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## Examining the Compatibility between Forestry Incentive Programs in the US and the Practice of Sustainable Forest Management

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**Abstract:** This research explores the intersection between the various federal and state forestry incentive programs and the adoption of sustainable forestry practices on non-industrial private forest (NIPF) lands in the US. The qualitative research reported here draws upon a series of eight focus groups of NIPF landowners (two each in Minnesota, Oregon, Pennsylvania, and South Carolina). Despite minor regional variations, the dominant theme that emerged is that these landowners' purchase and management decisions are motivated by the "trilogy" of forest continuity, benefit to the owner, and doing the "right thing." This trilogy is quite consistent with notions of sustainable forestry, but somewhat more at odds with the objectives of many financial incentive programs, as well as specific

tactics such as third-party certification. A series of policy recommendations that emerge from this research is presented.

**Keywords:** land management policies; non-industrial private forests; focus groups; sustainable forestry

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## 1. Introduction

Forestry faces the curious situation that management approaches come and go much more frequently than the underlying production period. Although it takes decades to grow a stand of sawtimber to maturity, the notion of what represents the best science or the most socially appropriate management changes much more rapidly. As a result, a stand may be planted, thinned, or harvested with what might be regarded as best management practices of the day, only to be subsequently viewed as being shortsighted or somehow less than ideal. There are few other endeavors where the legacy of one's choices is both as visible and as long-lived as in forest management.

The research reported in this paper examines the links between a policy institution in the US that dates back nearly a century—the framework of state and federal forestry incentive programs—and a global movement that has become increasingly institutionalized over the past 15 years under the rubric “sustainable forestry.” Both the forestry incentive programs and the sustainable forestry movement face a core policy challenge of altering the behavior of forest landowners. Even though the various incentive programs have undergone a number of changes over the decades, there nevertheless remains considerable possibility that these programs and the newer notions of sustainable forestry are somewhat at odds—simply because they arose in different historical contexts. This research examines the intersection between sustainable forestry and forestry incentive policies by asking: How compatible are forest landowners' objectives with sustainable forestry, and in what ways might forestry incentive programs either impede or enhance the adoption of sustainable forestry practices among non-industrial forest landowners in the US?

A nationwide research project recently examined this issue through two major research activities: a survey of the managers of state forestry incentive programs in all 50 states to examine the effectiveness of those programs in promoting sustainable forestry practices, and a series of focus groups across the country involving nonindustrial private forest (NIPF) landowners themselves. The results of the survey of assistance foresters are presented elsewhere [1]; this article discusses solely the focus group component of the research, which itself is rich with insights and policy implications.

This article follows a format dictated by its emphasis on the intersectionality of incentive programs, sustainable forestry, and landowner objectives. Both the various forestry incentive programs and the sustainable forestry movement are briefly described. The details of the focus group methods used to surface the landowners' ownership objectives are presented, followed by the salient themes that emerge from each landowner focus group as well as the cross-cutting themes that both unify and differentiate NIPF landowners in various regions of the country. Finally, the policy implications of this research are presented.

## 2. Background

### 2.1. Forestry Incentive Programs

Forestry incentive programs in the US date back at least to early 20th century, and are broadly defined as those programs intended to help private landowners manage their forest lands better [2]. The Clarke-McNary Act of 1924 is generally cited as the first federal legislation containing significant provisions for private forestry assistance. Forestry incentive programs come in two broad categories: financial assistance and technical assistance. Within the rubric of financial assistance there are various programs ranging from preferential tax treatment (notably property and income tax) to cost sharing of management practices. In terms of technical assistance, there are service foresters working for federal and state agencies, and forest industry and private consultants that can provide on-the-ground technical assistance. Extension foresters associated with the land grant universities in virtually every state also provide educational resources (consultations, field trips, organized courses, *etc.*) to NIPF landowners. A key form of technical assistance is through the preparation of management plans, since many forest landowners do not have plans, and they are a prerequisite for participation in many incentive programs. There is also significant federal research into forestry and wood utilization that affects the profitability of NIPF management as well.

