship. Due to our sampling scheme, the majority of women interviewed were highly involved with their properties; of the remainder, a few wanted to be, and several were just starting to think about their land. However, their stewardship ethic often helped shape their goals and plans for their properties, as described by LO13: "one of the fun parts about owning your own property is making the decisions, even though it's hard … the whole idea of being sustainable and environmentally conscious and stuff, and when you have your own land, you're able to make those choices, and you can. It's fun to be able to shape something and watch it grow and morph."

Drawing upon their stewardship ethic, some respondents could articulate how their feelings of responsibility led them to certain stewardship activities. Actively or passively managing their land furthered their own sense of pride and empowerment: "well, what I like most is fundamentally just the idea that I have a piece of land here … And so the idea that by protecting this, I can make a difference on several levels. And so, the whole idea of having something that's more sustainable—just rejuvenating this land that we've so devastated. That's really it; it's just my tiny contribution to somehow or other, saving the Earth from us (LO5)." And for LO12, she saw her stewardship as a gift, both for herself and what she could do for the world: "I like the beauty and the calmness. I can envision looking, you know, sitting on the front porch of the house site, looking out over the fields and the forest and seeing the native grasses, the wildflowers, and knowing that the forest is now in good shape … Because it provides me with an opportunity to give back or to help in a way that I think is important and in a way that not everybody has."

Their stewardship ethic also led to close observation and concerns about the current and future status of their land. At least one-third of the landowners directly spoke to climate change as a challenge. Their concerns ranged from droughts, biodiversity loss, increased windstorms, pests and pathogens, and invasive species. The majority were particularly concerned about invasive plants on their properties, as told by LO6: "I'm concerned with invasive control. It's just so difficult, so challenging. My husband was just like, forget it. You can never get this under control, and I disagree. I think with persistence and a combination of management methods, you can really open things up for native species."

Many quotes capture the respondent's understanding of themselves and their land as part of a more extensive system and their role as climate advocates and stewards. LO4 from Maryland has started to tease apart the relationship between climate and invasives on her own property: "One of my biggest concerns is climate change. This last winter was very mild. We never had a single snow. And then, in the spring, we had bedstraw and chickweed that invaded the entire forest floor. Those plants are typically found in disturbed areas, but instead, they just took over the forest interior in a horrible way.

I don't know if that's going to be something that we're going to continue to see from here on out, but it's related to climate change." In New York, LO8 is dealing with the struggles of increased storm systems: "What concerns us, and it may sound silly, is it seems as though in the last five years we started to notice these big wind events, loss of beautiful mature trees and they would be timber trees or parent trees or grandparent trees, some of them are so large. And there's really nothing that we can do because it's a windstorm." Understanding stewardship challenges was both a point of stress and inspiration.

Personal Challenges

Knowledge and physical ability to pursue stewardship projects were important to many of the landowners to accomplish their goals. Of the 23 women interviewed, only one said she felt uncomfortable asking for help or advice about their land. There was a strong sense of curiosity, but many of the women did not have training or experience in making decisions about their forests. They, therefore, could not clearly communicate about their land and those decisions.

The desire to do what was best for their land was challenging for even the more informed and prepared women interviewed. There were a number of personal challenges related to age and ability, as well as confidence and general knowledge. LO5 described some hesitation in participating in a state-sponsored program: "The project I signed up for is supposed to be ten years. You can do 15, and I was told that at the end of the ten years, I could extend to 15 if I want, and I probably will do that. But the reason I went with ten is that I'm 67 years old. So, when I started this, I thought, well, you know, don't get too enthusiastic about the long-term commitments you make." This was her first time pursuing active stewardship after owning the land for several years.

Some landowners did the majority of their work without hiring outside help, either for financial reasons or because they enjoyed the work. This includes invasive plant control, clearing trails and roads, and in some cases, selective harvesting and thinning. However, there was also the recognition of the time that stewardship takes and the physical effort needed. The women interviewed engaged in active management expressed concern about not knowing how to use equipment or not feeling strong enough to use it. LO4 shared: "I am not strong enough to turn on a weed whacker, and my husband does not live here anymore. And we're getting a divorce soon. I'm trying to figure out how I'm going to handle a weed whacker. And also, I need to learn how to use a chainsaw. So, using equipment, those are the things I'm going to need to address. I would like to be able to learn how to do them on my own instead of relying on hiring someone else." As a newer landowner, she felt unsure of her abilities to meet her perceived view of the skills she needed.

