

Family Forest Owners' Perceptions of Landowner Assistance Programs in the USA: A Qualitative Exploration of Program Impacts on Behaviour

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Abstract Using data collected from a series of focus groups, this study examines how landowner assistance programs (which may include management plans, cost-share, technical assistance and advice, and education components) affect family forest owner behaviour in the USA. Not surprisingly, most owners who participated in assistance programs had pre-existing management objectives. Participation in the management plan and cost-share components was found to facilitate the stewardship of private forests by assisting and reinforcing the behaviour of those landowners who already intend to manage their land in some pre-conceived manner. Advice and educational components appeared to do more in terms of introducing owners to new ideas. The mix of components offered as part of a landowner assistance program should consider the goals of the program and which components will be most effective in achieving those goals.

Keywords Focus groups · Landowner assistance programs · Forest Stewardship Program · Non industrial private forest owners

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Introduction

Forests benefit society by providing timber, clean water, wildlife habitat, preservation of cultural and historic sites, recreational opportunities, and countless other benefits (Chopra and Dasgupta 2008). These manifold social benefits have prompted governments the world over to create programs to help ensure the long-term flow of these goods and services. While some programs focus on the acquisition of land by the government, other programs have sought to encourage sustainable management through voluntary assistance programs (Cubbage et al. 1993). The latter set of tools is particularly important in nations with large concentrations of private forestland, such as the United States of America.

In the USA, 56 % of the forestland is privately owned, and of this nearly two-thirds is owned by families, individuals, trusts, estates and family partnerships, collectively referred to as family forest ownerships (Butler 2008). No other group owns more forestland in the USA than family forest ownerships. The estimated 107 million ha (264 million ac) of family forestland are controlled by an estimated 10.4 million family forest ownerships (Butler 2008).

Policies aimed at family forest owners can be broadly classified as educational, technical assistance, financial, and regulatory (Kilgore et al. 2007). The focus of the current paper is on landowner assistance programs associated with the USDA Forest Service's Forest Stewardship Program (FSP). Useful reviews of other policy tools used in the USA can be found in Cubbage et al. (1993), Kilgore et al. (2007), and Butler et al. (2012).

The FSP is a national-level program that is aimed at providing landowner assistance to family forest owners, often referred to as nonindustrial private forest owners, in the USA (USDA-FS 2011). The stated goal of the program is to encourage "the long-term stewardship of nonindustrial private forestlands by assisting owners of such lands to more actively manage their forest and related resources" (USDA-FS 2011, pp. 9–10). The FSP is coordinated by the USDA Forest Service and is administered by state forestry agencies. State forestry agencies have latitude in how the funds are used, within the broad area of encouraging stewardship on family forestland, but most activities relate to writing forest management plans, technical assistance and educational programs (Butler et al. 2014). The funding for these activities is often leveraged with state funds and it is not possible to separate the comingled federal and state funds.

Previously, two national and a number of state or regional evaluations of FSP have been conducted. At the national level, evaluations were conducted by Esseks and Moulton (2000) and Esseks and Moorhouse (2005), the second of which largely replicates the data collection methods and findings of the first. In both studies, the authors drew a simple random sample of landowners from across the USA who had received an FSP management plan. Fifty-four per cent of respondents in the 2005 survey said they were applying at least one management activity that was "new to them." The 2005 survey found that: 20 % of respondents paid for information relating to forest management after joining the program; 64 % said they were likely to continue seeking professional advice; and 36 % said they were likely to pay for

that advice. These percentages were similar to what was found in the 2000 study. The authors also conducted a logistic regression analysis as part of the 2005 study that found the receipt of follow-up technical assistance was significantly correlated with several landowner actions, including following through on a management plan and spending at least \$1000 on that plan that would not be reimbursed by cost-sharing.

State (Lorenzo and Beard 1996; Egan et al. 2001; Jennings and McGill 2005) and regional (Baughman and Updegraff 2002) analyses support the findings of the national studies. In general, the studies suggest positive results of the program with high levels of satisfaction and high rates of plan implementation among responding participants.