The range and evolution of forestry incentive programs in the US have been inventoried and evaluated many times [3-6]. But if the incentive programs are broadly viewed as public investments to achieve public goals, then it is important to ask what practices are being encouraged by the incentive programs. Certainly in the decades after World War II the task was viewed as solving the “farm forestry problem” of too little harvesting [7-9]. Today’s policy interests regarding private forests are no doubt different from those in the 1950s, and the incentive programs should reflect those interests.

### 2.2. Sustainable Forestry

Compared to the forestry incentive programs, the sustainable forestry movement is a much more recent phenomena. Its earliest roots are no doubt in the environmental consciousness that blossomed in the 1970s, and it gathered considerable energy from international discussions such as the 1983 World Commission on Environment and Development (also known as the Brundtland Commission), the 1992 UN Conference on Environment and Development that set out Agenda 21 (also know as the Rio, or Earth Summit), the 1993 Convention on Biological Diversity (and the subsequent Malawi Principles), and the 1995 Santiago Declaration that codified a criteria/indicators-based approach to sustainable management of temperate and boreal forests that had its origins in the 1993 Montreal workshop. Sustainable forestry is a concept that defies a brief definition, but is a model of forest management that attempts to ensure that the flow of goods and services from a land area can be sustained into the future (*i.e.*, current management is not depleting future productivity). In addition, sustainable forest management also broadens the set of outputs that ought to be considered in one’s management; with heightened attention being paid to biodiversity, air and water quality, and soil productivity [10]. Finally, sustainable forestry also brings in concern about off-site impacts of one’s management actions, both with respect to adjoining lands and to the human communities that are linked to the land

in various ways. In short, sustainable forest management encourages the landowner to consider many other factors than merely marketable wood fiber [11].

Arguably the most well-developed mechanism for promoting sustainable forestry on private lands is the process of forest certification [12]. A number of nongovernmental organizations (NGOs) (Forest Stewardship Council and the Sustainable Forestry Initiative being among the largest) have established auditing processes through which third-party inspectors evaluate a forestry operation for its compliance with sustainable forestry principles and performance standards. If the enterprise passes the audit, its products are certified as being “sustainable.” The expectation is that a market premium will be assigned to certified forest products and the enterprise will be rewarded by the marketplace for engaging in socially and ecologically sound forestry. Clear evidence of a significant market premium associated with certification has not yet emerged, although it may play a role in maintaining market access [13-15].

### 3. Methods

The research being reported in this paper is one component of a multi-method national study. The project’s other major component is a canvassing of the official in each state’s forestry agency responsible for administering the forestry financial incentive programs in that state. They were each sent an extensive survey on the structure and effectiveness of their financial incentive programs in promoting the practices typically referred to as sustainable forestry. But undoubtedly the views of these program administrators on the effectiveness of programs they oversee could be influenced by their managerial roles. In order to get an additional perspective, the second component of the research examined the situation from the viewpoint of the potential clients for the forestry incentive programs: the NIPF landowners themselves.

The information was gathered from NIPF landowners via a series of eight focus groups conducted in the spring of 2005 and which span the major forestry regions in the country; two each in Pennsylvania, Minnesota, South Carolina, and Oregon. The focus groups were designed and conducted using very conventional techniques, drawn primarily out of the approach of Krueger and Casey [16]. The number of participants in the focus groups ranged from 8-14 participants, and all were forest landowners (save one, who was employed managing a property for an order of Catholic nuns). The range of ownership size varied from less than 10 acres to several hundred. In each state, one focus group was conducted with NIPF landowners who were members of the state small woodland owners’ association, and one was conducted with NIPF landowners who were not members. The association membership was used as a proxy variable for the knowledge level of the participants, with the assumption being that the association members would be variously more informed, experienced, and active managers with larger tracts of land. As such, there was concern that if they were mixed in with less active managers, the association members might intimidate the others and/or dominate the focus group discussions. Since part of the focus group method is to control for participant characteristics and create a safe social environment for interaction and disclosure, using association membership as a proxy measure of management experience was appropriate.

