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A Mixed-methods Study on Female Landowner Estate Planning Objectives

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A MIXED-METHODS STUDY ON FEMALE LANDOWNER ESTATE PLANNING

OBJECTIVES

A Thesis Presented

by

REBEKAH ZIMMERER

Submitted to the Graduate School of the University of

Massachusetts Amherst in partial fulfilment of the

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Environmental Conservation

A MIXED-METHODS STUDY OF FEMALE FOREST LANDOWNER ESTATE
PLANNING OBJECTIVES

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ABSTRACT

A MIXED-METHODS STUDY OF FEMALE FOREST LANDOWNER ESTATE PLANNING OBJECTIVES

MAY 2017

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The majority of the forested land in New England is owned by private landowners, a large number of whom are at or above retirement age. In the coming decades these landowners are going to be making decisions about what happens to their land once they no longer own it. Female landowners specifically play a critical role in the long-term planning and decision-making process. Women generally have a longer life expectancy than men and assess their level of confidence and financial stability in ways that differ from men. This difference in perception influences the decisions they make about their land. Despite this, little is known about decisions female landowners are making and barriers they face to formulating informed decisions that are in line with their goals. In order to understand more about female landowners' estate planning objectives, I conducted a mixed-methods study. Through a mail survey and subsequent qualitative interviews, I found that women were more likely than men to have lower confidence in moving forward with plans for the land, lower certainty that their financial resources were adequate to move forward, and less certainty when it came to future decisions about their land. However, women who were certain about their estate planning objectives were

more likely than men to have a conservation-based decision. The results of this mixed-methods study are applied to peer-to-peer network events and outcomes are discussed.

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CHAPTER 1

INTRODUCTION AND LITERATURE REVIEW

1.1 Introduction

The United States contains roughly 816 million acres of forest in the contiguous United States (Smith et al. 2004, Zhang et al. 2008, Butler et al. 2016), 58% of which are in private ownership (Butler et al. 2016). These individuals include private industrial, other non-industrial, and family forest owners (FFOs). Within this subset, FFOs retain the majority (93%) of the forest holdings (Butler et al. 2016). Individual landowners, families, trusts, estates, family partnerships, and unincorporated partnerships all fall into the category of family forest owner (Butler et al. 2016).

Current trends indicate that the number of FFOs is increasing while the number of acres, or parcel size, is decreasing (Pan et al. 2007, Butler and Ma 2011). Increased parcelization has been shown to cause fragmentation of forests in some instances and occurs when previously contiguous forestland is broken down into one or more pieces and separated from each other by another type of land cover (Saunders et al. 1991). Once a forest or natural open space is converted to an unnatural cover type it can no longer be used by wildlife as habitat or a safe corridor to other like habitats. Likewise, ecosystem services, such as water resources, temperature regulation, and carbon sequestration, are diminished or removed altogether.

Parcelization, whether or not it's accompanied by fragmentation, can also result in the reduction of both timber and non-timber forest products (Butler and Ma 2011, Shifley

et al. 2014). Forest products include such things as log or pulpwood harvesting, maple syrup production, recreational enjoyment of the forests, and water resource protection (Butler 2008, Butler et al. 2016). Timber harvesting ceases to be an economically viable option as parcels become smaller and closer to urban areas. Forests located closer to urban areas are subject to heightened regulation while landowner attitudes shift away from timber harvesting towards more amenity-based values (Barlow et al. 1998). Likewise, parcel value increases when considered as a prime location for additional urbanization (Barlow et al. 1998). While landowners may seek certain types of non-timber forest products such as enjoyment of scenic beauty or peace and quiet, these amenities can be diminished as well if the parcel size shrinks due to development of adjacent properties. Such encroachments are projected to continue and by 2050 it is estimated that urbanization will claim 29 million acres of forested land within the United States, further altering the overall forest structure (Nowak and Walton 2005, Shifley et al. 2014). This further demonstrates the urgency that FFOs be reached with estate planning options that maintain a forested landscape.

In addition to shifts in land use, the demographics of private forest owners will be undergoing drastic changes in the near future. Currently 48% of private forests in the United States are owned by individuals that are 65 years of age or older (Butler et al. 2016). Thus, in the coming years, roughly 5.1 million family forest owners will be deciding the future of their land (Butler et al. 2016). Understanding the motivations and considerations behind these decisions is crucial in order to ensure the survival of landscapes that provide economic, environmental, and recreational services (Sampson and DeCoster 2000, Stein et al. 2005).

These 3.8 million landowners have many options regarding the future use and ownership of their land. Options range from simply doing nothing, to selling, to bequeathing the land (Fig. 1). Some more permanent options regarding future land ownership and use can include a Conservation Restriction (CR), also known as a Conservation Easement (CE), which occurs when a landowner donates or sells development rights on their land to a conservation organization while still allowing other activities to continue, such as farming, hunting, and forestry (Catanzaro et al. 2014).

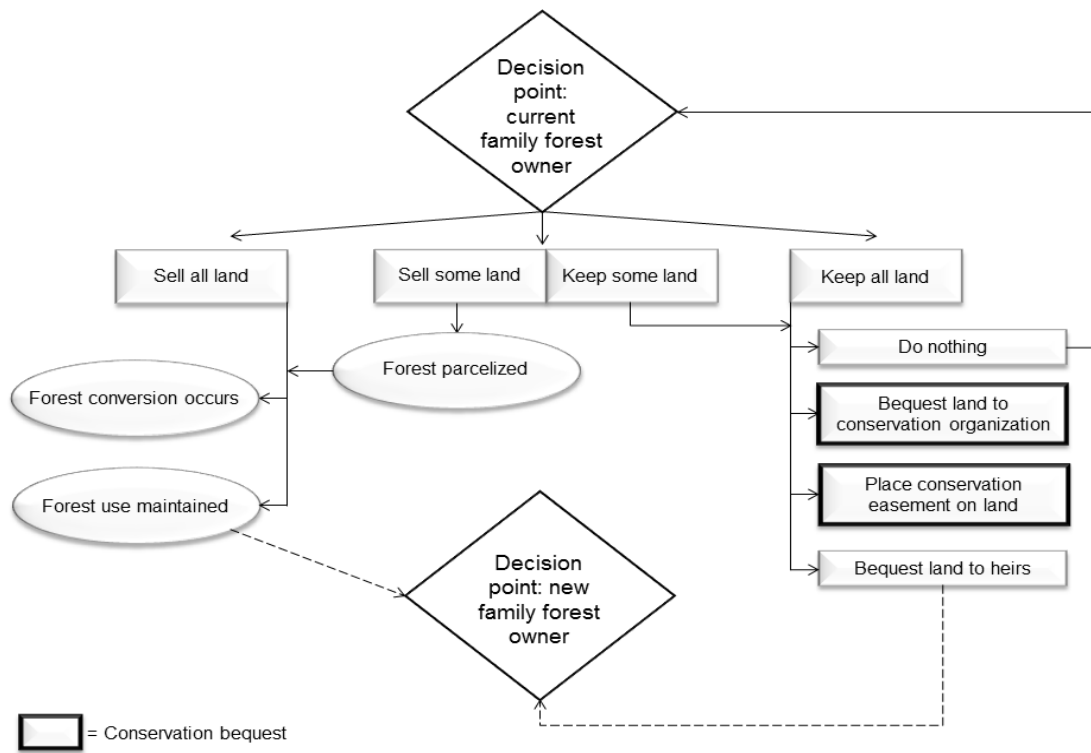


Figure 1: Possible pathways available to landowners regarding decisions about their land. Markowski-Lindsay et al. 2016

These options are more conducive to maintaining a contiguous landscape, even when intergenerational land transfers occur, as the land can no longer be developed (Schulte et al. 2008). Land placed in a CR or donated to a conservation organization will be permanently preserved. When land is sold or changes hands there is more uncertainty

and a greater chance for the forest to become parcelized and often subsequently fragmented (Fig. 1). Continuous undeveloped landscapes lead to continued ecological functioning and ecosystem health at the landscape level. Thus, understanding how and why landowners choose more conservation-based methods such as placing a conservation easement on their land or placing stipulations in their will or trust regarding its future use by heirs, is essential.

Understanding landowner motivations when planning for the long-term future of their land requires an understanding of gender differences as well. Men and women vary in their approach to management, interactions with family, methods of information acquisition, and ideas of what is important when planning for the future of their land (*The Pinchot Letter* 2005, Steiner Davis et al. 2015). Understanding and developing resources and information with these differences in mind may allow more landowners to be aware of their options and feel confident when making decisions about the future of their land.

1.2 Literature Review

Research has shown that men tend to focus on current management of and revenue from their forestland specifically through timber stand harvesting, regeneration, and quality timber production (*The Pinchot Letter* 2005, Catanzaro et al. 2014).

Alternatively, women are more interested in maintaining their forestland as a legacy for future generations (*The Pinchot Letter* 2005, Catanzaro et al. 2014). Despite this understanding of differences among care and legacy goals, there is still a lack in depth study on the nature of female landowner estate planning objectives. However, current research does exist focusing on differences in the management activities of landowners

by gender, the caveats of land inheritance within families, benefits and limitations of women-only landowner groups, and a subset of international literature focusing on female landowners. Though each of these pieces of study do not focus on land transfer issues relating to gender differences specifically, together they highlight a pattern of difference between male and female landowners that can be applied to the area of estate planning and legacy. The current studies expose a space in which this research will fit in order to paint a more complete picture of female forest landowner activities.

One example of this is related to information sharing and inheritance patterns within families. Men are more likely to receive information concerning the care of the land and they are more likely to be groomed for succession of the family estate. This can be anything from making decisions about which trees to harvest to assisting with a timber harvest (Lidestav and Nordfjell 2005). A study by C. Mater (*The Pinchot Letter* 2005) found that women were more interested in inheriting family land but less involved in the active management of it prior to inheritance. They were also less educated on management topics and cited this deficit as a significant barrier to owning family forestland (*The Pinchot Letter* 2005).

Even in situations where women do not become the first inheritor of family land they, on average, live longer than men and often end up inheriting the land regardless (Chen and Volpe 2002, Lidestav and Ekstrom 2000, Hacker 2010). Thus, estate-planning decisions regarding the future of their land still falls to the women in the family, regardless of the hierarchy, intentions, and education while eligible inheritors of each gender were alive. This leads to a situation where the landowner least educated in forest management has to make decisions about the future of her land.

In situations where forest management is not the primary goal of landowners, (e.g. owning land for privacy, to enjoy nature, or protect natural resources) women who become sole owners of a property after the passing of the other owners can be unaware of her options for using and passing on the land, regardless of any ideas or ideals she may have for it. Such a lack of education and awareness can lead to hasty and less than optimal decisions. Despite this understanding, many social norms designed to facilitate the use and ownership of forest woodlands by men still exist (Redmore and Tynon 2011). Examples of these norms include information dispersal, intergenerational land transfer patterns, support and organizations, and lifestyle responsibilities (Redmore and Tynon 2011).

In response to this imbalance some states have started women-only forest landowner groups. Though primarily designed to connect women to opportunities related to their land in the present, they can be a helpful conduit for sharing information and options regarding legacy and estate planning as well. One of the first and largest is Oregon State's WOW.net (Women Owning Woodlands.net).

A recent study of landowners participating in this women-only network found that female landowners relied heavily on this type of organization to obtain information on management, regulations, standards, and as a source of community with other female landowners (Redmore and Tynon 2011). While these organizations are helpful in educating and supporting female woodland landowners the level of time and effort required to run them can be prohibitive to their development in all regions. Relying on special separate networks from which women can receive information about management

and estate planning for their forestland further highlights a deficit in traditional information sources.

There are very few studies focusing on gender differences in family forest ownership and management in developed countries, as the majority of this type of research is geared towards developing nations (Warren 2003). The gender-based family forest research that has been conducted in developed countries is primarily produced in Scandinavia. One such study looked at whether the differences in forest management behavior were based on ownership structure alone or whether gender differences played a role (Lidestav and Ekstrom 2000). Specifically, Lidestav and Ekstrom (2000) showed that differences in forest management could not be completely explained through differences in size and quality of forest holdings but that gender also played a critical role. Specifically, women in the study were more likely to regenerate their forest stands and also harvest less frequently. The specifics of this study are interesting in themselves, but another key factor that this study highlights is that there are differences when it comes to how women and men think about their woodlands. Awareness of differences, as well as what those specific differences are, should be taken into consideration when developing estate planning resources.