A common limitation of these studies is that program participation is often narrowly defined as having a written forest management plan. It is estimated that less than 4 % of family forest ownerships in the USA have a written forest management plan (Butler 2008) and these plans may or may not have been the result of participation in an assistance program. So in addition to focusing on a relatively small percentage of family forest ownerships, this approach ignores the potential influence of other facets of landowner assistance programs, such as technical assistance and education events. There is also a potential for bias in the results of these studies if those who respond are more likely to have positive opinions of the program than non-respondents.

Most previous studies relied upon logistic regression models to show what factors are correlated among assistance program participation and landowner characteristics and behaviours. This analytical approach, while highly useful, is unable to establish causal relationships. Bliss and Martin (1989, p. 605) showed that qualitative methods provide a means of discerning some causal relationships because they “are more effective for discovering the relationships between beliefs, attitudes, and behavior.” Program evaluations that have integrated qualitative methods have yielded robust, nuanced results that provide greater insight into causality. Melfi et al. (1997), for instance, surveyed and interviewed family forest owners assisted by FSP and found that 79 % of respondents would have performed the same management activities even if they had not participated in the program. However, the study also found that possession of a professionally-written management plan made educated decisions more likely. Qualitative methods can yield rich, nuanced details and insights that cannot be gleaned otherwise. Addressing the link between assistance programs and human behaviour requires open-ended lines of questioning and studying owners “not disaggregated into traits to be tabulated, but rather ... studied intact, so that [owners'] comments can be understood within the context of his or her socio-economic situation and personal history” (Bliss and Martin 1989, p. 604).

The present study seeks to improve the forest conservation community's understanding of what effect forestry assistance programs, and in particular assistance associated with the FSP, have on family forest owner behaviour. This is of particular importance because previous research has cited the limited success of government programs to motivate family forest owners (Erickson et al. 2002). In order to address this issue, the present study adopts a qualitative approach for examining the links between landowner assistance programs and family forest

owner behaviour. This paper stems from a larger, national examination of the FSP which involved multiple analytical methods, and broadly examines how family forest owners are affected by assistance programs in order to help program administrators and policy-makers better understand the effectiveness of the FSP and identify means for improvement (Butler et al. 2014). In a series of focus groups, family forest owners were asked to appraise how they perceive the four most common components of assistance programs (i.e. management plans, cost-share, technical assistance and advice, and education) have affected their behaviour. The qualitative approach of this study brings insight and perspective that could not be accessed through existing data or more traditional quantitative approaches and allows for better discernment of the causal relationships between assistance programs and landowner behaviour.

Research Method

Data Collection

In order to determine how the varying components of landowner assistance programs affect landowner behaviour, this study coordinated focus group discussions with family forest owners across the USA. Twelve focus groups were conducted in six locations (2 groups per location) using conventional techniques as described by Krueger and Casey (2009). The focus group discussions were held in August and September 2012 in Boulder, CO; Statesboro, GA; Decorah, IA; Somerset, KY; Oneonta, NY; and Spokane, WA. Each focus group lasted approximately 2 h. A total of 96 landowners participated in the focus group discussions.

Aside from their inherent utility of allowing researchers to collect information from many study participants at once, focus groups hold appeal because they encourage free-flowing conversation and idea-generation (Eliason et al. 2003) and facilitate collective insights due to shared experiences and understanding of the group (Palmer et al. 2010). Focus groups can also provide practitioners, administrators and policy-makers with in-depth, issue-specific information (Leahy et al. 2008), because they allow researchers to understand how individuals make sense of social issues and how these understandings bear on their support for public policies (Manuel and Kendall-Taylor 2009).

The specific states in which the focus group discussions were held were selected to reflect wide geographical distribution to allow for the voices of family forest owners from across the continental USA to be heard. The states needed to have FSP participant information available in a GIS format, which was the format of information needed for recruitment of focus group participants. The FSP lists were composed largely of family forest owners who had written forest management plans; owners who participated in the FSP via other methods were included via the sampling described below. Within each state, focus group locations were selected where there were high concentrations of FSP participants within a 45-min driving radius.