Even landowners who grew up on their properties found they were often not ready to manage the land independently. LO12 was raised on the property she inherited but still felt like she had a lot to learn when she took over as the primary owner: "I'm not shy about asking questions. So, the research began. I did a lot of reading, asking questions, and learning all the lingo because I did not really work with my dad on the farm.

We didn't talk much, you know, farm business, it's kind of like, when you're around, you kind of pick it up, you kind of know what's going on. But you don't know the details."

Another challenge for new and seasoned landowners alike was finding the appropriate resources to steward their properties confidently. When asked how they like to receive information about their land, the respondents listed anything from the internet, asking questions over email, and attending outreach events and conferences. Having a variety of learning styles easily accessible gave them the most confidence. However, there was an overwhelming amount of information, resources, and acronyms women faced when they first began to steward their lands. In addition, there was conflicting information on how to be a responsible landowner and lots of red tape for the respondents on the less engaged side of the spectrum.

A confusing point for several landowners was what stewardship actions were the "best" or "healthiest" for their land. LO14 talked about a contradiction she felt from professionals and other written resources: "I remember when we had the area logged, I felt it was necessary for a healthy forest, and now I'm hearing talks on things like, oh, the old-growth forest is what needs to be preserved, and you know we're learning more about communication among trees and that kind of thing. And so, is logging good? Because it's sounding now like the thoughts are, that's not healthy for a forest." The landowners found themselves sifting through outreach materials and information about forestry work that were not region-specific or relevant to their situations. L018 owns less than 15 acres and found that the resources were not helpful for her scale: "I think there's so much information out there it's overwhelming, and some of it doesn't pertain; a lot of it doesn't pertain to where I am. It's a bigger picture. It's more acreage. And it's not very specific." This suit of personal challenges was sometimes intertwined with their challenge in connecting with others.

Connections to Others

Interviewees expressed the importance of networking and relationships in owning and making decisions about their properties. For many, there was a strong desire and interest in having a network to share information and experiences and help each other. LO13 shared: "It's hard sometimes. I mean, I enjoy being out in the woods, but sometimes you get tired of doing it by yourself. So, I am trying to find people. I hope that networking, finding people that share your interests, joining the women's woodland and the Master Forest Owner's Program, and talking to neighbors and stuff some more will help." Connections to peers would allow for communicating locally relevant information with a closer relationship.

Some relationship challenges focused on needing support from the community and finding help to manage their woodlands. In addition, many of the women interviewed talked about the importance of their positive relationship with their forester and other interactions with natural resource professionals. Some programs bolstered landowners' confidence, as was the case for LO9: "I plugged into [*removed to protect anonymity*]'s Master Forest Owner program. And went and did the training. And with that, I was given a confidence level that I didn't have before. It opened my eyes to a very different

way of looking at a wood lot." Several other women interviewed described seeking out professionals that would take the time to listen to their interests and goals and provide information and other sources of connection.

Although not all respondents were so outgoing and confident, LO18 became emotional talking about her dreams for the property and her desire to have a network that she could learn from: "I think some of it's like, for me, I would be a little timid and shy at first. But it's a matter of putting yourself out there. And saying I need help, or can you help me with this, or women that have already developed their land into something and are able to help." Landowners who are plugged into these resources often have great success, but not everyone has found the necessary information.

In addition to the relationship challenges of finding a network and trustworthy professionals, several respondents described both positive and negative relationships among co-owners, family members, and neighbors. "Most people in my neighborhood probably own guns, and the guy next door who told me my cabin shouldn't be so close to the pond is extremely aggressive and intimidating. I'm five feet tall. I never act intimidated. But you know what I mean, like, who needs it (LO7)." Challenging dynamics between the landowners and others led to a range of emotions, including frustration, and often felt aligned with a more pervasive view of women in forestry.