A similar paper by Lidestav (1998) looked at the overall nature of female forest owners in Sweden, and found them to be younger, perform less forestry-specific activities on their land, and be less likely to engage with both farming and forestry on their land. Though helpful in furthering the understanding of female forest owners, this article only looks at aspects of gender as it relates to current ownership practices and landowner

characteristics. The next step in understanding forest owners is to explore the relationship between female landowners and their estate planning objectives.

This aspect of the ownership pattern is explored by Grubbström and Sooväli-Sepping (2012), who looked at the change in family farmland ownership in Estonia over time. They found that while many landowners still preferred to have the firstborn male heir inherit the family farm, they held a stronger desire for the farm to remain in the family, even if that meant passing the land on to a female heir. Much of this change occurred through the disruption of gender roles and the way of life on the family farm during and after Soviet rule in Estonia.

As few studies as have been focused on female landowners, even fewer focus on female landowners' confidence (Lidestav 2010). A study of Swedish landowner inheritance practices by Lidestav (2010) highlighted the strong gender roles that traditionally have kept women from inheriting land through the family. In the past, most inheritance occurred through marriage, eventual death of the land-owning spouse, or in cases where no male children were born in the family that generation. More recently though, through increased mechanization and outsourcing of most forest management and silvicultural activities to professionals, the traditional "men's work" of managing forest stands has been shifted to more equal opportunities for women to inherit. That said, Lidestav (2010) found that even women who inherited their land outright over a male sibling felt the need to justify the inheritance, and did not speak of the inheritance, or "takeover", process, as it was too personal and emotional. This aspect of confidence in ownership right is seen in scenarios other than forestland inheritance.

The topic of women acting as caretakers who then subsequently inherit assets from the person they were caring for is another situation where women's confidence is highlighted. As with the trend of private landowners, the number of baby boomers entering their twilight years is increasing, putting an increased strain on public social support programs. In some cases, caretakers act with the expectation of future inheritance benefits whereas others act in such a way because they are adhering to a social norm (Caputo 2002). Women are often viewed with suspicion in inheritance law in such instances leading to lower confidence in the right to inherit assets bequeathed by the person(s) receiving care (Hacker 2010).

Landowners in Estonia and the caregiver's "imposter syndrome", though not directly related to female-specific forest estate planning objectives, highlight other areas of research that have touched, however briefly, on the caveats that come along with passing assets from one generation to the next. With these examples, there is illuminated a greater level of complexity when gender is considered and further highlights the need for research on factors that can influence estate planning objectives.

As alluded to in a few of the studies above, other factors contributing to female landowner's estate planning objectives include both confidence in their ability to realize their vision for the land and perceived financial resources. Financial confidence plays a large role in the decision-making process and it is often the case that women who make financial and legacy-based decisions alone decide differently than if they make the decision with their spouse (Hacker 2010). With monetary donations specifically, women asked to donate a large sum often labor over the decision and take time to consult with

their husband. Men, when asked the same question, make a decision immediately, and do not consult with their wife (Hall 2004).

This is a concerning trend because women outlive men on average, and their unwillingness to engage with their finances can create greater complications for land transfer if they are left to make a decision they are not confident about alone. Likewise, women self-identify as having less financial resources and less financial literacy than their male counterparts leading to less than optimal choices (Lundeburg et al. 1994, Chen and Volpe 2002). For example, the deficit in female financial literacy directly influences forest conservation because a female landowner uncertain about how her finances work and what options are available to her may feel that the only way she can make ends meet is to sell her land outright to the highest bidder.

Differences in the financial resource self-assessments between men and women can also be understood through a study conducted by Cottle (1976), which demonstrated that men and women differ in their understanding of time and thus their assessment of present and future finances. This idea is very interesting because it highlights the fact that confidence in financial resources is related to more than a savings account balance.

Like finances, where women may objectively have all the tools necessary to move forward with their plans for the land, they can be hindered by confidence in their ability to meet those goals. One reason for this is that women and men differ in their risk perceptions, yielding differences in choices made about their land (Gustafson 1998). Where a man who knows little about the easement process decides to place an easement

on his land and “figure it out as he goes along” a woman in the same position may feel ill-equipped and unwilling to take the risk with her land.

However, research shows that women can be more altruistic than men and their altruism is less affected by price than similar decisions made by men (Andreoni and Vesterlund 2001). Women are more likely to volunteer both time and resources than men (Simmons and Emanuele 2007). Thus, though women are giving more of their time and energy to efforts they believe are important, they are also less likely to think that they personally can make decisions that create those same goals.

My research draws together both the world of forest land stewardship and the perceived factors of confidence and financial resources to better understand female forest owner estate planning objectives. This little-explored intersection of forestry and psychology may better identify ways land conservation can be more effective to a little-focused on user group.

In contrast to forest ownership, much research has been done on the intergenerational transfer of farmlands that explores elder care, estate planning and the presence or absence of a will, fairness in passing on land and assets, and how and in what way the family business is given to the next generation (Keating and Munro 1989, AARP Research Group 2000, Taylor and Norris 2000). It is the business nature of the family farm that is most distinctly different from family forest owners. The majority of landowners own their land for recreation, enjoyment of beauty, or other passive reasons (Pan et al. 2007, Butler et al. 2016, Zhang et al. 2008) but with a family farm, the farm and associated property is owned to generate revenue; as a source of livelihood (Keating

and Munro 1989, Kaplan et al. 2009). The farm and its future owners are thus more present in the mind of farm landowners as it is necessary to maintain revenue generation as the current owner begins to age and is unable to do all the tasks of running the farm (Keating and Munro 1989, Kaplan et al. 2009).

However, there is a distinct lack of research on the estate planning and future intentions of forest landowners. Therefore, there is little known about what triggers these decisions, how decisions are made, who is involved, the challenges landowners face, and, importantly, what influences landowners to choose a conservation bequest or not. A greater understanding of these critical questions will help organizations such as the Cooperative Extension Service, hereafter referred to as Extension, to encourage private landowners to consider management options available to them, including conservation bequests (Ma et al. 2012a).

One aspect of forest landowner motivations that is well understood is that there has been a shift from a focus on revenue generation and timber harvests to non-timber amenities over the past few decades (Pan et al. 2007, Zhang et al. 2008). After owning their land because it came with the home they purchased, the National Woodland Owner Survey indicates that the top reasons that landowners own their land are amenity based, and include such goals as privacy, beauty, protecting nature, and passing land on to heirs (Butler et al. 2016). Projected expansion of urban areas into forested landscapes threatens these non-monetary amenities that family forest landowners enjoy (Shifley et al. 2014). This urban expansion also highlights the fact that not every landowner and homeowner will actually be able to achieve privacy and beauty on their land as more and more parcels are purchased as single-family homes with these same goals in mind.

Given the plethora of motivations family forest owners have concerning the use of their land, it is not surprising that purely financial decisions related to the future of their forests are confounded by concerns over intergenerational connections, environmental ethics, and amenity values (Amacher et al. 2002, Conway et al. 2003, Majumdar et al. 2009). Landowners primarily concerned with these amenity-based benefits of their land may not associate them with land conservation and management practices such as an easement or timber harvest management plans (Kittredge 2004, Ma et al. 2012a). Likewise, forest owners are more likely to participate in a land management plan, such as a conservation restriction, if their neighbors have one as well, indicating a preference towards peer-peer information exchange (Ma et al. 2012a,b). Thus it is imperative that the factors influencing land acquisition, management, and intergenerational transfer, especially in relation to how landowners make decisions, continue to be studied and understood more fully.

1.3 Hypothesis

I hypothesize that factors, specifically confidence and perceived financial resources, will influence female landowner's estate planning objectives regarding their land. The null hypothesis is that that these perceived factors do not influence their decisions in any way.

1.4 Objectives

The purpose of this study is to understand female landowner's estate planning objectives and factors influencing those decisions.

CHAPTER 2

MAIL SURVEY

2.1 Methods

2.1.1 Overview

To gain further insight into the factors that drive forest landowner estate planning decisions I utilized a mixed-method approach. The first step in the research process was to develop and send out a mail survey. The second step was to use the results of the survey to develop and conduct qualitative interviews with select landowners. The final step in the project is to use the results of the study to make outreach recommendations.

Since there has been so little work done on this topic, the first main purpose of the mail survey was to gather baseline information about landowners; how the land was acquired; what the owners plan to do with their land, if they know; where they are in the decision making process for the future ownership and use of their land; and who or where they've gone to for help with making such decisions. Specifically, for this project the mail survey responses were analyzed in relation to gender differences in future intentions for the land, confidence, and financial resources.

2.1.2 Site Selection

Not all landscapes provide the same level of forest management opportunity and ecological value. Parcels in large unfragmented blocks, areas of high ecological integrity, large parcels, public water supplies, and hosting the presence of threatened and

endangered species are more likely to be of high ecological value and thus the focus of conservation efforts. Likewise, forest parcels located adjacent to previously conserved land can act as a wildlife corridor or function as a buffer between agricultural fields and streams are more critical to conservation efforts than more isolated parcels (Saunders et al. 1991, Mundell et al. 2010). Contiguous forest parcels with close proximity to water, cities, and public lands, have been shown to increase parcelization due to shifting land values and development pressure (Barlow et al. 1998, Mundell et al. 2010).

In the four states where the survey was sent; Maine, Massachusetts, Vermont, and New York, such considerations were taken into account when selecting study areas for the project. Regions of medium and high threat to increased development, as identified in the US Forest Service's *Forests on the Edge* report (White et al. 2009) were used as a starting point for selecting locations in which to send the mail surveys. Input from research partners, natural resource professionals, both public and private; public conservation agencies, non-government conservation organizations; and key landowners active in land conservation at the town level were consulted as well. The inclusion of these interest groups is crucial not only to ensure the most appropriate priority landscapes are selected but also to ensure that future application of the study results by practitioners is appropriate and useful to conservation needs in these and like areas.

2.1.3 Participant Selection

Two landscape areas were selected for each state from the available regions of moderate or high risk of development as indicated in the *Forests on the Edge* report (White et al. 2009). Within the landscape areas publically available, tax assessor's data were used to select private landowners owning at least 10 acres of land. From the large

list of potential survey recipients 625 names from each state were randomly selected and split relatively equally between each landscape area. Two thousand five hundred copies total of the mail survey were sent out to landowners in Maine, Massachusetts, Vermont, and New York between March 2015 and May 2015. All sending, receiving, and communication with landowners regarding the mail survey was handled by the research team at the University of Massachusetts, Amherst.

Where a landowner requested to be removed from the list of recipients or the first survey was undeliverable a new recipient from the list of remaining names was randomly selected and were sent a single survey with the introductory cover letter.

2.1.4 Survey Tool

The survey tool was a paper booklet made up of two 8 ½ x 11 inch pages printed double-sided and folded down the middle of the short edge to create eight distinct pages of questions. There were twenty questions in total. The question types included fill in the blank, check all that apply, a Likert rating scale of agreement, and single response questions. The cover of the survey clearly identifies through words and logos the four universities participating in the study. The back cover of the survey identifies where recipients can contact the researchers with any questions, comments, or concerns.

The survey asked respondents to provide basic demographic information such as their age, number of wooded and total acres they owned, their tenure, how close they live to the land, and the number of owners of the land among others. The survey also asks the respondent to rate their reasons for owning the land where responses range from utilitarian to amenity-based. Specific questions related future plans and perceived

abilities to enact those future plans are also asked. Related, respondents are also asked to identify which of a series of estate planning tasks they have considered, are doing, or have completed. They are also given the option, as with many of the questions, to state that they don't know or don't plan to do a specific activity. Lastly, each respondent is asked if they were willing to be contacted further and if so, to provide their contact information. An exact copy of the survey can be viewed in Appendix 1.