Additional family forest owners were recruited for the focus groups in order to include owners who participated in the FSP via methods other than just management

plans and in an attempt to hear from owners who had not participated in the FSP. Property tax records were linked with remote sensing landcover data to generate this second list of potential focus group participants. This was done in order to obtain the views of unengaged family forest owners, or those who may have limited or no experience with landowner assistance programs. The intent was to hold one of the two focus groups in each location with the FSP participants and one with non-participants. Due to inaccuracies in the FSP participant lists and many owners not knowing whether that have participated in an assistance program, an interesting finding in and of itself, the groups were more mixed than intended. One group was always dominated by FSP participants and the other by non-participants, but no groups contained exclusively one or the other. In the end, this proved useful because the interactions between the FSP participants and non-participants provided many insights.

A purposive sample of family forest owners was drawn using a screener questionnaire when contacting potential study participants via telephone. Participants were required to be at least 18 years of age and own at least 4 ha (10 ac) of forestland. Participants also had to be one of the principal decision makers regarding their forestland. The recruiters attempted to assemble family forest owners of varying ages, with a spread of parcel sizes, and having varying ownership types (e.g. joint, single, family partnership, and trusts). Participants were screened on the intensity of their land management activities in order to obtain information from active and inactive landowners. Any landowner who was employed as a natural resource professional was excluded from the study so that their expertise would not dominate or otherwise stifle group discussion.

Participants were provided a US\$75 honorarium for their participation in the study as well as a light meal. The study was performed in accordance with the human subjects research requirements of the Institutional Review Board of the University of Massachusetts, Amherst.

A topic guide was used to ensure that all subjects of interest were discussed in each focus group. The topic guide covered land-use decisions (sales, subdivisions, land conversion) and land management activities (commercial timber harvests, thinning, planting, fire hazard reduction, managing for invasive species). For all these topics, participants were asked to explain what influenced their behaviour and decision making. Participants were also asked to describe how management plans, educational events and materials, technical assistance and advice, and cost-sharing did or did not affect their behaviour. The same trained moderator guided all the focus group discussions. Because land-use behaviour is not a focus of the FSP and was discussed by only a small subset of the participants, the discussion in this paper is focused on land management behaviour.

The discussions were audio-recorded and then transcribed. The transcripts were the principal data source analysed in this study.

Data Analysis

The intent of this study is to determine how the components of landowner assistance programs (i.e. management plans, cost-share funding, technical assistance, and education) influence the behaviour of family forest owners. Although the study had

specific research goals, the researchers followed the advice of Charmaz (2006) and refrained from forming hypotheses a priori in order to remain open to all possible meanings present in the focus group transcripts.

Elemental and axial coding methods were employed as described by Saldaña (2009). The transcripts were first read to develop a general feel for the data. A second reading resulted in a list of emergent themes and ideas that represented the meanings present in the texts. These themes were then arranged into topic and sub-topic categories, which formed the basis of the coding scheme. The coding scheme was developed and refined through an iterative process until all data were adequately covered and the conceptual categories aligned with the research questions. NVivo 10 (QSR International 2012) was used to facilitate the coding process.

Results

An average of eight family forest owners attended focus group discussions, with a range of 5–13 owners per group. The participants were predominantly, though not exclusively, male, white, and 50 years of age or older. This matched well with the demographics of family forest owners from across the USA as reported in Butler (2008). Almost all focus group participants had performed at least one land management activity (e.g. commercial timber harvest, thinning, planting, reducing fire hazards, or doing something to reduce the number or impact of insects, diseases, or invasive plants) in the previous 5 years, while many had performed several. A majority of the participants had a written management plan.

Even among those participants who were verified to have participated in the FSP, no landowner was aware that they had actually done so. This is because the programs are administered through state forestry agencies and are not generally advertised as being part of the FSP. In receiving assistance from the state forestry agencies, owners would often receive assistance from other programs as well. For example, many of the owners reported receiving cost-share assistance in carrying out activities on their land. This assistance is paid for by non-FSP funds, but most owners did not know the specific source of the funding. Due to these complexities, broad types of assistance are discussed below, regardless of the source of funding.