Educational/Programmatic Challenges

Throughout the interviews, respondents expressed their experience with sexist attitudes toward women engaging in forest stewardship. Adverse experiences like these can be challenging and detrimental to landowners continuing to steward their lands.

The challenge of navigating an unfamiliar system with numerous rules and unknown terminology can decrease the likelihood of women's involvement in forestry. Many of the women interviewed did have management plans or hired a forester, but others felt excluded from the forestry world. One landowner expressed a challenge in finding a professional on the same page about how she wanted her land stewarded.

Another landowner (LO4) was highly active on her land and in her community, trying to get neighbors to think about their properties and invasive plants. She had gone to tree identification workshops, taken courses through university extension, and committed herself to a battle against invasive plants on her property. However, she would not even be considered a woodland owner in many circumstances since she owned less than 5 acres. "Unfortunately, I feel like I'm very much alone in this. I'm a volunteer, and I'm trying to do whatever I can to encourage my neighbors and others. I'm trying to foster an ethic of forest stewardship. First and foremost, there are very minimal publications out there that are geared toward small wood lot owners. Period. That has been a problem since the very beginning because that's what I was looking for."

Not having the resources landowners need and want is a problem, but half of the women interviewed also spoke to the struggle with the bureaucratic process and the lengthy and confusing amount of paperwork to get into programs or receive funding for projects. The women interviewed owned land throughout the study area and stewarded parcels between 1.5 and 400 acres in size. For LO12, she was concerned about signing an agreement and committing to a plan without having all of the information:

"I'm out of my element. But you know, I can read, and I can ask questions. I'm not shy about that, but it's what I don't know that's the problem. I guess if I have a concern, it's that I don't know enough, and so I could agree to something that could cause me either a legal or financial issue."

Another landowner with less acreage struggled to receive help from professionals and was frustrated with the town politics of land appraisal and tax burdens. For someone emotionally connected and very dedicated to her land, she had not successfully received help from programs or professionals. "I feel like I'm being talked to like I'm five. Like I don't know what I'm talking about, and that's because it's only 12 and a half acres, not 100 acres, so it doesn't matter. Yet I have 12 and a half acres that are diverse and can contribute to the environment in a way I think is important (LO18)."

Some of the women were able to navigate the current forestry programming and education systems. It often meant putting any shyness aside and fully committing themselves to learn new information. LO3 shares a particularly positive experience with a local professional: "They actually made me feel a little bit more comfortable asking, as I would say, my stupid questions. But they allow me to learn and seek out more information. *(Name redacted)* was a good resource as a district conservationist because he took my thoughts and said, here's what you can do, as opposed to coming on the land and saying, here's what you need to do."

Discussion

Women landowners are an important and growing segment of the FFO population. Their decisions significantly influence the eastern U.S. heavily forested and FFO-dominated landscapes (Butler et al. 2020). Gaining a better understanding of their goals, challenges, and needs enables natural resource professionals and policymakers to create effective programming and funding options. This study complements previous quantitative work by enriching our understanding of female FFOs and helps alleviate the potential misrepresentation that Floress et al. (2019) described.

The prominent themes of this study explore a range of women landowner's experiences. In conducting the 23 interviews across 14 states, we acknowledge that not all eastern region states were represented. However, the outlined approach was practical and appropriate given the similarities in ownership patterns and forest types. Therefore, we feel that our efforts successfully describe the region.

Our results show that women landowners have a strong emotional connection to the land, particularly those who acquire their land through inheritance. This connection is evident in their stewardship ethic. They described a desire to steward their land in a way that nurtured, restored, and improved the health of the land to help it reach its full potential. These findings support previous research demonstrating women's greater concern for environmental issues (McCright 2010) and prioritization of scenic beauty, biodiversity, and natural resources such as water and wildlife (Markowski-Lindsay et al. 2020; Robillard et al. 2019). Almost every respondent expressed wanting to do the "right thing" for their land, although they did not always know what that might look like. Unlike the traditional forest management paradigm where landowners identify their goals and manipulate forest composition and structure through silvicultural practices to

meet them, many of the respondents were interested in allowing the land to recover, grow and change in a way that was determined by the land itself. In other words, it was not human-based goals but the land and its processes that were the drivers.