2.1.5 Experimental Design

Following the selection process used to identify survey recipients a modified Dillman Method was followed to run the survey (Dillman 2014). In this survey method an introductory post card was sent to each of the 2,500 landowners letting them know about the project and to expect the survey shortly. Exactly one week later the first survey was sent out and exactly one week after that a second postcard was sent out thanking them for filling out the survey. All recipients receive these first three materials. Three weeks after sending the first survey a second survey was sent out only to those recipients from whom a completed first survey was not received. To aid in organization and record keeping all surveys were associated with a unique barcode that identified the respondent and tied the responses to them. No personal information about the respondent was shared with those outside the immediate research team and all surveys and documents were kept in a locked university office. The Institutional Review Board, Human Subjects Tests at the University of Massachusetts, Amherst, approved the study.

From May 2015 through August 2015 completed and returned mail survey responses were recorded using the same Teleform 2000 program that was used in the

design of the survey. Batches of 10 surveys at a time were scanned into the program and manually checked for accuracy. Errors in the program's understanding of the responses were adjusted and double-checked off the original survey. As survey responses were scanned and sent to an Excel file they were again manually checked for errors in the database. Lastly, a third random check of 10% of all surveys was conducted to assess the error rate in correct response recording. The error rate was .0028 percent.

In order to assess non-respondent bias, a non-response phone survey was conducted. Five percent of the overall response rate was reached and provided answers a few of the key identifying questions from the original survey. Other studies utilize a similar percentage response rate when testing for non-response bias (Zhao et al. 2012). The questions asked in the non-response survey included the landowner's gender, education level, year they acquired the land, and whether they had developed a will or not. The use of a non-response survey is important in determining the overall nature of the respondents as they compare to the general population (Berg 2005). If non-respondents answers vary significantly from those that did fill out the survey, survey responses may not be representative of the overall population (Berg 2005). Potential differences in response influence what can be understood from the survey in relation to the overall population of forest landowners. The results of our non-response survey indicated no significant differences in landowners who responded to the survey versus those who did not.

Close-ended mail surveys allow for statistical analyses to be conducted, which can be used to confirm hypotheses about phenomena, quantify variation in a population, predict casual relationships, and develop population estimates. Due to the lower financial

input necessary to develop a survey- as opposed to semi-structured interviews- surveys can be used to reach a wider subset of the targeted population (Mack et al. 2011). They also require less time to complete and thus more data can be collected in a given time span.

Surveys often have closed-ended responses, meaning the survey respondent must choose an answer to the posed question from a designated and limited range of options provided by the researcher. The Likert Scale is commonly used to understand the degree of response, as well as *yes/no* options though some questions allow for the respondent to write in their own non-scripted response (Butler 2008, Butler et al. 2016, Huff 2015). Due to the nature of a mail survey, the data collected can easily be analyzed and understood through the use of statistical techniques (Mack et al. 2011). These can range from a simple comparison analysis such as the Chi Square to more advanced modeling techniques (Belin et al. 2005, Zhang et al. 2008).

As with any information where one must select from a series of responses pre-determined for them, the richness and depth of understanding in these answers can be lacking. To make up for this vacancy semi-structured interviews are often used (Jick 1979, Sikora and Nybakk 2012). These can be conducted prior to developing a survey in order to inform the mail survey. The opposite is also often done, which is the case with this study, where the mail survey informs the semi-structured questions. The specifics of the semi-structured interviews will be discussed in the next chapter.

2.2 Analysis

Data were analyzed to explore the relationships between gender and various measures within the survey. Specifically, age, tenure, education level, number of acres owned, number of owners, confidence in aspects of the estate planning process, financial resources, and future intentions were explored. All survey data was analyzed using R Studio 3.2.0. First, independent sample, non parametric Wilcoxon-Mann-Whitney t-tests were used for all continuous measures and Chi Square tests were used for all discrete measures to compare male and female responses (Vitale et al. 2008, Stevanov et al. 2015).

Considering that the future intentions of forest landowners is one of the most important factors affecting the future presence of contiguous land parcels, and that the future intentions question in the survey was highlighted as significantly different by gender, this metric was focused on in the next stage of analysis as the response variable.

In order to explore the relationship between current confidence levels, perceived financial resources, and future intentions, the multinomial logistic regression model was used (Kaetzel et al. 2010). *Future intentions* was the response variable and *confidence*, *finances*, *gender*, *age*, *acres*, *tenure*, *education*, and *number of owners* were predictor variables (Tables 2-4). *Tenure* was a parameter calculated by subtracting the current year (2015 at the time) from the year each landowner indicated as having purchased the land. *Education*, as in the Chi Square analysis, was re-ordered into a binomial factor variable where landowner responses were grouped into either an education level of high school or less, or some college or more advanced degree (question 19, Appendix 1). All other variables included in the full model were left in their original form. The mlogit package was used to run the multinomial logistic regression in each model iteration.

The hypothesis that both gender and finances, as well as gender and confidence, had a confounding effect on future intentions is highlighted in the literature (Chen and Volpe 2002, Lidestav 2010). Thus, subsequent to the first model described above where no interaction term was included, a second model was run with all the same predictor variables and the addition of a gender by finances interaction term. Lastly, a third model was run, where the interaction term of gender by confidence replaced the gender by finances interaction term. The use of two models to explore the relationship between gender and these two other variables was necessary because two interaction terms in the same multinomial logistic regression model would confound accurate results of either single interaction term and result in issues of multicollinearity (Zuur et al. 2009).

2.3 Results

From the 2,500 individual surveys sent out 140 were undeliverable despite attempts to find the correct address between the first and second mailing attempt. Out of the remaining 2,360 viable surveys 789 responses were received; a 33% response rate. This response rate is considered an acceptable rate for mail surveys (Amacher et al. 2002).

Exploration of the mail survey responses highlighted a few interesting trends regarding the affects of gender on select responses. Variables tested for significance by gender include age ($p=0.23$), acres owned ($p=0.09$), number of owners ($p=0.05$), and tenure ($p=0.44$). The variable education, which was re-categorized into a binary variable where respondents had either some college and lower education level or a college degree and above had a resulting significance of $p=0.03$.

The grouping of five questions that made up question 14 in the survey were re-categorized into values ranging from 0 to 1, where 0 indicated a response of *strongly disagree* and 1 indicated a response of *strongly agree*. The phrases *I know where to go for information*, *I know professionals who can help*, and *my family agrees on how to move forward* were not significant by gender and had resultant p-values of 0.15, 0.07, and 0.50 respectively. Responses to *confident in how to move forward* were significant by gender ($p < 0.01$). Likewise, there was a significant difference by gender when it came to the statement *I have enough financial resources to move forward* ($p < 0.01$). Specific conservation-based future intentions, re-categorized from the original 7 response options into a variable with 3 distinct categories: *yes*, *no*, and *maybe (undecided)*, was also significantly different by gender ($p < 0.01$). Each of these variables, along with their p-values and means, can be viewed in Table 1:3. All questions discussed can be viewed in their original survey from in Appendix 1.

Table 1: Results of t-test analyses of select survey response variables and gender. Results significant to the $p = 0.01$ value

Variable	Mean (Male Respondents)	Mean (Female Respondents)	P-value	Scale
Age	63	64	0.23	
Acres Owned	81	68	0.09	
Tenure (in years)	30	25	0.44	
Number of Owners	1.82	1.80	0.05	
Knowing where to go for information	0.61	0.59	0.15	
Knowing professionals who can help	0.61	0.57	0.07	
Confidence in how to move forward	0.63	0.56	< 0.01	On a scale from 0 - 1, where 0 is Strongly Disagree and 1 is Strongly Agree
Have enough financial resources to move forward	0.64	0.53	< 0.01	
Family agrees on how best to move forward	0.63	0.61	0.50	

Table 2: Results of Chi Square analysis of the future intentions variable and gender. Results significant to the p=0.01 value

Conservation-based Future Intentions			
	% No	% Yes	% Maybe
Male	85	67	70
Female	15	33	30
p-value=	<.01		

Table 3: Results of Chi Square analysis of education and gender. Results significant to the p=0.01 value

Education		
	% ≤ Some College	% ≥ College Degree
Male	43	57
Female	35	65
p-value =	.03	

Of these 3 possible responses to the future intentions question in the survey (question 12) *yes*, *no*, and *maybe (undecided)* 57% of women and 54% of men were *undecided*. Fifteen percent of men and 6% of women said *no*, none of the options were their goal and 36% of women and 30% of men answered *yes* to one of the affirmative conservation-based options available. Specifically, landowner's confidence, financial means, and future intentions varied depending on the gender of the respondent. When asked to self-assess their confidence in enacting plans for the future of their land, more

women than men indicated uncertainty. Likewise, women were less confident in the financial resources available to meet their goals for the future of the land.

The multinomial logistic regression models, where future intentions was the response variable, showed similar results and significance to the descriptive statistics above. In the first model where no interaction term was included, confidence was a significant negative predictor of respondents who were uncertain of their future plans for the land ($p < 0.01$), meaning respondents with lower confidence were more likely to have chosen *maybe* over *no* for the question regarding their future intentions. Women were more likely to choose *yes* over *no* ($p < 0.01$) and *maybe* over *no* ($p = 0.02$) regarding their future intentions for the land. Also in this first model, being younger was a significant predictor of choosing *maybe* over *no* ($p = 0.03$) and having more acres was a significant predictor of choosing *yes* over *no* ($p = 0.02$). The full model results can be seen in Table 4.

Table 4: Multinomial logistic regression summary results for initial model that included the predictor variables but no interaction term.

Dependent Variable: Future Intentions	
1:(Intercept)	0.502 p = 0.568
2:(Intercept)	3.551 p = 0.00002***
1:Finance	-0.056 p = 0.928
2:Finance	0.051 p = 0.930

1:Confidence	0.125
	p = 0.844
2:Confidence	-1.525
	p = 0.009***
1:Gender	1.044
	p = 0.003***
2:Gender	0.794
	p = 0.018**
1:Age	-0.015
	p = 0.260
2:Age	-0.027
	p = 0.030**
1:Acres	0.004
	p = 0.021**
2:Acres	0.001
	p = 0.410
1:Tenure	0.006
	p = 0.553
2:Tenure	0.004
	p = 0.663
1:Education	0.428
	p = 0.117
2:Education	0.009
	p = 0.974

1: Number of Owners	0.188
	p = 0.232
2: Number of Owners	0.058
	p = 0.709
<hr/>	
Observations	646
R ²	0.053
LR Test	66.356 ^{***} (df = 18)
<hr/>	
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01

In the second model, where the interaction term of gender by finances was included, results indicated that the effect of perceived financial resources did not differ by gender (p=0.3). However, gender without the interaction term were still predictive of future intentions to a significant level while financial resources were not (p=0.2 and p=0.3 for *yes* versus *no* and *maybe* versus *no*). Similar to the first model but differing in the significance, women were more likely to choose *yes* over *no* (p=0.04) and *maybe* over *no* (p=0.05) regarding their future intentions. Lower confidence predicted a greater uncertainty in future plans for the land (p=0.01). Mirroring the first model, being younger was a significant predictor of choosing *maybe* over *no* (p=.03) and having more acres was a significant predictor of choosing *yes* over *no* (p=0.02). The full model results can be seen in Table 5.

Table 5: Multinomial Logistic Regression summary results where independent variables include confidence, finance, gender, age, acres, number of owners, education, and tenure as well as an interaction term between gender and finance.