In each state, local staff members from the Cooperative Extension system were invaluable key contacts in organizing the focus groups, and their local networks were doubly important in soliciting

landowner participation in the focus groups. As a rule, the participants in the association member focus groups were easier to identify because their membership and activist role in forestry issues made them more visible. The association member participants were identified through referrals provided by local extension offices and/or forest landowner associations. The non-member participants were identified through various mailing lists and tax rolls, depending on the state. There is no assumption that the focus group participants are somehow statistically representative of a broader population; however, the local extension contacts in each study locale were confident that the participants were broadly typical of the demographic from which they were drawn. The research was conducted pursuant to the Institutional Review Board requirements of Utah State University regarding protocols for research involving human subjects, and participants were offered \$100 each for their participation in the research. The focus groups were all roughly three hours long.

Considerable effort was expended to ensure that all of the focus groups were conducted in as consistent a manner as possible in order to generate data that could be reliably compared across them. The entire research team was on site in Pennsylvania where the first two focus groups occurred. A “how to conduct focus groups” white paper was prepared within the team and used as a reference to guide the process in each study site. A single set of discussion themes and prompting questions was used at all of the focus groups. The themes were: background information on ownership (duration, size, *etc.*); ownership objectives, knowledge and use of incentive programs, knowledge and use of sustainable forestry practices (with a specific inquiry about certification), where they get their information about forestry, and challenges they face achieving their ownership objectives. Although it would have been prohibitively expensive to have the entire research team at every focus group, one member of the team attended all of the focus groups and therefore had a comprehensive experience against which all of the others’ views could be compared. The focus groups were audio recorded, but not videotaped. In addition, the flow of the conversation was “mind mapped” [17-18] using a large expanse of paper taped to the wall. That map was also a valuable archival source of insight into the cognition of the focus group participants. There was no attempt to get agreement on the ideas that went on the mind map as in nominal group techniques; rather it became a spatial record of the topics of conversation that was more relational than mere flipcharting might have been.

The focus group audiotapes were qualitatively analyzed to identify the salient themes that were unique to each region as well as those shared in common across them. The data from all of the focus groups were amassed in a single location and coded and initially interpreted by a single researcher, and subsequently through discussions among the entire team. The focus groups from each region were coded in terms of themes without consideration for what might be themes in other regions. Once the region-specific themes were identified, they were compared across regions to identify the emergent patterns. The data were then re-analyzed to look specifically for the appearance or absence of the emergent patterns in each region.

## 4. Focus Group Themes

### 4.1. Cross Cutting Themes

#### 4.1.1. Ownership is linked more to self-identity than to profit

The most striking finding was the strong affiliation these landowners felt toward their land. Every focus group elicited statements that equated land ownership with self-identity: it is who I am and what I want to be and do. Some managed land that had been in their families' hands since the early-19th century or lived on roads named after their families; others had only owned the land for a couple of years, perhaps as retirement homes and assets. Despite these great differences, there was a broadly shared commitment to long-term stewardship and appropriate management. Some of the more recent forest landowners bought their land without thinking about needing to manage it, but soon learned the need for a management plan and in so doing became more educated about forestry. Landownership seemed much more tied to self-identity and lifestyle than to financial return, and in some cases there were clear statements that financial return was not a decision driver for their management (the exception was in the South, where financial return was more important). Focus group narrative is included below and identification codes (State; Participant Type) identify the geographical state of the participant (Oregon = OR, Minnesota = MN, Pennsylvania = PA, and SC = South Carolina) and participant type (FAM = forestry association member and NAM = non-forestry association member).