Their stewardship ethic led to individual approaches to stewardship that fit their goals and their land. Respondents discussed several active stewardship actions, including controlling invasive plants to help improve forest health and resiliency, maintaining fields for pollinator habitat, developing trail networks, and altering forest structure for certain wildlife species. This parallels Umaerus, Högvall Nordin, and Lidestav (2019) findings in Sweden, where women landowners tend to have a more diverse set of goals. However, there was also the recognition of how much time stewardship takes and the physical effort needed that are often associated with masculine identities. A few respondents expressed not knowing how to use equipment or not feeling strong enough to use it. These findings support the popularity of all women's chainsaw training courses that WOWNets host across the country and that these events allow women to be more comfortable, as Huff (2017) suggests. Some of the stewardship approaches discussed fell outside the traditional forestry definitions of engaged landowners, which often emphasize timber management and harvesting. This lack of focus on forest ownership's economic benefits differs from women in northern Europe, as Hamunen et al. (2020) suggest.

Though many of the women we interviewed were engaged in active stewardship, others expressed interest in taking care of their land primarily through a passive approach, which allows the land to use its processes to restore and maintain itself. Passive stewardship has been called "benign neglect" in traditional forestry circles and is often discussed as a lost economic opportunity. USDA Farm Bill programs, which are the largest source of forest landowner incentives, are usually focused on the production of agricultural products (i.e., wood products). In turn, forestry professionals, outreach programs, and available funding often focus on wood production. This emphasis is likely discouraging for many women since they cannot see their interest of land self-actualization or preferred stewardship strategy represented in these programs. Women may prefer a passive approach at first, and as their knowledge and experience evolve, they may try active management practices, as was the case with several women interviewed. To fully support the goals of women landowners, programs and policies should consider revising the narrow definition of engagement to include a broader spectrum of stewardship activities, including a purposeful passive approach.

Respondents commonly thought about their land holistically and included woodlands, fields, orchards, ponds, and rivers in their goals rather than a singular focus on forests. Most of the women interviewed expressed eagerness to understand the connections between the components of their land and how they interact to achieve resilient landscapes. Educational programming focused on forest ecology, climate change, and invasives were all mentioned as being of interest. This supports the results of Miner et al. (2021) that female landowners need relevant programs catered specifically to them. More targeted outreach toward women is necessary for easy access to crucial information from their preferred sources to manage their land.

Women's connections to others (or lack thereof) can relate to stewardship challenges due to the role that relationships play in self-efficacy or perceived behavioral control.

Jugert et al. (2016) found that collective efficacy (and social identity) increases pro-environmental behavioral intention, which is consistent with a large body of research supporting the critical role of self-efficacy and perceived behavioral control in pro-environmental behavior (Chen 2015; De Leeuw et al. 2015). As past research has demonstrated, women prefer to receive information from peers, and interactive sessions foster adult learning (Butler et al. 2018; Kueper, Sagor, and Becker 2013). Our interviews support this work, as noted through their need for community and networks. Existing training models like Master Forest Owner/Coverts/Keystone use a service-dominant logic model to transfer knowledge from professionals to landowners and between landowners through peer-to-peer (Catanzaro and Hamunen 2019). Recruiting more women into these programs would likely amplify conservation impacts through their outreach work to peers.

As Hamunen et al. (2020) suggested, we found the women in this study to be information seekers, connecting with peers and professionals for their opinions and information about stewardship options. It is no wonder that instead of turning to forestry professionals who are often men, they seek out the information and experience of other women landowners who may share their values, speak their language, and don't make them feel uneasy. Respondents stated that communication with male counterparts could be difficult. One landowner even said that, at times, it could be intimidating. This may be due to a perceived lack of knowledge and experience and supports the lack of confidence found in previous studies (Markowski-Lindsay et al. 2020) and the larger problem of institutionalized sexism within land ownership. It may also stem from a clash of visions on how land should be managed, with women sometimes taking a different approach (e.g., passive management) than standard strategies and being made to feel that they must fit into a particular mold of stewardship that prioritizes economic benefits from the forest.