Dependent Variable: Future Intentions

1:(Intercept)	0.349
	p = 0.697
2:(Intercept)	3.388
	p = 0.00005***
1:Finance	0.212
	p = 0.757
2:Finance	0.332
	p = 0.594
1:Confidence	0.139
	p = 0.827
2:Confidence	-1.508
	p = 0.011**
1:Gender	1.843
	p = 0.036**
2:Gender	1.620
	p = 0.052*
1:Age	-0.015
	p = 0.238
2:Age	-0.028
	p = 0.026**
1:Acres	0.004
	p = 0.023**
2:Acres	0.001
	p = 0.434

1:Tenure	0.006
	p = 0.509
2:Tenure	0.005
	p = 0.611
1:Education	0.421
	p = 0.124
2:Education	0.002
	p = 0.994
1:Number of Owners	0.191
	p = 0.226
2:Number of Owners	0.061
	p = 0.696
1:Finances*Gender	-1.276
	p = 0.303
2:Finances*Gender	-1.338
	p = 0.263
<hr/>	
Observations	646
R ²	0.054
LR Test	67.703*** (df = 20)
<hr/>	
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01

For model three all the same predictor variables were included as the first model with the addition of an interaction term for gender by confidence. Like in the second model the interaction term was not significant, given p=0.6 for choosing *yes* over *no* and p=0.8 for choosing *maybe* over *no*. Thus, the effect of confidence on future intentions

does not differ by gender. Confidence alone did display some significance when predicting future intentions for the land, where landowners less confident were more likely to choose one of the *maybe* options when selecting their future plans for the land (p=0.01). Being younger was a significant predictor of choosing *maybe* over *no* (p=.03) and having more acres was a significant predictor of choosing *yes* over *no* (p=0.02). The full model results can be seen in Table 6.

Table 6: Multinomial Logistic Regression summary results where independent variables include confidence, finance, gender, age, acres, number of owners, education, and tenure as well as an interaction term between gender and confidence.

Dependent Variable: Future Intentions	
1:(Intercept)	0.614 p = 0.499
2:(Intercept)	3.588 p = 0.00002***
1:Finance	-0.071 p = 0.909
2:Finance	0.044 p = 0.940
1:Confidence	-0.021 p = 0.977
2:Confidence	-1.571 p = 0.014**
1:Gender	0.663 p = 0.454

2:Gender	0.590
	p = 0.475
1:Age	-0.015
	p = 0.260
2:Age	-0.027
	p = 0.030**
1:Acres	0.004
	p = 0.020**
2:Acres	0.001
	p = 0.405
1:Tenure	0.005
	p = 0.569
2:Tenure	0.004
	p = 0.670
1:Education	0.430
	p = 0.116
2:Education	0.010
	p = 0.970
1:Number of Owners	0.189
	p = 0.231
2:Number of Owners	0.058
	p = 0.709
1:Confidence*Gender	0.591
	p = 0.645

2:Confidence*Gender	0.309
	p = 0.801
Observations	646
R ²	0.053
LR Test	66.621 ^{***} (df = 20)
<i>Note:</i>	*p<0.1; ** p<0.05; *** p<0.01

2.4 Discussion

The overall message coming from the three models is that confidence and gender both influence a landowner's plans for the future of their land, albeit to differing degrees. Likewise, as seen with the Chi Square and Wilcoxon-Mann-Whitney tests, women were more likely to express uncertainty regarding their future plans for the land. They also expressed less confidence when thinking how to move forward with their plans.

Though the future intentions response variable was re-categorized into 3 options: *no*, *yes*, and *maybe*, the *yes* option consisted of three different conservation-based options for preserving the land such as giving the land to heirs with directions not to develop, placing a conservation easement on the land, and donating the land to a conservation organization. Similarly, the *maybe* category combined both *don't know* and *maybe* response options, indicative of overall uncertainty in the future intention for the land.

The result that financial resource confidence didn't stand out in a significant way in any of the three models was surprising given its significant response in the Wilcoxon-Mann-Whitney t-test (p=<0.01, Table 1), though testing for confidence in the respondent's finances was not the primary purpose of the survey, or even of question 14.

There may have been more exact ways to get at the perception of financial confidence within the population.

One area where the model results coincide with literature findings is in relation to the higher percentage of women choosing a *yes* decision for the future of their land. Specifically, research shows that women can be more altruistic than men and their altruism is less affected by price than similar decisions made by men (Andreoni and Vesterlund 2001). This trend could also explain the higher percentage of men answering *no* to any of the future intention options provided. Additionally, women are more likely to volunteer both time and resources than men, which can explain the higher percentage of women who selected an affirmative conservation-based goal (Simmons and Emanuele 2007).

An interesting aspect of question 14 in the survey is that landowners were not asked to report how much money they had budgeted for their plans or provide evidence for their reported confidence level. If such values were reported they could have been compared empirically with one another to arrive a metric of overall financial resources or actual confidence. Instead, each respondent was asked to indicate their level of agreement or disagreement with the specific statements meaning that the trend in financial resources and confidence in general among men and women developed from a self-assessment.

The self-assessed trend of confidence in financial resources highlighted in this study is seen outside of estate planning as well, where women self-identify as having less financial resources and less financial literacy than their male counterparts (Lundeburg et al. 1994, Chen and Volpe 2002). Women outlive men on average, and their unwillingness

to engage with their finances can create greater complications both privately and through policy propositions. As would be expected though, women that work in a finance profession have greater literacy than those who don't (Chen and Volpe 2002).

Another explanation for the differences in the financial resource self-assessments can be explained through a study conducted by Cottle (1976), which demonstrated that men and women differ in their understanding of time and thus their assessment of present and future financial status can vary. This idea is very interesting because it highlights the fact that confidence in financial resources is related to more than a savings account balance.

Self-perceived financial resource availability is only one facet of gender-based self-assessed confidence. Outside the world of private forest conservation confidence in one's resources and abilities can come into play in the workforce. Women are more likely to apply to jobs for which they already have the skills necessary, while men are confident they can learn any necessary skills once employed (Melamed 1996, Sandberg and Scovell 2013). Though this study explores the relationship of gender to specific perceived realities, future work on changing gendered perspectives will be necessary if the entirety of human potential is to be effectively utilized in forest conservation. What is perceived as true can have just as much affect on an outcome as the actual reality.

As would be expected, landowners who were less confident in how to move forward with their plans were more likely to indicate uncertainty about their future plans for the land. This was more often the case with female landowners, where they expressed a reduced level of confidence in how to move forward with their plans and also a reduced

level of confidence in those future plans for the land. For those women who were sure of their future plans, they were more likely to choose a conservation-based intention. This indicates that were the cause of these women's lower confidence to be identified and reduced, they would more likely than not then move forward with a future plan that involved a conservation-based decision.

Landowners younger in age selecting that they are more uncertain about their future intentions makes sense considering they may have owned their land for a shorter number of years. They also perceive themselves to have a longer amount of time ahead of them before having to make decisions about heirs or their future intentions.

Interestingly, landowners with more land were more likely to choose a conservation-based affirmative decision for the future of their land. This could be for a number of reasons, one of which is because they are more involved with their land on a daily basis as a part of their business. Alternatively, their willingness to chose a conservation-based future intention for their land could be a correlation with increased exposure to conservation organizations that are trying to be more efficient with their time per acres by targeting landowners of larger holdings.

Regardless of the reasoning, for these specific trends, landowners who have indicated that they plan to protect their land in the future or that they aren't sure of their future plans make up the majority of the landowners surveyed. Thus, there is a large base of interested and willing ears waiting for just that right piece of information delivered in just the right way to reach them, solidifying another piece of land for the next generation in a way the current landowner desires. What is this specific piece of information though,

and what way is best for this message to be delivered? These questions, along with others regarding the nature of land ownership and decision making was explored through qualitative interviews with a few of the survey respondents.

CHAPTER 3

QUALITATIVE INTERVIEWS

3.1 Methods

3.1.1 Overview

As indicated in the previous chapter, subsequent to the mail survey, qualitative interviews were developed based on the results of the survey. These open-ended conversations with landowners served to highlight and elucidate themes that emerged in the mail survey. While the mail survey allowed for the question *what*, the qualitative interviews allowed for the question *why?*.

Gender-specific trends discovered in the mail survey were used to develop questions for the qualitative interview prompt. Before finalizing the prompt that would be used in all four states, pilot interviews were conducted just in Massachusetts. For these four pilot interviews the best version of questions that would get at desired responses from landowners were included. All of the pilot interviews were conducted only in Massachusetts but given the premise that the landscape areas chosen were regionally representative, the results of the MA pilot interviews were considered as an adequate sample for all states. After the four pilot interviews were conducted a better understanding for what prompts worked best, additional questions to add, as well as some questions that needed to be re-worded or removed was known.

After addressing the improvements needed for the interview prompt, the approved revised and completed version of the interview prompt was used for eight additional

interviews in Massachusetts as well as eight in Maine, Vermont, and New York respectively. Thirty-two interviews total were conducted. All of these interviews were completed between August 2015 and March 2016.

Data collection was in the form of in-person interviews that were recorded and uploaded to a transcription service. Word documents containing the transcriptions from all the states were sent to the University of Massachusetts, Amherst. Each interviewer also filled out a sheet with basic information about the interviewed landowner, including their planning stage, location, and any observations or comments the interviewer felt was necessary. This was helpful in the later stages of analyzing the landowner responses, where landowners in specific categories could be selected out of the larger group.

3.1.2 Site Selection

All interviewees were selected from the survey respondents, so the site selection was again, areas of medium and high development threat as indicated by the USFS Forests on the Edge publication (White et al. 2009).

3.1.3 Participant Selection

For the semi-structured interview questions, within each landscape area individual landowners were randomly selected from a pool of survey respondents based on their responses to certain questions within the survey. Additionally, question 20 of the mail survey asked respondents if they would like to be a part of the interview stage of the research. Based on the level of planning activity and willingness to participate in the interviews, landowners were grouped into one of three categories: beginning,

intermediate, and advanced. Within these three categories landowners can be in either the planning stage or the action stage of each respective category.

All landowners were selected randomly and contacted using a standard phone call template (Appendix 2). No more than one participant per household was counted as one of the survey members, though additional stakeholders, usually family members having joint ownership of the land or persons influential to the landowner's decisions, were invited to participate as a part of one interview. As required by the Institutional Review Board, all participants had to be 18 years of age or older. Additional restrictions included that interviewees must own forestland within the category of FFO, makes the decisions about the land alone or equally with someone else, and own at least 10 acres of land.

3.1.4 Interview Tool

The interview prompt began by describing the nature and purpose of the study. It also included background information on the topic of the current state of forested land in the United States as well as future projections. After this section of the prompt, interviewees were asked a series of open-ended questions.

Consisting of five pages single-sided pages, the interview script was designed to move an interviewee through different aspects of thinking about and owning their land. First they were asked to tell the story of how they came to own the land and how long they have been the owner of it. To get them in the mindset of thinking about their land they were also asked to share generally what they liked about their land.

The next segment of the prompt asked the interviewee a series of questions about their future goals for the land, steps they have thought about or have taken, and their experiences with these steps. The purpose of these questions was to further identify where landowners were running into barriers or were having difficulty making their wish a reality. Specific barriers such as confidence, financial resources, family member involvement, and use of professionals were all asked about as well.

The next section of the prompt asked interviewees to discuss their experiences working with and discussing options with fellow owners of the same land parcel, if one existed. Issues relating to communication between owners were discussed.

The section following related to conversations and interactions the landowner had with family, heirs, neighbors, professionals, and other interested parties. The interviewees were asked to describe their experiences and mention in what ways they had communicated with others about their land. In relation to heirs, they were asked specifically about fairness and concerns about bequeathing land to others.

Interviewees were lastly given the chance to share anything that they may have wanted to but were not asked about specifically in the prompt. The entire interview prompt can be viewed in Appendix 4.

3.1.5 Experimental Design

From the landowners who agreed to be contacted further those that met the pre-specified criteria such as owning 10+ acres and the level of estate planning for the land they had achieved were selected. Calling and e-mailing landowners, even ones that

agreed to be contacted further, is wrought with setbacks, and more landowners were contacted than were actually needed for the interview process. With all calls, a pre-designed prompt was used to guide the conversation and ensure all necessary information was acquired before ending the call (Appendix 2).

Each interview lasted 60 to 90 minutes. Questions were derived from the trends and preferences revealed in the mail survey. As indicated previously, the interview template for the pilot interviews in Massachusetts was close but not identical to the final interview prompt (Appendix 3, 4). Both prompts were analogous enough and contained similar themes so that both pilot and subsequent interviews could be analyzed together. The interviews were recorded with a digital voice recorder and sent to a professional transcription firm.