This is not about making money—this is forestry. (OR; FAM)

One thing you need to know is what you want to do with your forest personally. Not everyone is in it for the timber; some people just like a quiet place to go, some people like to grow things, some people like to hunt. So you need to have your goals of what you want to do, and that varies across everyone in the room. (PA; FAM)

I just enjoy seeing a beautiful tree in a beautiful forest. (MN; FAM)

Doing something totally different than my usual routine...it provides me with a place to retreat. (MN:FAM)

We bought because it reflected a simpler life. When we grew up, it wasn't as populated, didn't have the traffic or the population. So when we looked at the area, it was peaceful, quiet, you had a little privacy. It's a lot of wildlife, the traffic was low and we want to care for it out of respect. Somebody greater than I made it, and with a chainsaw you can cut it down pretty quick and destroy it, at least for my lifetime. We just like to walk through it. (PA; FAM)

Doing something that feels good—landscaping for wildlife is what I enjoy the most from my forest land. (SC; FAM)

The traditional economic model of investment behavior assumes that investment returns are fungible, and that investors readily shift their asset allocations in order to meet their financial objectives. But the economic model of investment decisionmaking seems to be a less-than-ideal fit to

the ownership of forestland because there was little sense from the focus group participants that they were viewing their forestland as a readily substitutable asset.

It is important to me, my farm, that I want a legacy to my kids. And this legacy will be done properly, with good forestry. And we are now raising black cherry cultivars, back-crossed chestnuts, and black walnut. And this will be my legacy to my kids. (PA; FAM)

Today, the family forest owner is probably 7/10 of 1 percent of the expressed interest in production. So you have an inversion... You have a production-driven system (of programs) imposed on a benefit-driven ownership system. (MN; FAM).

Of the eight focus groups, perhaps the only one that approached the classic economic motivation paradigm was the forestry association members in South Carolina. These landowners were the most focused on intensive management and generating financial return. This is not an unexpected finding because the south is the region where economic returns are the often the highest, rotations are quite short, and the NIPF lands play a significant role in the region's forest industry [19]. But even among them, there was a strong inter-generation component in their motivations for land ownership.

This result is not particularly striking because it is not a new finding; in fact it replicates similar results [20-21]. What is interesting is the extent to which it was seemingly universal across the eight focus groups, and also provides a window into the objectives that people have and the programs that they find to be attractive.

#### 4.1.2. A strong ethic of conservation

A readily verbalized commitment to conservation appears to be interwoven with the self-identity motivation for forest land ownership and management. The concept of sustainable forestry resonates well with these landowners, as one might expect, given that their ownership is motivated by a broad set of reasons. No one in the focus groups said anything about expecting to sell off land or liquidate their standing timber. It was far more common to have them say that they intended to pass the land to future generations, or would buy more land if they had the money.

You see what strip miners do, you see what happens when the neighbors start to move in, urban encroachment, you see the gas companies, all those different things you go down the road and you don't like. You can't do nothing about it. But when you own the property, basically that piece of land you can control...I never got a dollar off a tree, I don't care. I just want to have control of that piece of land. If I had more money, I would buy more land. (PA; FAM)

I figure that everyone that owns land should leave it as good, preferably better, than when they got it. (PA:NAM)

The stewardship/future generations motivation is also echoed in this exchange between two people from Oregon:

Participant 1: there is a legacy element to it...Not only improving something for your family or children or whatever, but also being able to see the results of your own planning and work.

Participant 2: Stewardship.

Participant 1: Yeah, stewardship—that is a good word. (Oregon, NAM)

#### 4.1.3. The landowners were aware of sustainable forestry, but not clear as to its meaning

When asked if they knew about sustainable forestry, the preponderance of focus group participants said that they did. When asked more probing questions about defining the concept or articulating what the term meant to them, the response became much more hesitant or vague. In many cases, people would respond with statements resonant of sustained yield concepts (e.g., harvesting at a rate no greater than growth) or by referring to the program of a particular group (e.g., “that is what TreeFarm is promoting” (OR; FAM)). Statements such as the following were comparatively rare:

Sustainable forestry and forests require viable economic markets...it means forestry will, in the long run, support the economic, ecological, and social demands placed on the forest. (MN; FAM)

#### 4.1.4. The landowners have a high interest in face-to-face technical assistance

Participants from every focus group said that they would do a management practice they thought was important even if there was no incentive program. Technical assistance, however, was far more highly valued than simple cost share. The need to have someone walk the land with them, help them understand what was happening on their land, and make decisions about what should be done was strongly felt in every region.