Impact of Management Plans on Landowner Behaviour

Most of the participants with written management plans indicated the plans had moderate to minimal impact on their behaviour, describing their management activities as something they “would have done anyways” even without the plan. This paper refers to the activities they would have carried out anyway as *pre-existing management objectives*, i.e. goals or desires for their land that existed prior to development of a plan. The participants who had written plans often developed them incidentally through the pursuit of these pre-existing management objectives, with some noting the management plans “don’t hurt” and help “keep you on track.” Typically, the plans were recommended by a forester the participant had contacted

for advice regarding the management of their forestland. Many participants also stated they acquired their plan as a prerequisite for a tax-abatement or cost-share program.

Regardless of how or why they developed their written management plans, the participants indicated that the plans generally did not influence them to engage in behaviour they were not already planning on doing, or to which they were not already receptive. Although the plans did not necessarily influence *what* the participants wanted to do, the plans did have an effect on *how* they were doing it. Most of the participants described their plans as a form of quality assurance, guiding them in how to best accomplish their pre-existing management objectives. Without a plan “we would have gone by the seat of our pants ... and yeah, it would’ve happened, but not in a good way,” remarked one Washington forestland owner.

Impact of Technical Assistance and Management Advice on Landowner Behaviour

The participants’ descriptions of how their management plans affected their behaviour were often intertwined with descriptions of the technical assistance or advice they received from a forester or other natural resource professional. This overlap was due to the fact that they typically had some objective in mind before contacting a forester or developing a plan. Participants typically credited natural resource professionals with helping them to accomplish their pre-existing management objectives the “right” way. When asked if he would have pursued his objectives differently without a forester’s advice, one participant responded “yeah, I wouldn’t have got it right, that’s for sure.”

Many participants described technical assistance as something that exposed them to “new to me” ideas that were in line with their pre-existing values and objectives—ideas that prompted them to pursue other management strategies. “The Department of Natural Resources has been fortunate to go the next step. [They] say, ‘well, yeah, you marked [the trees] now but what about the future?’ And they’ve been good at giving us ideas and programs and all that. Some kind of a guideline,” explained one Iowa forestland owner.

Discussions also revealed that site visits with natural resource professionals can reinforce an owner’s objectives and intensify their efforts. As one Kentucky resident explained, “I talked to the local experts and sort of set the stage as to what I was preparing to do and they seemed to encourage it. So I went ahead and set that in motion.”

Impact of Cost-Share on Landowner Behaviour

For those participants who had received cost-share funding, the funds did not initially inspire their behaviour—they were already planning on doing the specific behaviour. However, the receipt of such funds did cause many to intensify their management efforts or cover more acreage. When asked if he would have performed the same management activities without the cost-share funding, a Colorado resident explained “I would have done my plan, but I wouldn’t have gone

beyond my plan like I did, [and because of the cost-share funding] I'm going to be doing a lot more than I would have done on my own." This is consistent with the findings of Bliss and Martin (1989).

None of the participants explicitly stated cost-share funds or financial profit were primary motivating factors for their behaviour. However, economic incentives and cost-benefit considerations did play a role in their decisions. For some of the participants financial considerations were simply not a factor, or were just ignored altogether. "Oh I don't know," mused one participant when considering why he never harvested timber, "I guess I just don't want to make a profit off my sacred space." Participants who engaged in commercial timber harvests typically did so to defray other expenditures, and not primarily as a source of income. "The first time I harvested some trees was right after I bought it [referring to the land] like you guys [gesturing at the other focus group participants]. Used a little bit of the money to help offset the cost of getting in there and getting situated in the homestead," one Georgia resident explained. Many of the participants also indicated that activities like commercial harvests were simply incidental to accomplishing their stewardship objectives. When asked if she would have harvested without the financial reward involved, one Washington resident exclaimed "Oh, absolutely! Because it [referring to the land] needed to be brought up to its very prime. And that's where it is now."