The use of both a survey and semi-structured interviews as opposed just one of the techniques allows for both depth and breadth of information gathered, yielding a more complete picture of forest landowner perspectives on the long-term planning process for their land (Mack et al. 2011). As with any information where one must often select from a series of responses pre-determined for them, the richness and depth of understanding in these answers can be lacking. To make up for this vacancy semi-structured interviews are often used (Jick 1979, Sikora and Nybakk 2012). These can be conducted prior to developing a survey in order to inform the mail survey. The opposite is also often done, which is the case with this study, where the mail survey informs the semi-structured questions.

The use of semi-structured questions in an interview approach allows for different types of questions to be asked, and can be particularly helpful when discussing more sensitive topics, such as inheritance, fairness, finances, and death (Mack et al 2011). The semi-structured, open-ended questions asked during the interviews focus on the landowner's responses and word-choices rather than their perception of what is being asked of them in a given question. The thoughts, feelings, and opinions obtained from landowners in this manner provide a rich source of information on the motivations, needs, and leanings of private landowners (Schuman and Presser 1981). This type of qualitative research catches the information that falls through the gaps of a traditional fixed-response survey and avoiding the likelihood of receiving primed answers (Schuman and Presser 1981). This methodology allows for answers to complex questions and provides deep, rich, information.

Open-ended questions increase reliability and nuance but can be cost-prohibitive due to their lengthy structure and data that is not easily quantified (Schuman and Presser 1981, Geer 1991). In this study the use of a mixed-methods approach, where both quantitative and qualitative data is collected, has been shown to be beneficial in obtaining the rich nuance of open-ended questions with the cost-effective nature of fixed-response survey questions (Vitale et al. 2008).

3.2 Results

3.2.1 Overview

The interviewees randomly selected for the qualitative interviews were self-identified through their response to a request in the mail survey. Though 32 landowners

total were needed for the interviews, 301 agreed to be contacted further. From the 789 completed and returned surveys the interview response rate was 38%. Though what is most often reported and considered in surveys is the response rate of the survey itself, a 38% response rate of voluntary further communication where nothing is promised to the volunteer indicates a high level of interest in the topic of estate planning of forest land.

The resulting transcribed interviews were analyzed using qualitative data analysis software (NVivo for Mac 11.1.1) (Welsh 2002). The coding system developed consists of specific keywords and themes, which were based on the types of information desired to be extracted from the interviews (Appendix 4). The interviews, downloaded into NVIVO, were then searched, coded, and grouped based on these themes and keywords (Stanford University Social Science Data and Software 2011).

The pilot interviews were used as a template to practice using the NVIVO software, developing nodes (keywords in which to place specific sentences or statements), and assigning attributes to each landowner. From this initial effort a multi-page worksheet of nodes with definitions were created and used to code the rest of the interviews (Appendix 5). Each interview was coded independently by up to three different researchers. Given that qualitative work is an iterative process, many meetings and discussions were held along the way to ensure a cohesive understanding and application of the objectives and assignment of the nodes.

As the results of the qualitative analysis are discussed it should be kept in mind that the statements and results are *qualitative* and serve to further highlight themes seen in the mail survey. They are not, however, quantitative and significance values cannot be

calculated. Likewise, node counts and codes represent the efforts of a small group of researchers to elucidate themes from the conversations.

3.2.2 Matrix Query

After the iterative coding process was complete the first step in the analysis was to develop a coding matrix to get a general sense of which nodes were coded the most often, and whether the number of times a node was coded in an interview differed by gender. There were an equal number of male and female interviewees so the values could be compared without worrying that a skew or trend identified was due to one gender being represented more often.

The node classification tree has 5 parent nodes under which more specific child nodes were placed. These parent nodes are: *Communication*, *Factors Influencing Decisions*, *Family Goals and Decision Making*, *Options*, and *Process*. These parent nodes helped identify the major themes pulled from the interviews and assisted in the organization of concepts and ideas. All of the specific child nodes and the parent node they are categorized under can be viewed in Appendix 5.

The coding matrix highlights some of the most interesting node count differences between men and women (Table 7).

Table 7: Results of the Matrix Query. Bolded values were explored further for trends and relationships.

Node	Node Reference Count - Female	Node Reference Count - Male
Communication:		
Family communication	32	29

Landowner communication	48	26
Non-professional resources	31	30
Professionals	91	82
Factors Influencing Decisions:		
Acquisition	21	20
Emotional engagement with the land	27	19
Physical engagement with the land	50	62
Protection	15	18
Tenure	21	12
Family Goals & Decision Making:		
Decision-making	12	19
Fairness	31	22
Family description	48	71
Goals	117	55
Options:		
CE	48	41
LLC LLP	1	0
Trust	38	37
Will	56	77
Process:		
Barrier	51	39
Confidence	37	45
Financial resources	102	53
Future actions	14	32
Informational resources	40	54
Thinking through options	74	36
Timeline	61	44
Triggers	54	37

The first node count difference was between the numbers of times female landowners discussed interacting with the land physically as compared to the male landowners. This difference is particularly interesting when the number of times women discuss interacting with the land on an emotional level is compared to male landowners. More nodes were coded under *physical engagement with the land* for male than female landowners but female landowners had the *emotional engagement with the land* node coded more often. This difference in relationship with the land is illustrated through an interview in with landowner John H.:

“There’s some agricultural going on. Open to hunting is important because it does about a fair amount of woods, and things like that. And forestry, sustainable forestry--we have a Forest Stewardship Plan, and we would like to see that continued. We continue to make improvements, and much of what I’m focusing on is to make it amenable to more sustainable agricultural activities, opening up some land. We plan on cutting some trees in the back and opening up another field that we might have livestock and things like that, so continued agricultural use is important”

Likewise, another landowner, Jim, who owns land in the Westfield watershed in Massachusetts, discusses his engagement with the land:

“And so, I'm definitely interested in sort of full use of this property with an emphasis on maintaining it sustainably, with an emphasis on the health of the habitat and diversity of plant and animal life, the inclusion of recreation in that picture, taking firewood from the wood lot in a sustainable way. I--we have a big open field. And lots of these--and it's not easy to kind of keep it open. The woods want to grow into it. And so, I think it's important to keep it open. Honestly, actually, this little triangle down here that's been--we see sort of 15-, 20-foot saplings and everything, that has grown up since we've been here. It's a wetland tough area to clear. And I'm not happy that it's growing up. But, I don't have the equipment.”

Alternatively, women, when talking about their land, often described a more emotional relationship or motivation to their actions. This was the case with absentee landowner Sarah:

“Well, the land's been in my family, but it's not someplace we frequently went when visiting my grandmother. So, it's just kind of been there. {It's not like a home.} It's--no, it's not developed in any way. - [Planning for the future of the land] it's not

at the top of my priority list. It's kind of low down actually.”

Cynthia, who owns her land with two siblings, also shared her motivations for protecting and engaging with the land:

“I raised my children for 50 years on it as well. So, you have plans then that you're going to do certain things. But, you don't have any control over it. You don't own the property. So, I would just say that the family heart--when I say that, I mean my father, myself, my children, the family heart is there. And so, you want to see it go to a good--well, you figure your parents struggled their entire life to keep something since 1946, you don't want to just blow off the last piece of it to nothing. So, I think that's why.”

Another result from the matrix query that is quite interesting is the increased number of nodes assigned to *landowner communication* under women than men. Though both men and women mentioned consulting with co-owners (in most cases a spouse), women made just over twice as many comments regarding conversations with other owners than men. This difference is identified in the literature where women who make financial and legacy-based decisions alone decide differently than if they make the decision with their spouse (Hacker 2010). This is identified specifically with monetary donations, where, when women asked to donate a large sum, often labor over the decision and take time to consult with their husband. Men, when asked the same question, make a decision immediately, and do not consult with their wife (Hall 2004). This trend is seen in the interviews where women more often mention their spouse and the spouse's involvement with decisions.

An example of this is in an interview conducted with landowner Rise in Massachusetts:

“He feels the same way I do. We’re very--anything that comes up we talk over. In fact, he’s come back from work a few times to meet with XXXX and XXXX ‘cause I always want him part of that conversation, plus he can remember some things better than me.”

This response to a fellow landowner’s involvement can be compared to a response from another landowner, John H., where the level of involvement of the spouse is assumed but undefined:

“And so, planning of the use of the land for increased livestock, for example, it’s a joint discussion. And so, I think--so, generally, she has kind of deferred to what I want, primarily because I think we’re generally in agreement on things anyway.”

The largest number of nodes coded to any category is the *goals* node, specifically for responses by women. This makes sense and follows results of a study by Pajares (2002), which found that among school-age children, girls were both more likely to develop as well as stick with goals. With 117 separate references to goals by women and only 55 by men, this topic was worth exploring further. One landowner, Pat stated:

“I don't want to see that land turned into anything that's used by anybody except people who want to-- maybe it's--it can be developed as a place where people somehow can get to it to walk, to be outside, to--maybe conservation property is a way to go.”

Women also discussed specific steps required to meet their goals more often than men and a specific example of defined steps to meet end goals is seen in a comment by absentee landowner Sarah about her property:

“Well, I probably want to contact the town because-just to see, like, what else is going on.. But, I do notice there are some new houses and things like that. it's like that's the country. And I just would like to see it kind of stay that way. But, I also know that there's some sort of pipeline that might be going through. And I haven't been contacted. I don't think my land would be directly affected by that, but just, like, "Hey, what's going on?" Like, I'd just be--and I'm sort of like an absentee landowner right now. I don't really know, like, what else is going on, like, town vision wide and things like that. So, I wouldn't want to do something counterproductive in regards to what [*specific town were the land is located*] is doing.”

Likewise, landowner Cynthia has ideas about specific dates at which steps should be taken:

“This property runs downhill. It's all wooded. It is under Chapter 61, which is renewable every 10 years. And that will be finishing up on 2017, so we are trying to make some decisions on what to do at this point in time. And quite honestly, we just met with a surveyor yesterday who is going to survey it and pin it.”

This increased reference to goals and intermediary steps by female landowners is interesting especially in light of the reduced levels of confidence identified in the quantitative analysis. These qualitative results further highlight the strong difference between actual limitations and self-perceived limitations.

3.2.2.1 Queries based on Quantitative Findings

After reviewing the matrix query some specific queries based on factors elucidated in the quantitative analysis were run. Queries conducted included node classifications for financial resources, confidence, barriers, and professionals, each of which were cross-referenced with the landowner attribute gender to separate out statements made by women.

Women discussed barriers more often than men but had fewer nodes coded under confidence. This makes sense with the quantitative work explored from the screener survey, which showed that women were more likely than men to have lower confidence. Lack of confidence itself can be considered a barrier, but lacking confidence can lead to the perception of additional barriers as well. This can be seen in a statement by landowner Cynthia related to a question about finding and working with professionals:

“It's kind of like uncharted territory, but, who knows that? We don't know that until you start talking to people, and then you don't know if you are talking to the right people, because this one wants that one and that one doesn't.”

However, Roxanne, when the question of utilizing professionals to write or revise the will came up, identified the process as unpleasant but necessary:

“Well, it's a pain in the butt having to go. It's a time consuming thing and by having it done legally you-- I feel much better than--I mean I know that there is things that you can, you know, buy online and do a will or something like that, but how--am I confident that it would stand up? No, so, I think you, you know, need to do it. Well, like I said, it's just--it's like dragging yourself there, doing--getting the first, you know, moving forward and doing it, I mean for years we've said, oh, we should update our will.”

When the landowner felt supported and nurtured by the professional they had a positive experience. The personal touch and personal relationship really makes a difference. This is evidenced by a number of comments landowner Rise made regarding her efforts to place a conservation easement on her land:

“We were contacted by--somebody at Mount Grace Trust was having a little seminar for landowners.”

“We went there and heard about Chapter 61 and 61A and just heard about all of the great stuff happening in the state, and we--I don't know quite--the state did everything for you. I mean, they basically--when we said we were interested, they sent somebody to talk to us. They just held our hand through the whole process.”

“The state approaching us about the Forest Legacy Project. And XXXX from Mount Grace, she was an intern then, just did a great job explaining it to us. And, again, they've held our hand. XXXX has been incredible through the whole thing. It's pretty confusing because it's a state and federal--lots of things mixed up, and they've been great. They've come out a few times. And it's clear that both XXXX and XXXX love the land and love the woods. And I can--I've taken them all over the property. So, again, I give high marks to the state.”