I retired from the military in '67, bought 140 acres. Over the past three or four years, we sold two sales. I didn't know trees were that valuable. I couldn't believe how lucky we were to have it. We did what Penn State taught us to do. The service forester helped us write the contract with the logger to protect our trees. I couldn't believe how lucky we were to have all this help. (PA; FAM)

We worked with a wonderful forester...who sat down with us, talked to us, figured out what we could do, and told us how to do it. (MN; FAM)

I want to see somebody, I want to be able to look at them and have them talk directly to me and walk on the land. (SC; NAM)

You get better information and more tailored information when you are dealing with someone face to face on your own property. (SC:NAM)

The important role of education, particularly for new landowners, was a common theme. One of the participants in the Pennsylvania NAM focus group was very experienced, and actually acted as a log buyer/contract logger. He made the broad assertion that “most people don't have a clue about how to manage their lands,” which generated a response from a recent in-migrant:

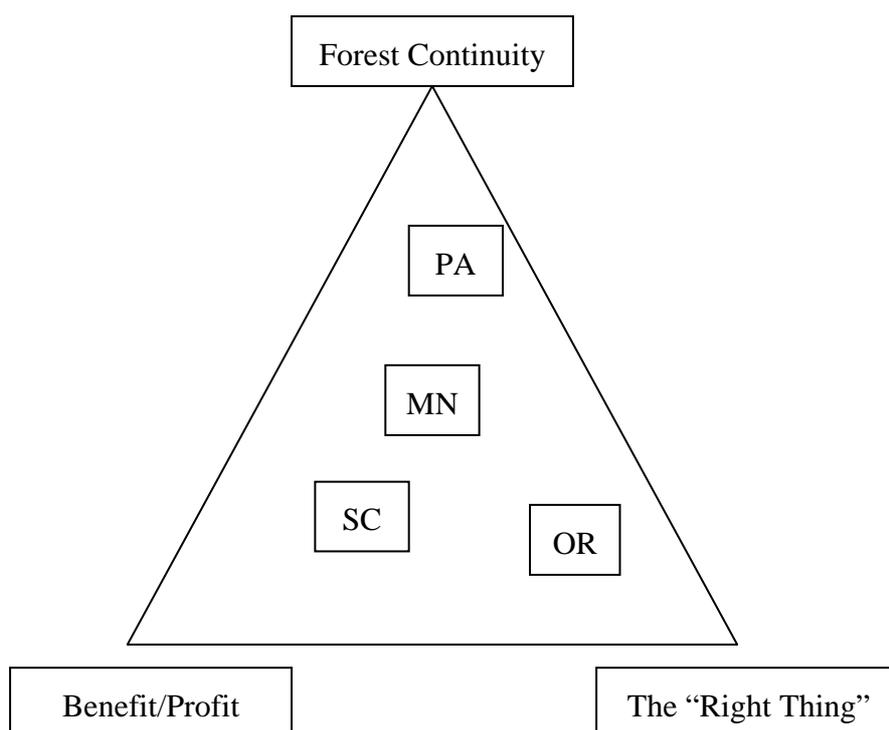
When you say most of us don't have a clue, it's true. As a newcomer, it's nothing we have been told about, or when I was a city slicker, it's nothing I cared about...with a little education I'm learning that timber does need to be managed. (PA; NAM)

This finding that direct face-to-face technical assistance is highly valued by NIPF landowners is consistent with a literature that dates back to the early 1950's [22-24]

#### 4.2. A Synthetic Perspective on the Inter-regional Variation

Describing the focus groups topic-by-topic and state-by-state would require more space than this article allows and, more importantly, would fail to convey one of the emergent insights of the research. Such a piecemeal approach would prevent an examination of the intersectionality of forestry incentive programs, sustainable forestry, and the management objectives of NIPF landowners. The differences between the states are more accurately understood as nuanced variations on a theme than as wholesale departures from one another. So any discussion of how the results differed geographically must be understood in the recognition that they were also broadly the same. Borrowing on a visual trope utilized effectively in a recent article on community forestry [25], it is possible to locate each of the regional focus group results in a space that is defined by their shared interest in three topics: forest continuity, profit/benefit, and a commitment to do the "right thing." Although the particular language and detail might change between regions in the country, these common themes transcend the geographical detail. In Figure 1 the position of the focus groups within the space is broadly indicative of the relative importance that the participants from each state placed on the various topics (based on a combined interpretation of the two focus groups that occurred in each state).