Other challenges may stem from the forestry profession itself, which lacks diversity and focuses almost exclusively on natural resources in its education. Diversifying the profession by increasing the representation of women would likely help by providing more opportunities for female landowners to work with female foresters. In addition, since so much of the U.S.' forests are family forests, particularly in the eastern U.S., forestry schools should consider adding more communication and interpersonal skills to their curriculum. If foresters cannot communicate effectively with those who own and make decisions about the land, their knowledge about natural resources is moot.

In one sense, women landowners are not vastly different from their male counterparts. But their curiosity and emotional connection to the land should be leveraged by professionals to interact with female landowners in a positive and productive manner. As with all landowners, there is no one-size-fits-all approach to how women can become interested and engaged with their properties. It would be unreasonable to expect to reach all women with one approach. However, understanding the perspectives female landowners bring to the discussion can benefit all landowners. Therefore, reaching more unengaged female landowners should be prioritized in future research to provide perspective from these landowners. Identifying unengaged landowners was a limitation of this study and could be remedied through more intensive recruitment. Further research on how professionals can reach unengaged female landowners is also warranted.

Conclusions

The majority of decision-making for FFOs in the eastern U.S. involves women. Gaining a better understanding of this important and growing landowner segment will help develop effective strategies to meet their goals and safeguard public benefits. The women interviewed demonstrated a strong emotional attachment to their land. Their stewardship goals may fall outside the traditional definition of engagement. We found a strong interest in helping their land be healthy and reach its full potential. Programs focusing on forest ecology, forest restoration, climate change, invasives, and forest health are likely to appeal to female landowners. Communicating with professionals in the heavily male-dominated forestry profession can be a challenge and even intimidating for many women. Increasing support for single-gender outreach efforts, which allow women to connect and share information, is an effective strategy. Their inclination to network and understanding of the community benefit of their land make them natural peer advocates. The lessons learned from female landowners provide an alternative to the standard approach to policies and programs for private landowners. The women interviewed share different perspectives on active and passive stewardship. It is important to note that these perceptions may change over their lifetimes, particularly as their abilities shift with age and career or family obligations take up more time. Pursuing a more welcoming setting focused on a broader array of passive and active stewardship could be beneficial to other minority landowners as well as landowners of all genders. In this way, by changing policies and programs, there is an opportunity to change the existing structure and paradigm of the forestry community from a male-dominated structure to one open to all.

Acknowledgments

The authors gratefully acknowledge the women who gave their time to share their stories and passion for the land. The authors would also like to recognize and thank the hard work of Skylar Roach from the University of Massachusetts and Erin Budzyn from Michigan State University for their assistance with the coding of the transcripts.

Funding

This material is based upon work supported by the National Institute of Food and Agriculture, U.S. Department of Agriculture, the Center for Agriculture, Food and the Environment, and the Environmental Conservation Department at University of Massachusetts Amherst, under project number MAS #32. The contents are solely the responsibility of the authors and do not necessarily represent the official views of the USDA or NIFA.

References

Andersson, E., and G. Lidestav. 2016. Creating alternative spaces and articulating needs: Challenging gendered notions of forestry and forest ownership through women's networks. *Forest Policy and Economics* 67:38–44. doi: 10.1016/j.forpol.2016.03.014.

Butler, B. J., S. M. Butler, J. Caputo, J. Dias, A. Robillard, and E. M. Sass. 2020. *Family forest ownerships of the United States, 2018: Results from the USDA Forest Service, National*

Woodland Owner Survey. Madison, WI: NRS-GTR-199, U.S. Department of Agriculture, Forest Service, Northern Research Station.

Butler, B. J., J. H. Hewes, B. J. Dickinson, K. Andrejczyk, S. M. Butler, and M. Markowski-Lindsay. 2016. Family forest ownerships of the United States, 2013: Findings from the USDA Forest Service's National Woodland Owner Survey. *Journal of Forestry* 114 (6):638–47. doi: 10.5849/jof.15-099.

Butler, S. M., E. Huff, S. A. Snyder, B. J. Butler, and M. Tyrrell. 2018. The role of gender in management behaviors on family forest lands in the United States. *Journal of Forestry* 116 (1): 32–40.

Carter, A. 2019. "We don't equal even just one man": Gender and social control in conservation adoption. *Society & Natural Resources* 32 (8):893–910. doi: 10.1080/08941920.2019.1584657.