“It was more that the state and XXXX were just so informative. Any question I had, they were not rushed. They would take time to explain things. And it's confusing.”

This level of care, time, and attention alleviates many of the uncertainties landowners have and can bolster confidence in the process and the estate planning objectives. Rise, the landowner previously quoted as having a very positive experience with both state and non-profit agencies stated:

“I think it was pretty good. I think they know what they’re--my sense is they know what they’re doing. We’re not 100 percent clear on how it works, but I know that’s going to just unfold for us. So yeah, pretty confident.”

This is very different from landowners who talked negatively about professionals. They had experiences where the professional they were working with had a more "hands-off" sterile approach as seen in this comment by landowner Cynthia:

“Well, I think that professionals have been interesting because it’s--they haven’t seen it [the land]. They don’t know it. They don’t have the heart knit or--it’s just property, sell it, some of them. And then you’ll mention the water and then their ears perk up. "Oh, there’s water on it?" Before that it was just swampland. Now let’s look at it. So, it’s even difficult because everyone you talk to has a different opinion or approach or--right?”

Those who had the most positive experience with lawyers and other estate planning professionals seemed to have been going to that same person for all their needs during adulthood or were recommended to them by a trusted friend or family member. Massachusetts landowner Roxanne worked with legal professionals and was able to meet their needs in multiple legal aspects:

“I mean he started by selling us our kids’ life insurance policies. And it just grew from there. So, we’ve had--yeah, we’ve been with this guy for a long time. So, for him and then the other guy was part of – My uncle had an attorney’s practice through his firm. He’s since, you know, deceased. But, you know, we had knowledge of the firm and they’ve been great to us. They’ve taken care of all the other stuff. And when I called up I asked if they did, you know, if they were able to do all of the different aspects. So, it’s been easy. We just go back to who we’ve used before.”

Thus if professionals want to reach female landowners, a personal approach is best. Explaining options without condescension, with patience, and by listening to the needs of the landowner, progress can be made in advising and assisting female forest landowners.

All of the landowners interviewed, both men and women, expressed a desire to keep the land undeveloped and when asked about their long-term vision for the land they stated that they didn't want to see houses on it or didn't want to see it divided into smaller parcels. Many of the landowners also expressed a keen awareness of nature and the natural environment such as this statement by landowner Theodore:

“So, I like to see it managed and cut, and not wasted and stripped, or nothing. I mean I just can't kill an animal. I say I can, but I can't, so. I used to hunt and I never got anything. So, I gave my gun to my grandson and said I don't need it. But, we want it to go, so people can use the land, not abuse it.”

Another landowner, Pat, expressed a desire to live in harmony with the world and had made a specific point to raise her son Zach to regard all life as connected and sacred. Her statement identifies her confidence that Zach will make decisions in line with her vision given the way he was raised:

“Well, we've been talking about being in the world and how to treat the world and how to live in the world and how to respect land and all of that stuff forever. And so, overall, I can say that this, for me, means Zach's attitude toward land and property in the universe, my attitude towards, Sue's attitude toward it, how we shared it as he was growing up, all the hiking we've done together, all the camping, this, and how you take care of land and property.”

Despite these sentiments of keeping the land whole and undeveloped, when asked about the plans landowners had made or were thinking of making to see their goal realized, many of them seemed at a loss. This development of thought from vague goal to uncertain action is well illustrated through statements made by landowner Joyce, who stated:

“I don't want to see houses on it.
I have no idea how.
And on an income of less than \$900 a month, you
can't do them. Right now, I've got medical bills up
the ears.
In spite of the houses on the place, my dad said
houses were not a good crop. You only got one
harvest.”

Similarly, Theodore said, when asked about his future vision for the land provided both his ideal and a defeatist response:

“And I like to see the land used. I know people
abuse it, and it's too bad they do. But, it's--I like to
see it where it--we still have some land somebody
can walk on, see animals. But, I know it's going to
all grow up some day and be populated.”

These landowners, who all have the best and highest ideal for what they want their land to look like and remain as in the future, have just as little understanding on how to meet their goals as they have beliefs in how it should endure. These landowners symbolize others like them and if the majority of the forest land in the United States is held by such private landowners, and these landowners are nearing a point in their life where they have to be making actual decisions about the long-term future of their land, the structure and functioning of forests looks grim.

However, while there are decisions left to be made there is opportunity to educate and inform. As seen through the number of statements in the qualitative interviews of “I don’t know” and in the quantitative analysis, where the majority of female landowners were uncertain about their future plans for the land that window of opportunity is still very much open. The next chapter will include a discussion of some ways in which this information can be used to reach the landowners most in need of it.

CHAPTER 4

MANAGEMENT RECOMMENDATIONS AND CONCLUSIONS

4.1 Recap

The majority of forested land in the United States is owned by private landowners, a large number of who are at or above retirement age. In the coming decades these landowners are going to be making decisions about what happens to their land once they no longer own it. Understanding what prompts individuals to make long-term decisions, and more specifically, conservation-oriented decisions, about their land is of utmost importance if working forested landscapes and the ecosystem services they provide are to remain in place for future generations.

Female landowners specifically play a critical role in the long-term planning and decision-making process given the fact that they generally have a longer life expectancy than men. Women also assess their level of confidence and financial stability in ways that differ than men. This difference in perception influences the decisions they make. Despite this, little is known about decisions female landowners are making and barriers they face to formulating informed decisions that are in line with their goals.

The use of the mail survey as well as the qualitative interviews was essential to obtaining the type of complex information gathering and decision-making patterns sought after. The issues facing female landowners engaged in or considering the future plans for their land could not be adequately illustrated through the use of either fixed-response questions or uninformed qualitative interviews alone. The combination of these two techniques is where this study gets its power. The quantitative analysis highlighted areas

where gender was a significant contributor to specific survey responses and highlighted the relationship between confidence and future intentions among landowners. The qualitative analysis was a continuation of this study, where the results of the survey analysis informed the development of prompt questions for the interviews.

Women and men differ in their risk perceptions, yielding differences in choices made about their land (Gustafson 1998). Differences in estate planning can also be explained through the understanding that women can be more altruistic than men (Andreoni and Vesterlund 2001). This difference can manifest through a landowners willingness to place land in a CR regardless of monetary gain as seen in responses by women and men in the future intentions question of the survey. Women were more likely to choose a conservation-based intention than men.

Gender differences also exist in relation to financial stability and resources where women have been found to be less confident in and have a lower willingness to learn about finances (Chen and Volpe 2002).

4.2 Management Implications

The findings of the mail survey and qualitative interviews will better inform extension work geared towards helping female family land owners make informed decisions about the future of their land. Though many resources and incentive programs exist for the family forest owner, the task of sifting through them all can seem intimidating, leading many landowners to postpone the process. This study recognizes that barrier and worked to identify when exactly the issues arise and what the barriers are that cause so many landowners to make decisions without knowing all their options.

Some of the barriers found to impede planning for female forest landowners included lack of confidence overall, lack of financial resources, and lack of confidence specifically in finding and working with professionals. The process of estate planning, especially if you own land and want to make a decision that is more detailed than “giving it all to the kids”, can turn into a full-time job. Since many landowners already have full time jobs the ability to take on this task of planning for a future event that is almost inconceivable is easily postponed. To add to the level of uncertainty and self-ascribed ineffectiveness that female landowners apply to themselves, the process of making meaningful long-term plans for one’s estate can seem absolutely impossible. Decisions about the future of one’s land are often made as infrequently as once within the 20+ year time span of ownership (Kittredge 2004, Belin et al. 2005, Ma et al. 2012a).

Now that female landowner approaches and barriers to estate planning have been elucidated by this study, a number of methods can be applied to the issue to help them find professionals, get the information they need, and feel confident in the decisions they have made.

One method often used is that of peer-to-peer learning (P2PL). Adopted from the field of education, P2PL is defined as a ‘two-way reciprocal learning activity’ (Boud et al. 2001) and incorporates both a professional-guided structure with peer-peer knowledge sharing (Hamunen et al. 2014). This approach to information dissemination is especially helpful because people will trust information from someone they know (their network) over information from a stranger (Hujala et al. 2009). When issues of confidence are thrown into the equation having someone a landowner trusts to share information or contacts with them may move the decision-making process forward at a rate that could

not be accomplished by unknown contacts alone. Peer-to-peer learning has been shown to assist landowners in making more educated choices about the future of their land as it provides the necessary link to other forest owners facing similar decisions (Hamunen et al. 2014).

The National Woodland Owners Survey (NWOS), the standard by which researchers in the field compare their studies and go to for basic descriptive statistics, supports this need for alternative peer-based methods of engaging with landowners. A reoccurring survey tool distributed by the USDA Forest Service to landowners in the United States, the NWOS indicates that roughly 20% of the family forest owners in the United States received advice from a state forest agency or private consultant concerning management and conservation plans for their land and only 13% actually have a forest management plan (Butler et al. 2016). Likewise, only 2% of the FFOs have an easement, 1% a sustainable forest certification, and only 6% a cost-share (Butler 2008, Butler et al. 2016). These numbers are shocking given that so many landowners express conservation-based goals for the future of their land. A disconnect is occurring between vision and actualization.

In the past decade Forestry Extension efforts to engage non-traditional family forest owners have shifted from a top down model to Peer-to-Peer Learning (Butler and Ma 2011, Ma et al. 2012b, Hamunen et al. 2014). Examples of successful peer-learning styled programs include the Master Forest Owner (MFO) Volunteer Program, Wood Forums, and COVERTS (Allred et al. 2011, Ma et al. 2012b, Buffam et al. 2014).

Research suggests that landowners feel less suspicious of information received from others they perceive to be like themselves rather than from state and government

agencies, where there is a stigma of being indoctrinated (Hujala et al. 2009, Gootee et al. 2010). Because of this it is especially exciting that after participating in a peer-to-peer learning event landowners made an effort to share what they learned with others and reported a greater bank of knowledge than prior to their participation (Ma et al. 2012b, Buffam et al. 2014).

In a study of the Massachusetts-based Woods Forum peer-to-peer learning programs, after completing the program 98% of participants reported having shared, or were willing to share, the information they received (Ma et al. 2012b). Further understanding of how P2PL influences management and transference decisions of FFOs will become increasingly beneficial as the interest profile of landowners continues to diversify (Butler and Ma 2011, Ma et al. 2012b, Hamunen et al. 2014).

One specific way in which P2PL is already being implemented directly because of results of this study is through Female landowner Events in western Massachusetts. These events, supported by local land trusts, state agencies, and extension managers host free gatherings for women interested in forest conservation but are geared specifically towards women who currently own land and are looking for information and resources about estate planning.

The events are hosted at the home of a woman who could be considered a “model landowner”; someone who is aware of her options, has made educated decisions about the future of her land, and is willing to share what she has learned with others. Usually spanning a morning or afternoon, the event starts off with a nature walk of the landowner’s property guided by a wildlife specialist. This portion of the event is designed

to get people immersed in the environment and also to provide a laid-back avenue for conversation.

After the walk lunch is served, also at the landowner's home. Following lunch there is a focused time where land conservation professionals guide an informal discussion about estate planning and the issues that can arise while working through the process. The time of discussion after lunch is really just the beginning of the conversation and in the events held already, the women in attendance continue to e-mail the group with suggestions, information, and other events that may be of interest.

Though the results of this study highlight the differences between male and female landowners and past research highlights the disparity in information dissemination regarding forestland management and conservation, it is not immediately apparent why a separate women's-only event is necessary to remedy this. In order to understand the rationale one must understand the way in which the dynamics of a group of women play out versus that of a group of both men and women.

During the Female Landowner Event women readily shared their stories, express their emotions, and ask questions. Everyone approached the event with a level of acceptance that is hard to quantify but easily felt. As identified in the qualitative interviews where landowners discussed working with professionals, they were more comfortable when they were heard and allowed to ask questions without being rushed or made to feel foolish. It's this same environment that is so powerful about the women-only events and the reason more events like this should be held if forests are truly to be protected.

