

Stewardship Behaviors of Forest Stewardship Coached Planning Program Participants in King County, Washington

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ABSTRACT

The Forest Stewardship Coached Planning short course provides forest stewardship education and assists private forest landowners in writing their own forest stewardship plans with guidance and "coaching" by natural resource professionals. The course is conducted collaboratively by Washington State University Extension, the Washington State Department of Natural Resources, and, in King County, the King County Forestry Program within the Department of Natural Resources and Parks. A 2006 survey of past course participants was conducted to gauge the long-term impacts of the course; this report highlights the findings regarding King County participants. As a result of the course: 96% of the King County respondents had a better understanding about forest management options; 72% implemented a forestry practice they would not have done otherwise, and 99% of participants would recommend the course to others. Management planning is high among the respondents with 66% having a written plan; 63% having completed a written plan as a result of the course; another 7% knew what they wanted to do without a written plan. Course participants expressed strong interest in attending future topic-specific forest stewardship programs.

Introduction

Family forests or non-industrial private forests (NIPF) are important in Washington State, totaling 3 million acres or nearly 20% of Washington State's total forestland held by an estimated 100,000 family forest owners. King County, although the most urbanized county in Washington, still has significant NIPF forestland: an estimated 45,000 acres among the county's rural zones and Forest Production District¹. It has long been noted that private forestlands provide ecosystem services such as clean water and wildlife habitat along with resources such as recreation and timber. Most family forest owners are interested in managing their forest for multiple objectives, including wildlife, recreational and aesthetic purposes, while timber management remains a moderately important objective². Forest stewardship plans are a way for landowners to implement practices and clarify their management goals. Not only do plans foster sustainable forestry, but they also serve to educate and engage family forest owners³. Over time, NIPF owners implement the activities called for in their written plans^{4,5}.

Washington State counties have an interest in managing and maintaining private forestland in Washington and encourage the development and use of forest stewardship plans. For example, in King County, county government is concerned about the increasing urbanization and development of interface areas and wants to retain forestland "for its environmental, social, and economic benefits"⁶. Retention of forest cover also reduces county costs for stormwater treatment and flood control. The county's forestry program through Washington State University King County Extension helps landowners develop and write multiple resource management plans to encourage retention of forestland in a heavily developed area. King County also offers tax incentives and technical assistance to landowners with as few as 4 acres of forestland. Approved forest stewardship plans provide King County forest landowners with some flexibility with respect to the county's Critical Areas Ordinance, which governs land use and development. For example, with an approved plan, a landowner can implement forest practices in sensitive area buffers according to state guidelines; without a forest stewardship plan, the property owner would be subject to costly county permits to implement such actions.

¹ King County Forestry Program 2003 Monitoring Data;
<http://dnr.metrokc.gov/wlr/LANDS/forestry/pdfs/MonitoringData2003.pdf>

² WaDNR 2002. SFLO statewide survey: Profile of NIPF landowners in Washington State,
http://www.dnr.wa.gov/sflo/demographics/2002_sflo_survey_results.pdf

³ Munsell, J. and Germain, R. 2004. Forestry extension participation and written forest management plan use in New York City's water supply system. *Journal of Extension* 42(2),
<http://www.joe.org/joe/2004april/rb7.shtml>.

⁴ Esseks, J. D. and Moulton, R.J. 2000. Evaluating the forest stewardship program through a national survey of participating forest land owners, report prepared for USDA Forest Service, The Center for Governmental Studies, Social Science Research Institute at Northern Illinois University, DeKalb, Illinois.

⁵ Egan, A., Gibson, D., & Whipkey, R. (2001), 'Evaluating the effectiveness of the forest stewardship program in West Virginia', *Journal of Forestry*, 99(3): 31-36.