Catanzaro, P., and K. Hamunen. 2019. Extension and education services: Applying service-dominant logic through peer-to-peer learning. In *Services in family forestry*, eds. T. Hujala, A. Toppinen, and B. J. Butler, 227–50. Cham: Springer.

Chen, M. F. 2015. Self-efficacy or collective efficacy within the cognitive theory of stress model: Which more effectively explains people's self-reported pro-environmental behavior? *Journal of Environmental Psychology* 42:66–75. doi: 10.1016/j.jenvp.2015.02.002.

Coutinho-Sledge. P. 2015. Feminized forestry: The promises and pitfalls of change in a masculine organization. *Gender, Work & Organization* 22 (4):375–89. doi: 10.1111/gwao.12098.

Daniel, T. C., A. Muhar, A. Arnberger, O. Aznar, J. W. Boyd, K. M. A. Chan, R. Costanza, T. Elmqvist, C. G. Flint, P. H. Gobster, et al. 2012. Contributions of cultural services to the ecosystem services agenda. *Proceedings of the National Academy of Sciences of the United States of America* 109 (23):8812–9. doi: 10.1073/pnas.1114773109.

De Leeuw, A., P. Valois, I. Ajzen, and P. Schmidt. 2015. Using the theory of planned behavior to identify key beliefs underlying pro-environmental behavior in high-school students: Implications for educational interventions. *Journal of Environmental Psychology* 42:128–38. doi: 10.1016/j.jenvp.2015.03.005.

Dellorto-Blackwell, C., and K. Hollins. 2019. Women own woodlands. It's up to us to engage them. *New England Society of American Foresters* 80 (3):8–9.

Floress, K., E. S. Huff, S. A. Snyder, A. Koshollek, S. Butler, and S. B. Allred. 2019. Factors associated with family forest owner actions: A vote count meta-analysis. *Landscape and Urban Planning* 188:19–29. doi: 10.1016/j.landurbplan.2018.08.024.

Follo, G., G. Lidestav, A. Ludvig, L. Vilkriste, T. Hujala, H. Karppinen, F. Didolot, and D. Mizaraite. 2017. Gender in European forest ownership and management: Reflections on women as 'new forest owners'. *Scandinavian Journal of Forest Research* 32 (2):174–84. doi: 10.1080/02827581.2016.1195866.

Gruber, S., and M. Szołtysek. 2016. The patriarchy index: A comparative study of power relations across historical Europe. *The History of the Family* 21 (2):133–74. doi: 10.1080/1081602X.2014.1001769.

Häggqvist, P., S. Berg Lejon, and G. Lidestav. 2014. Look at what they do – a revised approach to communication strategy towards private forest owners. *Scandinavian Journal of Forest Research* 29 (7):697–706. doi: 10.1080/02827581.2014.960894.

Hamunen, K., H. Muttilainen, J. Tikkanen, and T. Hujala. 2020. Towards gender equality in family forestry: Building self-efficacy together with other female forest owners. *Scandinavian Journal of Forest Research* 35 (8):577–87. doi: 10.1080/02827581.2020.1843702.

Jugert, P., K. H. Greenaway, M. Barth, R. Büchner, S. Eisentraut, and I. Fritsche. 2016. Collective efficacy increases pro-environmental intentions through increasing self-efficacy. *Journal of Environmental Psychology* 48:12–23. doi: 10.1016/j.jenvp.2016.08.003.

Kumela, H., and H. Hanninen. 2013. Metsänomistajien näkemykset metsänkäsittelymenetelmien monipuolistamisesta [Forest owners views on versatile forest treatment]. *Finnish Forest Research Institute* 203:76.

Haugen, K., S. Karlsson, and S. Westin. 2016. New forest owners: change and continuity in the characteristics of Swedish non-industrial private forest owners 1990–2010. *Small-Scale Forestry* 15 (4):533–50. doi: 10.1007/s11842-016-9338-x.

Häyrinen, L., O. Mattila, S. Berghäll, and A. Toppinen. 2015. Forest owners' socio-demographic characteristics as predictors of customer value: Evidence from Finland. *Small-Scale Forestry* 14 (1):19–37. doi: 10.1007/s11842-014-9271-9.