4.3 Conclusion

Through this semi-structured study of female forest landowners specific factors that influence estate-planning objectives have been identified. Confidence, finances, uncertainty, and finding professionals all play a role in a woman's ability to successfully execute her goals for the long-term future of her land.

Explored further through personal interviews with landowners, these trends continued to hold true and are exacerbated by concerns over access to information and the path from goal setting to goal achievement. Landowners' expressed strong desires to see their land remain as is into the future but have little or no idea how to achieve that goal.

Peer-to-peer networks are one of the best tools available to bridge the knowledge gap. By connecting landowners with questions to landowners with answers information essential to forest conservation will be disseminated at a rate much greater than can be achieved by any one organization. Understanding that the majority of the forest land in the United States is owned privately and on the verge of a massive ownership shift, reaching landowners yet to make a decision about where their land will end up after that shift is essential if forest ecosystems and forest functioning are to continue into the future.

APPENDIX A
SCREENER SURVEY

Thank You!

If you would like more information about planning the future of your land, please email us at:

LandownerSurvey@gmail.com

or call the University representative listed on the cover letter to this questionnaire.



**Your Land, Your Legacy:
A Northeast Survey**

**Sponsored by the Universities of Massachusetts,
Maine, Vermont and Cornell**



The University of Vermont



Cornell University



20. Would you be willing to talk with a member of the University research team? We hope to better understand how landowners make decisions regarding the future ownership of their land, so that we can develop better information materials and workshops for other landowners.

We will only use your contact information for follow-up conversation. Please be assured that your name, phone number, and e-mail will not be associated with your survey responses. We are very interested in hearing your point of view and would be grateful for your participation.

Yes. Please provide your contact information:

Name: _____

participation!



14. Please indicate how much you agree or disagree with the following statements about planning the future of your land:

SD=Strongly Disagree, D=Disagree, N=Neutral, A=Agree, SA=Strongly Agree, N/A=Not Applicable

	SD	D	N	A	SA	N/A
I know where to go for information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I know professionals who can help	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am confident that I know how to move forward	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have enough financial resources to move forward	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My family agrees on how to move forward	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

15. Is your home (primary residence) on or within a mile of this land?

Yes No Not applicable

16. Do you have a vacation home, camp, or cabin on or within a mile of this land?

Yes No Not Applicable

17. What is your gender?

Male Female

18. What is your age?

Years

19. What is the highest degree or level of school you have completed?

Please check one.

- Less than 12th grade
- High school/GED
- Some college
- Associate degree
- Bachelor's degree
- Advanced degree

2. How many total acres is this land?

Number of total acres

3. How many acres of this land is wooded (this does not include Christmas tree farms, orchards, or nurseries)?

Number of wooded acres

4. In what year did you first acquire this land?

Year

5. How did you acquire this land?

Please check all that apply.

- Purchased
- Inherited
- Received as gift
- Other (please specify): _____

6. Who owned this land just prior to you?

Please check all that apply

- My parents and/or my spouse's parents
- My spouse
- Another family member
- Other individual(s) I knew
- Other individual(s) I didn't know
- A business
- A government agency
- Other (please specify): _____

7. Including you, how many people are legal owners of this land?

Owners



8. Who else is legally part of this ownership?
 If you are the only legal owner, please skip to question 9.
 Please check all that apply.

- My spouse
- My children
- My parents
- Another family member
- Business partner
- Other (please specify): _____

9. Do you plan to pass any or all of this land to heirs?
 Please check one.

- Yes
- No
- Have not decided

10. Do you plan to sell any or all of this land?
 Please check one.

- Yes
- No
- Have not decided

11. Development rights for land can be sold or donated through a conservation easement or restriction. Have development rights been sold or donated on this land by either you or a previous owner?
 Please check one.

- Yes
- No
- Don't know

12. Do you plan to keep this land undeveloped in the future?
 Select the one option that best reflects your intentions.

- Yes: passing on land to heirs with instructions not to develop
- Yes: placing a conservation easement or restriction on this land
- Yes: donating this land to a conservation organization
- No: this is not my goal
- Have not decided
- Don't know
- Not applicable

13. Please indicate whether you plan to do or have already done each of the following actions to plan for this land's future.
 Please select only one response for each property planning option.

Property Planning Options	Thought					
	Have not thought about it	about doing it but haven't	Plan to do it in the next year	I am doing this now	Have already done this	I don't plan to do this
Have conversations with family or friends about the future of my land	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Talk with a professional (for example: lawyer, accountant, land trust)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gather information about my options	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Go through process of deciding between my options	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Develop a will	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Set up a trust	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Create an LLC, LLP, or Family Partnership	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Set up a corporation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Place a conservation easement or restriction on my land	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



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APPENDIX B

PHONE TEMPLATE FOR CONTACTING INTERVIEWEES

University of Massachusetts, Amherst
Land Transfer Project – In-person Interview Screener

Interview Options:

Date	Morning: 9-10:30 am	Afternoon: 1-2:30 pm	Evening: 4-5:30 pm
June 24			
June 25			
June 26			
June 29			
June 30			

Watershed: _____

YL#: _____

Interview location (mutually agreed-upon): _____

Interviewer's name: _____ Interview date: _____

Respondent's Name: _____

Address: _____

City, State Zip: _____

Phone: Home _____ Work: _____

Mobile: _____

E-mail: _____

[START OF SCREENER SCRIPT]

Hello, my name is Rebekah. I am a graduate student calling from the University of Massachusetts. A few month's ago, {insert respondent's name} responded to a survey we did and said she/he would be willing to having a conversation with us.

[AVAILABLE]

1. Is {insert respondent's name} available?

Yes() [CONTINUE]

No.....() [IF NO, REASON FOR NOT

RESPONDING:_____

[IF CURRENTLY UNAVAILABLE, ASK FOR A BETTER CALL
BACK DATE/TIME]: _____ [THANK AND CALL
BACK LATER]

[IF UNAVAILABLE, ASK IF THEY WOULD BE WILLING TO BE
CONTACTED AGAIN IN AUGUST.]

[REPEAT FIRST 2 SENTANCES IF TRANSFERRED TO A NEW PERSON]

Hi {insert respondent's name}. A few months ago we sent out a survey about your land and your plan for it in the future. In the completed survey you indicated a willingness to participate in a follow-up conversation

1. Are you still interested in having a discussion with us?

Yes...[CONTINUE]

No...[THANK AND ASK IF THEY WOULD BE WILLING TO BE CONTACTED AGAIN IN AUGUST, IF APPLICABLE]

Great! Thank you. Your participation will be very helpful and we greatly appreciate it.

[GOAL]

Our goal is to design informational materials and workshops for other woodland owners in the region that will help them when it comes time to make decisions about their land.

We are not selling anything and all of your responses will be kept confidential.

[IF ASKED WHO WE ARE DOING THIS FOR]: We are conducting this work under a USDA grant, working with three other Universities in the region: Cornell University, University of Maine – Orono, University of Vermont.

2. Do you still own the property located in {insert appropriate town name}?

Yes() [CONTINUE]

No.....() [IF NO, THANK AND TERMINATE]

3. a. What is total number of acres you own at this location?

10+ () [CONTINUE]

<10 () [THANK AND TERMINATE.]

[INVITATION]

Great. Let's set up a time a time and location to meet that is convenient to you {Insert date and time from above}.

VERIFY/UPDATE NAME AND CONTACT INFORMATION.

4. [ASK]

What date between {Insert date range from above} would be good for you?

What time would be good for you? _____

Where would you like to meet – for example, your house, a local library, community center?

–

Our conversation will be very casual. You will be asked to share your thoughts and experiences about planning your land’s future with me. The discussion will last approximately one and a half hours and you would be given an honorarium of a maple syrup for your time and cooperation.

Though I am specifically in hearing from you, you are welcome to have other people there, such as a spouse or son/daughter as long as these individuals are over the age of 18.

Do you have any questions? Great. Thank you for your time. I look forward to sitting down with you and hearing about your land.

[THANK, INDICATE WE WILL CALL WITH A REMINDER ONE WEEK BEFORE.]

APPENDIX C

TEMPLATE FOR SEMI-STRUCTURED PILOT INTERVIEWS

Qualitative Interview Template - 10 MINUTES:

Thank you for agreeing to meet with me today. I'm looking forward to hearing about your experiences as a landowner.

Before we get started, I have a little University housekeeping to do. This form tells you the details of our project, what our goals are, how your personal information will be protected, and where to go if you have questions. If you could read and fill out this form before we continue, that would be great. [IRB PARTICIPANT AGREEMENT FORM]

Ok {PARTICIPANT'S NAME}, thank you for helping us with our research.

As we move through the conversation I'll be asking you a series of questions. I'll also be using this iPad to record our conversation. Just so you know, we are RECORDING the session so we can go back and review the discussion. This record will *not* be used for any other purpose than informing our study. We will not be sharing this audio information with anybody, and your statements will remain CONFIDENTIAL.

Our conversation should last between 1 and 1 and ½ hours.

For the following questions that I'll be asking, please respond specifically for your land located in {A CERTAIN TOWN}.

Do you have any questions for me before we get started?

I want to share with you some background and context for why I'm asking these specific questions. First off, the majority of the forested land in {YOUR STATE} is owned by private landowners such as yourself. Past research and surveys, much like the one you filled out earlier this year, have indicated that the majority of these landowners are at or above retirement age. This means that within the next 20 years or so much of the forested land in the {YOUR STATE} will be changing hands. How and in what form the land changes hands will largely determine what our landscape looks like and functions as in the future. What I'm hoping to learn is how current landowners are making decisions about the future of their land.

By "future of their land" I'm referring to the long-term future - what the land will look like to the next generation - who will own it, what it will look like, and the steps needed

to get it there. This can be anything from giving the land to one's children in a will, to selling the land, to permanently protecting it through a Conservation Easement.

By understanding how and why these decisions are made, as well as any obstacles that may keep landowners from completing their original plans, we can develop better outreach and informational materials that can meet landowners where they're at and assist them in completing their plans for the future of their land in the way they intended.

We're interested in hearing from landowners in all stages of the decision-making process, from just beginning to think about the future of their land to those having made final long-term plans.

Did anything I said seem confusing or do you have any questions about it?

SECTION 1 – 10 MINUTES:

Wonderful! I'd like to start off by hearing some of the back-story to this property. Could you share with me **How long you've owned your land?**

How did you come to own it?

Does anyone else own the land with you? If so, who?

If it doesn't come out in the above answer – **What do you like most about your land? It can be anything.**

SECTION 2 – 15 MINUTES:

It sounds like you really enjoy this land. I can imagine that you have many interesting plans for your land over the upcoming years. Our study is looking at the long-term intentions landowners have for their land though, so, I'd like to know more about your future intentions with it. **How long do you plan to own your land?**

Eventually someone else will own your land. At that time, **What would you like to see happen to it?**

If it doesn't come up in the answer

Who would you like to see own your land?

Examples: land trust, public ownership, private ownership, your family

Are there ways you would like to see the land used or ways you wouldn't want the land used?

What steps do you think are necessary in order to see your vision for the land realized?

SECTION 3 – 20 MINUTES:

In regards to the long-term plans for your land that you shared with me, **What planning or actions have you done so far?**

Can you share with me what prompted you to take these steps?

Who did you speak with or gather information from while thinking through your options?

Examples: friends, family, professionals, web

How confident were/are you in taking this/these step?

Prompt: confident in having conversations with family, or beginning plans outlined above – confidence in moving through any barriers identified

Did you run into any challenges when you {INSERT TTM STAGE AND ENGAGEMENT LEVEL}

If finances aren't mentioned, ask if they have enough financial resources now for their future plans

If professionals aren't mentioned, ask about them – finding them, communicating with them, recount experiences

Besides {INSERT TTM STAGE AND ENGAGEMENT LEVEL}, will you be taking any other steps to achieve your goals for your land's future?

If they will be doing something else, ask about their timeline if they don't mention it.

What additional benefits do these other steps give you on top of those already discussed?

SECTION 4 – 20 MINUTES:

You mentioned that you own your land with {FILL IN THE BLANK IF TRUE}.

Can you share with me some of the conversations or discussions you have had with the other landowners?