**Figure 1.** Graphical Representation of the Relative Importance of Ownership Objectives among the Forest Landowner Focus Groups from Pennsylvania (PA), Minnesota (MN), South Carolina (SC) and Oregon (OR)



The forest continuity concept is a two-fold concern for landowners: keeping the land in the family, and keeping the land in forest cover. Various pressures exist that make achieving both forms of continuity a challenge. In the northeast in particular, conversion of forestland to residential development was a significant concern (but it was less a concern in the west because of Oregon's land zoning practices). In every region there was discussion about intergenerational transfer of the land, which mixed in family issues (are my kids interested and/or capable of managing it?) and estate tax issues, as this exchange illustrates:

Participant 1: Parcelization. You know in our area, there is no plan. And there's a lot of big farms, and the children live out of town. They are older people living in our neighborhood. Big tracts of land going to be up for sale, and probably parceled off. There's some good timber, maybe they'll sell it.

Participant 2: It'll get high-graded off and then they'll sell it.

Participant 1: Yeah, it is not going to be a good outcome. Ten acre parcels they do; more money

Participant 3: In our county, there was a 90 acre parcel with some ecological value. The person would've loved to have passed it on to the next generation. He had some estate planning, all of a sudden there was a corporate trustee, and the daughter lived in Florida. She said sell it to the highest bidder. (PA; FAM)

I see development occurring all around me...The 40 acres I own will never be developed. I just want to keep it natural. (MN; FAM)

The day will come when I will not be able to afford not to sell (my land) to a developer...the pressure I will be subject to will be tremendous. (MN; FAM)

If you don't have the financial assets, you will eventually be taxed out of your forest land due to development pressure. (MN; FAM)

The benefit/profit concept merely refers to the benefits accrued through private land ownership. As noted before, the concept of benefit goes far beyond economic profit. The focus groups in South Carolina talked about economic return as a primary benefit to forest land ownership more than did the other regions ("we need more markets for timber" (SC; NAM)), and even the southerners expressed substantial interest in non-economic benefits such as wildlife habitat/hunting. In the other regions, the financial returns from forestry were regarded much more as means to an end ("when I make money selling trees I tend to reinvest it in my land" (OR; NAM)) than as the end itself.

The "right thing" concept refers to the broadly held notion that was broadly Leopoldian in philosophy: a management action is right if it tends to promote the overall health of the forest. Quite obviously what constituted the "right thing" varied considerably by region: in Pennsylvania it was combating wild rose infestations and reducing deer herbivory on young trees, in Oregon it might be restoring riparian areas, and in South Carolina it might be appropriate use of prescribed fire. But in every region there was the sense that as long as the landowners knew the right thing to do, they would do it.

It's like the purpose driven forest—you hear about the purpose driven life. My concern is when we're gone—then what? (PA; FAM)

The extent to which the landowners' trilogy of forest continuity, benefit/profit, and the “right thing” aligns with sustainable forestry is not entirely clear. At a philosophical level, there is no apparent conflict; in fact, there is a great deal of compatibility between the dimensions of this trilogy and the “triple bottom line” of sustainable business practices—equity, economy, and ecology [26]. There are no values or objectives reflected in the trilogy that are contrary to sustainable forestry, nor are the typical sustainable forestry criteria omitted from it with the possible exception of an explicit attention to off-site impacts of management. But it is largely impossible to determine if this philosophical alignment would be manifest in on-the-ground practices. It may be that the landowners' definition of the “right thing” is driven by aesthetics or traditional practices [27] rather than scientifically grounded practices implemented to restore ecological structure and function.

One sentiment that arose in all of the focus groups was an anti-bureaucratic viewpoint. This was manifest in two different ways. First was a reluctance to become involved in programs such as forest certification if doing so would allow other people to have influence on the landowners' decisions.