Impact of Education on Landowner Behaviour

In the context of this study, "education" includes classes, field tours, talking to peers, reading magazines and pamphlets, receiving professional advice, or in-depth training like a Master Forest Owners program (Kueper et al. 2013b). Education served to expose the participants to new ideas regarding the management of their forestland, as well as to reinforce their pre-existing management objectives. "The more I get out and do some of these field tours and workshops ... the more I see what other people are doing, it excites me and motivates me and [makes me think] 'why didn't I think of that' and 'that's a good idea' and 'I could do that better'," explained one participant from Iowa.

Education, in the various ways it was described by the participants, also elicited the most vocal, positive response of the types of assistance examined. In fact, receiving education and advice was so important to the participants that many were willing to forgo the other components, including financial assistance. "My hook is the education," said one Iowa forestland owner, "bottom line. I don't give a rat's tooth about the rest of the stuff."

Discussion

Impacts of Assistance Programs on the Behaviour of Landowners

This study found that management plans, technical assistance, education, and cost-share affect family forest owners' behaviour in three ways. First, after consulting with a natural resource professional (which may or may not entail developing a

management plan) or receiving education, landowners are exposed to “new to them” strategies to accomplish their pre-existing management objectives. A vague objective like wanting to bring the land up to “it’s very prime” might lead a landowner to pursue a commercial timber harvest after being advised by a forester that harvesting is a good strategy for accomplishing that objective. Second, through mechanisms such as technical assistance and education, assistance programs can help family forest owners to accomplish their goals the “right” way, that is, in a manner they perceive to be scientifically or economically sound. A landowner whose objective is to replant trees, for instance, may be advised by a professional on the best species to plant on a given site. Third, for those participants with specific management objectives or strategies, cost-share funding can help them to “do more” by providing them with resources to intensify their management efforts or cover a greater land area. These activities have the potential to improve the long-term health of individual stands and, if enough landowners participate, achieve substantial cumulative improvement in landscape conditions.

The extent and type of impact varied by type of assistance. Education and advice were stronger in suggesting new ideas. Management plans helped reassure owners about what they were doing with their land and helped to keep track of activities. Cost-sharing helped owners do more, and sometimes do it better. “I had it in my mind to do it anyways” was a common sentiment heard throughout the focus groups. “It” may have been an ambiguous objective like “cleaning up” the forest, or something more specific, such as reforesting a plot of land.

The focus groups failed to solicit information on why owners did NOT do something. This is partially due to the fact that responding to questions on why someone did not do something is intrinsically difficult. The questions were asked and probed, but the responses were very hesitant and no conclusions could be drawn. Due partially to this fact, this paper focuses on the active owners and those that participated in the programs. As part of the larger FSP evaluation project, Kilgore et al. (2015) quantified differences between owners having received and not received assistance with assistance defined as management plans, advice, cost-share, or a combination thereof. They found statistically significant correlations between the assistance and various activities, but the difference were the same regardless of the assistance received—e.g. advice was as positively correlated with the activities examined as were management plans or cost-share.

Study Implications for Landowner Assistance Programs

From an evaluation perspective, the findings of this study raise several issues for resource managers, program administrators, and policy-makers to consider. The proper mix of education, advice, management plans, and cost-share should be considered in light of the goals of the assistance program. Management plans and cost-share appear to best serve those landowners who already intend to pursue existing management objectives. For introducing new ideas, education and advice appear to be more effective. This study did not assess the impact of peer-to-peer networks, but past research suggests that this is another important pathway for introducing and reinforcing new ideas (Ma et al. 2012; Kueper et al. 2013a).

Relevance of Findings to Landowner Assistance Programs in Other Countries

Although this study stems from an evaluation of a national program in the USA, it has international relevance, particularly in countries with large areas of privately owned land and public policies that are intended to influence the behaviour of these private owners (Siry et al. 2005). Recognizing the importance of privately held land for biodiversity conservation in recent years, researchers from many countries have been increasingly attentive to strategies for maintaining and increasing the conservation of private land (Mayer and Tikka 2006; Kamal et al. 2015). Designing successful conservation strategies in many nations necessitates understanding the behavioural motivations of private landowners, because they are the ones who ultimately decide what occurs on their land. In this study, landowners were observed to have intrinsic desires to maintain their forests, and felt a responsibility towards various social, environmental, and spiritual elements for doing so. It appears likely that such motivations transcend national boundaries, as has been documented in studies of private landowners in other countries (Domínguez and Shannon 2011; Quartuch and Beckley 2013). Although it can be hypothesized that they would, it is uncertain if owners in other countries would react in the same way to various forms of assistance as owners in the USA. The methods employed in this study could be replicated in other nations to test this hypothesis and provide rich information for informing program design.