Are you in agreement with what to do about the long-term future of the land?

If Yes: **How did each of you come to be in agreement with each other?**

If No: **What do you think is necessary to reach agreement with the other landowners?**

I'd like to spend some time hearing about conversations you may have had with your family about the future of your land. **Did you talk to your family when making decisions about the future of your land?**

If no - **Have you involved others in your decision making process? Who?**

If yes - **In what ways have family been included?**

Have there been aspects of these conversations that have been particularly helpful?

Difficult?

*If they have children or heirs and fairness doesn't come up, ask **Is fairness a consideration when deciding the future of your land?***

If Yes: **What does fairness mean to you?**

When you were having these conversations with {INSERT FAMILY MEMBERS OR OTHERS} that we talked about, **Was there information or resources you wish you had to help you in these conversations?**

SECTION 5 – 5 MINUTES:

Are there any other thoughts you have about the future of your land that I didn't ask or that you'd like to share?

Thank you very much for your time and for sharing these aspects of your life with me. I really appreciate it.

Let them know that you would be glad to share the generalized results of this study. Ask for a mailing address or email address where you can send results at the conclusion of this project.

APPENDIX D

TEMPLATE FOR SEMI-STRUCTURED INTERVIEWS IN ALL STATES

Introduction - 10 MINUTES:

Thank you for agreeing to meet with me today. I'm looking forward to hearing about your experiences in planning for the future ownership of your land.

Before we get started, I have a little University housekeeping to do. This form tells you the details of our project, what our goals are, how your personal information will be protected, and where to go if you have questions. If you could read and fill out this form before we continue, that would be great. [IRB PARTICIPANT AGREEMENT FORM]

As we move through the conversation I'll be asking you a series of questions. I'll also be using a device to record our conversation. Just so you know, we are **RECORDING** the session so we can go back and review the discussion. This record will *not* be used for any other purpose than informing our study. We will not be sharing this audio information with anybody, and your statements will remain **CONFIDENTIAL**.

Our conversation should last between 1 and 1 and ½ hours. {DON'T START RECORDING YET.}

For the following questions that I'll be asking, please respond specifically for your land located in {A CERTAIN TOWN}.

I want to share with you some background and context for why I'm asking these specific questions. First off, the majority of the forested land in {YOUR STATE} is owned by private landowners such as yourself. Past research and surveys, much like the one you filled out earlier this year, have indicated that the majority of these landowners are at or above retirement age. This means that within the next 20 years or so much of the forested land in the {YOUR STATE} will be changing hands. How and in what form the land changes hands will largely determine what our landscape looks like and functions as in the future. What I'm hoping to learn is how current landowners are making decisions about the future of their land.

By "future of their land" I'm referring to the land after you no longer own it – who do you want to own it, how do you want it be used, and what steps do you need to take in order to see those things happen. This can be anything from giving the land to one's children in a will, to selling the land, to permanently protecting it through a Conservation Easement.

By understanding how and why these decisions are made, as well as any obstacles that may keep landowners from completing their original plans, we can develop better outreach and informational materials to assist landowners in completing their plans for the future of their land in the way that meets their goals .

We're interested in hearing from landowners in all stages of the decision-making process, from just beginning to think about the future of their land to those having made final long-term plans, so no matter where you are in the process, hearing about your plans and experiences will be very helpful.

Did anything I said seem confusing or do you have any questions about it?

SECTION 1 – 10 MINUTES:

{TURN ON RECORDER}

OK, for the record, my name is {INSERT YOUR NAME} and I want to thank you {INSERT PARTICIPANT'S FIRST NAME ONLY} for agreeing to talk with me.

I'd like to start off by learning more about your land.

- 1.1 Could you share with me how long you've owned your land and how you came to own it?**

- 1.2 Does anyone else own the land with you? If so, who?**

- 1.3 If it doesn't come out in the above answers – What do you like most about your land? It can be anything.**

SECTION 2 – 15 MINUTES:

- 2.1 Now I would like to learn more about your goals for the future ownership and use of the land? Can you tell me what you would like to see happen to your land after you no longer own it?**

If it doesn't come up in the answer

Who would you like to see own your land?

Examples: land trust, public ownership, private ownership, your family

Are there ways you would like to see the land used or ways you wouldn't want the land used?

What steps do you think are necessary in order to see your future goals for the ownership and use of the land realized?

SECTION 3 – 20 MINUTES:

I see from the survey that you filled out that you have {INSERT THE PLANNING AND/OR ACTION THE LANDOWNER HAS DONE}. I'm very interested to know more about how this happened.

3.1 Can you please tell me the story of how you decided to do this and how you actually made it happen/or plan to actually make it happen?

3.2 Can you share with me what prompted you to take these steps?

If they mention age, ask them what events are associated with getting older that prompt decisions or actions

3.3 Who did you speak with or gather information from while thinking through your options?

Examples: friends, family, professionals, web, spouse

3.4 Thinking back to the time before you [INSERT TTM STAGE AND ENGAGEMENT LEVEL], when you were still planning, how confident were you that moving forward with {INSERT ACTION/TOOL} was the right decision?

Prompt: you knew the options available to you, you chose the best steps to go forward , who to work with, in moving through any barriers identified,

3.5 Now that you have done {INSERT ACTION/TOOL}, how confident are you that it will achieve your goal of {INSERT SUMMARY OF GOAL(S)} for the land?

3.6 Tell me more about what the process of planning your land's future felt like as you were going through it.

3.7 Did you run into any challenges when you {INSERT TTM STAGE AND ENGAGEMENT LEVEL}

If finances aren't mentioned, ask if finances were an obstacle or consideration

If professionals aren't mentioned, ask about them – which types of professionals, finding them, communicating with them, recount experiences

3.8 Besides {INSERT TTM STAGE AND ENGAGEMENT LEVEL}, will you be taking any other steps to achieve your goals for your land's future?

If they will be doing something else, ask about:

1. their timeline and triggers for doing this next step if they don't mention it.

*If they mention **age**, ask them what events are associated with getting older that prompt decisions or actions*

2. How this additional step will help with their goals

3. Any challenges they have run into or expect to face when taking this next step.

4. Did they consider any other options besides these? What was the deciding factor(s) in choosing?

If they aren't going to do something, ask why they aren't taking any more steps to plan the future of their land. And ask if they considered other options than those they took. What was the deciding factor(s) in choosing?

Prompt: Satisfied with what they have? Finances? Confidence?

SECTION 4 – 20 MINUTES:

4.1 We just discussed that you have { INSERT TTM STAGE AND ENGAGEMENT LEVEL}. You also mentioned that you own your land with {LANDOWNER NAMED ABOVE}. Describe the type of conversations or discussions about the future of the land with {LANDOWNER NAMED ABOVE}.

Prompt: How often? When do you have them? Are they explicitly about the future of the land itself?

4.2 Do you share the same vision with {LANDOWNER NAMED ABOVE} about the long-term future of the land?

If IN AGREEMENT: Have you always shared the same vision? How did get to be in agreement with each other?

If DIFFERENCES: In what ways do your visions or goals for the future ownership and use of your land differ? Do you need to have the same visions or goals to move forward? If so, what do you think is necessary to reach agreement with each other?

If not mentioned: Information? Facilitation/mediation?

- 4.3** Besides, {INSERT THE OTHER OWNER MENTIONED ABOVE} I'd like to spend some time hearing about other conversations you may have about the future of your land. **Describe the kinds of conversations you may have had with your family when making decisions about the future of your land?**

If NO, skip to Question 4.4.

If YES HAD CONVERSATIONS WITH FAMILY:

In what ways have family been included?

In what ways have those conversations been helpful?

In what ways have those conversations been difficult?

If they have children or heirs and fairness doesn't come up, ask

- 4.4** **Are there other people you had conversations with about the future of your land?**

If it doesn't come up: friends, neighbors, professionals

- 4.5** **How has being fair shaped your decision?**

Prompt: What does fairness mean to you?

- 4.6** When you were having these conversations with {INSERT FAMILY MEMBERS OR OTHERS} that we talked about, **What, if any, information would have improved those conversations?**

SECTION 5 – 5 MINUTES:

- 5.1** **Are there any other thoughts you have about the future of your land that I didn't ask or that you'd like to share?**

Thank you very much for your time and for sharing these aspects of your life with me. I really appreciate it.

Let them know that you would be glad to share the generalized results of this study. Ask for a mailing address or email address where you can send results at the conclusion of this project.

APPENDIX E

QUALITATIVE INTERVIEW NODES AND NODE DEFINITIONS

Sub-headings and Nodes:

Process

Triggers – what prompted landowners to start thinking about, talking about, or doing X.

Timeline – when landowners plan to do X that has to do with the future ownership and use of their land. Or how long they have been thinking about a decision. Or how long it took them to formalize their wishes.

Informational resources – Professionals, pamphlets, websites, books.

Barrier - limitations or road blocks landowners face when planning future ownership and use. Examples include lack of transportation to lawyer's office, lack of money, lack of knowledge. This is what limits the landowner while confidence (below) would be more related to the landowner feels about that limitation.

Financial resources – cost of the process or interviewees financial assets or income (e.g., low income, comfortably retired)

Confidence – any reference or mention of confidence or uncertainty related to future ownership and use of the land. Landowner may say specifically that they are or are not confident but also can include general statements of uncertainty and/or lack of planning.

Future actions – Description of actions they plan or hope to take in the future

Thinking through options – Choices that landowner(s) are contemplating for the future; going through process of deciding through options

Options

CE – reference or discussion of a conservation easement. This is a specific reference to the option, rather than a general sentiment of wanting the land to be conserved or donated to a conservation organization.

Trust - any reference or discussion of a trust.

Will - reference or discussion of a will. This can be specifically about their will, plans to revise or write a will, or even general opinions on wills in general.

LLC/LLP - reference or discussion of a LLC/LLP. This is a specific reference to the option.

Family Goals and Decision-making

Goals – big picture goals of the landowners, e.g., “keep the land undeveloped,” “keep my children’s options open”

Decision-making – how decisions about the future of the land be made, e.g., spouses will talk to kids and then decide, family will decide together

Fairness – direct reference to fairness, importance of fairness, definition of fairness

Family description – description of heirs or other family circumstances that are a consideration when deciding the future of the land, but NOT conversation with family (see *Communication with Family* below), e.g., “I have two children and I don’t know what they may need from the land,” “It was given to me by my parents, so I need to make sure my sister gets some money if we sell.”

Communication

Professionals – lawyers, estate planning professionals, professionals working at land trusts or other conservation organizations. Anyone paid and/or consulted in a professional manner related to the landowner’s estate planning and land goals.

-*Positive* – direct statements about professionals

-*Negative* – same as positive

Non-professional resources – talking with neighbors, friends, peers, etc. related to the future planning of their land.

Family communication – Specific conversations with family members about the future of the land

Landowner communication – conversations among the people that own the land about the future of the land (e.g., spouses, siblings)

Factors Influencing Decisions

Tenure – how long landowners specifically have owned the land. Landowners may tell a story about how a distant relative owned the land etc. but this is specifically their length of ownership.

Acquisition – how landowner came to own the land; Any story or comments on looking for, purchasing, inheriting, and people who helped them in any of the aforementioned activities.

Physical engagement with the land – level of activity on or related to the land, such as “we have a forest management plan,” “we hike on our land,” or “I just harvest for timber when my forester tells me I should”.

Emotional engagement with the land - landowner’s emotional connection with the land that goes beyond monetary or physical resources the land provides such as “this land has been in my family for 3 generations and I want to make sure it stays in the family after I’m

gone", "I love this land", " I want this land to be there for future generations." Can be positive or negative emotions, as well as strong or weak emotional connections.

Protection – landowner considers certain activities to protect themselves and/or their land

Landowner Attributes from survey – interviews will be searchable and categorized by:

TTM Stage

Age

Gender

Education Level

Parcel Size

State

Priority Area

Other

Quotes – phrases that may be helpful when writing papers.

Interview Characteristics – each interview will have specific pieces of information noted:

Interviewer

Interviewee(s) and relationship to primary interviewee

Interviewer perceptions and observations about interviewee(s)

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