We don't want anybody else telling us what to do with our land. (SC; FAM)

The reason I got into contract logging, and the reason I have forest land, is that I didn't want some boss telling me what to do and how to do it. (OR; FAM)

The second was a fairly broad anti-government sentiment: that there was too much government intervention in the private sector and too many restrictions on private property rights, that some people received cost-share money but did not perform the requisite management practices, and that service foresters were too busy to return calls or schedule technical assistance visits in a timely manner. Under-funded programs were also a recurring source of frustration among the landowners.

They (incentive programs) are in writing, but when it comes time for allocation of money or the priorities, it's just not there. Again, it seems there are government programs, they say ‘we have this, we have that’, but the reality of it is it isn't, it is just on paper. But as far as can you get it? No, it is not there. It hasn't been allocated. So I would hope to see the kinds of programs people could actually use to get them that incentive to get going. Also it would be nice if there was some help to get out there, more foresters, or somebody you could call up. (PA; FAM)

(A) major problem is not enough information or where to get (information) for it but not enough money to get any and then there is always ten people ahead of you. (SC; NAM)

In 1988 I applied for that thing and got it the year I applied for it. In 1992 I applied for that money and got it the year I applied for it. In 2003 I applied for that money and they told me it would be a two-year wait maybe. (SC; FAM)

## 5. Caveats and Conclusions

### 5.1. Caveats

Any research that offers broad and unqualified conclusions regarding a nuanced social phenomenon based on a limited sample and single research methodology should be read with skepticism. Even though the focus group approach was the best choice for this research, it nevertheless limits the depth of data we have about any single land owner. Moreover, it lacks the statistical measures that a large sample-based survey would provide. In addition, results from a focus group are inevitably shaped by the particular constellation of participants. Finally, analysis of the focus group data invariably seems to generate additional questions that one wishes were asked during the focus group session (but obviously cannot be.)

Recognizing these limitations, it would be imprudent to develop a model of landowner behavior based solely on these results, particularly if they contradicted the broad sweep of the NIPF incentives research that preceded it. But these research results are much more coincident with our understanding of NIPF landowners than it is contradictory or revolutionary.

### 5.2. Conclusions

Subject to the caveats above, this research adds another “brick in the wall” of our knowledge of non-industrial private forest landowners in the US and their responsiveness to external incentives. It matters little whether those incentives come from the government (financial incentives and technical assistance) or from NGOs pushing for sustainable forestry through mechanisms such as certification. A nuanced understanding of the knowledge pathways, preferences, and ownership objectives of those landowners provides a foundation for developing incentives that will have meaningful impact. One strength of this research is its use of focus group methods, which have been used far less often than survey techniques to understand NIPF behavior, and yet have the advantage of exploring their objectives in ways that surveys often cannot. The sampling frame—8 focus groups distributed across the major forestry regions of the country—is novel in the NIPF literature and offers the ability to address the research topic at a national scale while examining the possibility of interregional variation.

*Financial incentives have weak appeal.* Recognizing that financial return is not the primary decision screen for the forest landowners in our focus groups goes a long way in explaining their understanding and use of forestry incentive programs. Programs that are intended to increase the profitability of forest land management do not have much traction with the landowners because profit is not their primary ownership objective. (This finding corroborates long-standing research results [21].) It is not that the landowners dislike making money from their forest land, nor do they dislike financial assistance. But the financial return is not their dominant decision screen when contemplating a management practice. Perhaps the greatest benefit of financial assistance accrues through its ability to increase the number of acres that landowners might be able to treat, as in the case of mitigating fire risk in Oregon or treating wild rose in Pennsylvania. By the same token, forest certification has little direct appeal to the landowners to the extent that it is primarily framed as creating a market premium that would have a bottom-line cash flow impact similar to an incentive provided by the government.

There is no doubt that market forces matter. But they seemed to function more to establish the feasibility set for these landowners, rather than what was preferred within that set. They no doubt have instrumental appeal, but comparatively little motivational appeal.