Conclusion

This study indicates that the impacts vary substantially depending on the type of landowner assistance provided. Management plans help to reassure owners, cost-share help them to do more of pre-determined activities, and education and advice help to reinforce and spur new ideas. This is accomplished by the programs reducing financial or knowledge barriers, and thereby strengthening an individual's ability to perform or consider specific stewardship activities. However, a landowner's initial attitude toward stewardship is the most decisive factor in determining whether management activities will be pursued. Fortunately, most owners in the USA already have strong stewardship ethics, but their perception of what this means can be very different from how professionals conceptualize it (Andrejczyk et al. 2015). As Andrejczyk et al. pointed out, forestry professionals need to do a better job of seeing the forest from the perspective of the owners.

Implicit in this study's findings is that assistance programs directly affect only those landowners who already possess a positive attitude towards stewardship, which raises pressing questions about the proper role and scope of these programs. If assistance programs are to continue in a facilitative role, then it is important to determine which program components (management plans, cost-share, technical assistance or education) can affect the greatest numbers of landowners and acreage of forestland in a meaningful way.

If these programs are to be more effective in promoting stewardship on private forestlands, then efforts should be directed towards understanding how to engage a greater percentage of the family forest owner population, not just those who are already intending to undertake traditional stewardship activities. To this end, education and advice appear to be most effective. It is important to understand that engagement and management may mean different things to owners than to professionals (Andrejczyk et al. 2015) and that active management, as traditionally defined, is not necessarily desirable nor needed by all owners. Future efforts should be directed at reaching family forest owners who have not interacted with traditional landowner assistance programs. This will involve refining our understanding of how owners want to engage with their land, looking beyond traditional forest management activities, and developing programs and policies with goals that reflect these attitudes.

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References

- Andrejczyk K, Butler BJ, Tyrrell ML, Langer J (2015) Hansel and Gretel walk in the forest; landowners walk in the woods: a qualitative examination of the language used by family forest owners. *J For*. doi:10.5849/jof.14-151
- Baughman MJ, Updegraff K (2002) Landowner survey of Forest Stewardship plan implementation. University of Minnesota, Department of Forest Resources, St. Paul
- Bliss JC, Martin AJ (1989) Identifying NIPF management motivations with qualitative methods. *For Sci* 35(2):601–622
- Butler BJ (2008) Family forest owners of the United States, 2006. U.S. Department of Agriculture, Forest Service, Northern Research Station, Newtown Square
- Butler BJ, Catanzaro PF, Greene JL et al (2012) Taxing family forest owners: effects of federal and state policies in the United States. *J For* 110(7):371–380
- Butler BJ, Markowski-Lindsay M, Snyder S et al (2014) Effectiveness of landowner assistance activities: an examination of the USDA Forest Service's Forest Stewardship Program. *J For* 112:187–197
- Charmaz K (2006) *Constructing grounded theory: a practical guide through qualitative analysis*. Sage, Thousand Oaks
- Chopra K, Dasgupta P (2008) Assessing the economic and ecosystem service contributions of forests: issues in modelling, and an illustration. *Int For Rev* 10:376–386
- Cabbage FW, O'Laughlin J, Bullock CS (1993) *Forest resource policy*. Wiley, New York
- Domínguez G, Shannon M (2011) A wish, a fear and a complaint: understanding the (dis)engagement of forest owners in forest management. *Eur J For Res* 130(3):435–450
- Egan A, Gibson D, Whipkey R (2001) Evaluating the effectiveness of the forest stewardship program in West Virginia. *J For* 99(3):31–36
- Eliason SK, Blinn CR, Perry JA (2003) Natural resource professional continuing education needs in Minnesota: focus on forest management guidelines. *North J Appl For* 20:71–78
- Erickson DL, Ryan RL, De Young R (2002) Woodlots in the rural landscape: landowner motivations and management attitudes in a Michigan (USA) case study. *Landsc Urban Plan* 58:101–112
- Esseks JD, Moorhouse EA (2005) The second national survey of participants in the Forest Stewardship Program. Center for Great Plains Studies, University of Nebraska-Lincoln, Lincoln
- Esseks DJ, Moulton RJ (2000) Evaluating the Forest Stewardship Program through a national survey of participants in the national Forest Stewardship Program. Center for Governmental Studies, Northern Illinois University Press, DeKalb