Huff, E. S. 2017. A national perspective on Women Owning Woodland (WOW) Networks. *Journal of Extension* 55 (2):8.

Karppinen, H., H. Hänninen, and P. Horne. 2020. Suomalainen metsänomistaja 2020 [Finnish forest owner 2020]. 30/2020, Natural Resources Center, Helsinki, Finland. https://jukuri.luke.fi/handle/10024/545837 (accessed September 15, 2021).

Kueper, A. M., E. S. Sagor, and D. R. Becker. 2013. Learning from landowners: Examining the role of peer exchange in private landowner outreach through landowner networks. *Society & Natural Resources* 26 (8):912–30. doi: 10.1080/08941920.2012.722748.

Kuper, A., S. Reeves, and W. Levinson. 2008. Qualitative research: An introduction to reading and appraising qualitative research. *British Medical Journal* 337 (3):a288. doi: 10.1136/bmj.a288.

Laszlo Ambjörnsson, E. 2021. Performing female masculinities and negotiating femininities: Challenging gender hegemonies in Swedish forestry through women's networks. *Gender, Place & Culture* 28 (11):1584–605. doi: 10.1080/0966369X.2020.1825215.

Leppanen, J. 2010. Finnish family forest owner survey 2010. Scandinavian Forest Economics: Proceedings of the Biennial Meeting of the Scandinavian Society of Forest Economics, 184–95. Gilleleje, Denmark.

Lidestav, G., and S. Berg Lejon. 2013. Harvesting and silvicultural activities in Swedish family forestry – behavior changes from a gender perspective. *Scandinavian Journal of Forest Research* 28 (2):136–42. doi: 10.1080/02827581.2012.701324.

Lidestav, G., and T. Nordfjell. 2005. A conceptual model for understanding social practices in family forestry. *Small-Scale Forest Economics, Management and Policy* 4 (4):391–408. doi: 10.1007/s11842-005-0024-7.

Markowski-Lindsay, M.,. P. Catanzaro, R. Zimmerer, D. Kittredge, E. Markowitz, and D. A. Chapman. 2020. Northeastern family forest owner gender differences in land based estate planning and the role of self-efficacy. *Journal of Forestry* 118 (1):59–69. doi: 10.1093/jofore/fvz058.

McCright, A. M. 2010. The effects of gender on climate change knowledge and concern in the American public. *Population and Environment* 32 (1):66–87. doi: 10.1007/s11111-010-0113-1.

Miner, J., P. Dwivedi, R. Izlar, D. Atkins, and P. Kadam. 2021. Perspectives of four stakeholder groups about the participation of female forest landowners in forest management in Georgia, United States. *PLOS One* 16 (8):e0256654. doi: 10.1371/journal.pone.0256654.

Redmore, L., and J. F. Tynon. 2011. Women owning woodlands: understanding women's roles in forest ownership and management. *Journal of Forestry* 109 (5):255–9.

Reis, H. T., and C. M. Judd. 2000. *Handbook of research methods in social and personality psychology*. Cambridge, UK: Cambridge University Press.

Robillard, A., E. Sass, J. Dias, and B. J. Butler. 2019. Female family forest owners in New England: Ownership and management trends. *New England Society of American Foresters* 80 (3):4–7.

Salamon, S., and A. M. Keim. 1979. Land ownership and women's power in a midwestern farming community. *Journal of Marriage and the Family* 41 (1):109–19. doi: 10.2307/351736.

Thornton, J. 2019. WHO report shows that women outlive men worldwide. *British Medical Journal* 365:1631.

Tracy, S. J. 2013. *Qualitative research methods: Collecting evidence, crafting analysis, communicating impact*. 1st ed. UK: John Wiley & Sons.

Umaerus, P., M. Högvall Nordin, and G. Lidestav. 2019. Do female forest owners think and act 'greener'? *Forest Policy and Economics* 99:52–8. doi: 10.1016/j.forpol.2017.12.001.

Wells, B., and J. Eells. 2011. One size does not fit all: Customizing conservation to a changing demographic. *Journal of Soil and Water Conservation* 66 (5):136A–9A. doi: 10.2489/jswc.66.5.136A.