*Face-to-face tech transfer is the most valued form of assistance.* The various cost share programs were far less utilized and valued than technical assistance across the participants in all focus groups. The “doing the right thing” concept previously described was salient in all regions of the country, and among both the association members (experienced landowners) and non-association member focus groups. A logical *a priori* expectation could be that the non-association members need the technical assistance because their level of expertise is lower, while the association members value the financial incentives more highly. However logical that speculation might be, it in fact was not borne out by these focus group participants, all of whom valued technical assistance highly. A more accurate distinction is that the less experienced landowners wanted help with “what to do” questions, while their more experienced counterparts wanted “how to do” information. Along with that, however, is a sense of frustration when local forestry expertise is spread too thin and it is not possible to get the level of personalized and timely attention that the landowners would like. As such, programs like Master Forester or Master Tree Farmer are seen as useful ways to increase the information flow because they leverage the expertise of professional extension foresters through a cadre of trained volunteers.

There may be no more direct way to encourage the adoption of sustainable forestry practices among small forest landowners than to enlist the support of the service foresters who provide technical assistance those landowners rely upon. To the extent that service foresters are either dismissive toward sustainable forestry concepts or merely silent about them, there is a reduced chance that the approach will make significant inroads. The importance of this quite traditional diffusion channel has been previously documented [28]. But if service foresters are willing and able to frame sustainable forestry concepts as “the right thing,” then the prospects for adoption change significantly (even if the label “sustainable forestry” is never applied to those practices).

*A continued policy emphasis on promoting stewardship through management planning is appropriate.* Approximately 40% of the association members and 70% of the non-association members participating in these focus groups did not have formal management plans for their properties. This low level of investment in developing management plans is a barrier to the use of the incentive programs because most require an accepted management plan as a pre-requisite to receiving assistance. It also indicates that there is still a need for assistance and education in management planning. The development of these plans is also a key opportunity to imbed sustainable forestry concepts and criteria into their management strategies.

*Sustainable forestry is a resonant concept, but formal certification lacks traction, except when it is a secondary result of being in the TREEFARM program.* The concept of sustainable forestry resonates well with these landowners, as one might expect, given that their ownership is motivated by a broad set of reasons. The landowners are committed to the long term and strongly want to do the right thing, so if sustainable forestry is cast as “the right thing for the long term,” it becomes an easy concept to sell. When asked what sustainable forestry is, these landowners were just as likely to respond with attributes that are more commonly linked to sustained yield (harvesting at a rate equal to forest growth) but specific strategies do not have much traction. No one was exploring certification as a

market niche strategy, although TreeFarm members acknowledge that they are certified. Based on strong attachment to their forestland, as well as an expressed commitment to do the “right thing,” certification may be more attractive if it is framed as a validation of the quality of their stewardship rather than as a potential price premium.

*Regional variation in emphasis argues for a state-based program with adequate flexibility to promote responsiveness.* Even though these focus groups share the unifying trilogy of forest continuity, benefit, and doing the “right thing,” there were nevertheless differences among them. The land use trends, forest health and biodiversity issues, socioeconomic context and regulatory environments all differed across these four states and the broader regions they were chosen to represent. That variation would seem to argue for a relatively uniform structure of forestry policies at the national level that was flexible enough to allow for state-level customization.

In summary, both the incentive programs and the sustainable forestry movement may be making the same limiting assumption: that private forest landowners are primarily economic agents and thus the most direct means of influencing their behavior is through economic leverage. This research—and indeed much of the NIPF literature conducted over the decades—shows that while landowner motivations include financial return, their objectives are much more far-reaching. That leads to a conclusion that understanding their motivations through models such as the continuity/benefit/“right thing” trilogy that this focus group research identified may be a more nuanced and appropriate foundation for policy formation. It is interesting to note that much of the sustainable forestry/certification movement has been driven by non-governmental organizations (foundations, environmental groups, *etc.*). They nevertheless seem to be falling into the same paradigmatic trap that the government-led forestry incentive programs have been mired in; that is, by focusing their attempts to change behavior predominantly on the economic incentives, they are failing to connect with forest landowners whose motivations appear to go considerably beyond the financial.

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