- Jennings BM, McGill DW (2005) Evaluating the effectiveness of the Forest Stewardship Program in West Virginia: ten-year assessment. *North J Appl For* 22(4):236–242
- Kamal S, Grodzińska-Jurczak M, Brown G (2015) Conservation on private land: a review of global strategies with a proposed classification system. *J Environ Plan Manag* 58(4):576–597
- Kilgore MA, Greene JL, Jacobson MG et al (2007) The influence of financial incentive programs in promoting sustainable forestry on the nation's family forests. *J For* 105(4):184–191
- Kilgore MA, Snyder SA, Eryilmaz D et al (2015) Assessing the relationship between different forms of landowner assistance and family forest owner behaviors and intentions. *J For* 113(1):12–19
- Krueger RA, Casey MA (2009) *Focus groups: a practical guide for applied research*. Sage, Thousand Oaks
- Kueper AM, Sagor ES, Becker DR (2013a) Learning from landowners: examining the role of peer exchange in private landowner outreach through landowner networks. *Soc Nat Resour* 26(8):912–930
- Kueper AM, Sagor ES, Blinn CR, Becker DR (2013b) Extension forestry in the United States: master volunteer and other peer learning programs. *J For* 112(1):23–31
- Leahy JE, Kilgore MA, Hibbard CM, Donnay JS (2008) Family forest landowners' interest in and perceptions of forest certification: focus group findings from Minnesota. *North J Appl For* 25(2):73–81
- Lorenzo AB, Beard P (1996) Factors affecting the decisions of NIPF owners to use assistance programs. In: Baughman MJ (ed) *Proceedings of symposium on nonindustrial private forests: learning from the past, prospects for the future*, Society of American Forestry, Washington, DC
- Ma Z, Kittredge DB, Catanzaro P (2012) Challenging the traditional forestry extension model: insights from the Woods Forum Program in Massachusetts. *Small-Scale For* 11(1):87–100
- Manuel T, Kendall-Taylor N (2009) From focus groups to peer discourse sessions: the evolution of a method to capture language, meaning, and negotiation. *New Dir Youth Dev* 2009:61–69
- Mayer AL, Tikka PM (2006) Biodiversity conservation incentive programs for privately owned forests. *Environ Sci Policy* 9(7–8):614–625
- Melfi FM, Straka TJ, Marsinko AP, Baumann JL (1997) Landowner attitudes toward South Carolina's Forest Stewardship Program. *South J Appl For* 21(4):158–163
- Palmer M, Larkin M, de Visser R, Fadden G (2010) Developing an interpretative phenomenological approach to focus group data. *Qual Res Psychol* 7:99–121
- QSR International (2012) NVivo 10. QSR International, Victoria
- Quartuch MR, Beckley TM (2013) Landowners perceptions of their moral and ethical stewardship responsibilities in New Brunswick, Canada, and Maine, USA. *Small-Scale For* 12(3):437–460
- Saldaña J (2009) *The coding manual for qualitative researchers*. Sage, Thousand Oaks
- Siry JP, Cubbage FW, Ahmed MR (2005) Sustainable forest management: global trends and opportunities. *For Policy Econ* 7:551–561
- USDA Forest Service (2011) *The principal laws relating to USDA Forest Service State and Private Forestry programs*. U.S. Department of Agriculture, Forest Service, State and Private Forestry, Washington, DC