⁶ King County. 2006. Forestry Program, <http://dnr.metrokc.gov/wlr/LANDS/forestry/>

Approximately 1,100 family forest owners in Washington State have attended a Forest Stewardship Coached Planning short course conducted collaboratively by Washington State University Extension, the Washington State Department of Natural Resources (WaDNR), and, in King County, the King County Forestry Program (KC). The multi-session short course is designed to provide forest stewardship education and to assist private forest landowners in writing their own forest stewardship plans with guidance and "coaching" by natural resource professionals. The course helps participants set forest management goals and gives them a basic understanding of forest ecology, forest soils, wildlife management, forest insects/diseases, silvicultural practices, and more. The course also includes a site visit by a KC or WaDNR forester. Instructors include WSU Extension, KC and WaDNR employees, private consultants and employees of other public agencies. Course participants receive a notebook of Extension and related reference publications. This notebook becomes a reference library and study materials for the participants.

The Forest Stewardship Coached Planning program began in 1992, when, to encourage action beyond the Extension classroom, Arno Bergstrom, WSU Extension Educator, in collaboration with Don Theoe, WaDNR, reworked a concept from Montana State University Extension to involve owners in the plan-writing process. Partial funding to initiate the program came from the USDA Forest Service Cooperative Programs. WSU Extension and WaDNR cooperatively conduct the Forest Stewardship Coached Planning classes at different locations in Washington, but in King County, the KC Forestry Program has assumed much of the WaDNR role in the classes. Since 1999, KC has partnered with WSU King County Extension to conduct the program three times yearly, so that at present more landowners participate in King County than in any other county in the state. Demand for the course remains strong, in part due to the rapid turnover of property in the rural areas. What has evolved is an 8-week course, one night per week (3 hours) plus a Saturday field trip. Upon request, participants get an on-the-ground, personalized consultation by a KC Forester to discuss plan development and implementation. The course costs \$100. The typical curriculum includes:

- Introduction to Forest Stewardship and Personal Goals
- Maps and Property Descriptions
- Introduction to Forest Ecology
- Inventory of Forest Resources, Field Equipment and Tree Measurements
- Silvicultural Techniques and Alternatives
- Fish and Wildlife Habitat Identification, Inventory and Enhancement
- Forest Soils
- Riparian Areas and Water Quality Issues
- Forest Health
- Special Forest Products
- Taxes, Legal Issues, Forest Practice Regulations, and Incentive Programs

Course participants who complete a multi-resource Forest Stewardship Plan for their property may submit the plan for approval to participate in one of several current use taxation programs administered by the County. Landowners with approved plans may also qualify for federal cost-share programs that provide monetary incentives for such practices as pre-commercial thinning, upgrading of culverts, and rehabilitation of sites that have been taken over by noxious weeds. Owners with approved plans are qualified to have their property recognized as a “Stewardship Forest” upon plan implementation. Also, the American Forest Foundation accepts Forest Stewardship Plans for Certified Tree Farm[®] requirements.

Forest Stewardship Coached Planning Participant Survey

WSU Extension evaluated this program by conducting a survey of past participants. The objective of this survey was to go beyond the end-of-the-course evaluation and assess impacts of the course on landowners. In addition to deriving a profile of course participants, one goal of the survey was to find out how many participants wrote stewardship plans after completing the course. Another goal was to find out what forestry practices they had implemented since taking the course. Finally, WSU Extension wanted to find out about landowner interest in advanced stewardship courses. This report highlights some of the findings regarding King County participants and compares them with results from the statewide pool of participants.

Survey Methods

In January 2006, a questionnaire was mailed to one member of all the families who took the WSU Extension Forest Stewardship Coached Planning course between 1992 and 2005. The Social and Economic Sciences Research Center (SESRC) at Washington State University conducted the survey. Dillman’s total design method was used to conduct the survey with a three-wave mailing⁷.

We were able to locate addresses for 1,115 family forest ownerships that had participated in the course. Some addresses were lost over time, so the actual number of course participants is likely to be 10% to 20% higher. The response rate was 50%, but after removing the undeliverable and ineligible mailings, the completion rate was 554 surveys or 60%. 122 surveys, or 22%, were from King County landowners. Seventy-five percent of the respondents had attended the Forest Stewardship Coached Planning course within the past five years (77% in King County). It appears that the response rate was higher for more recent course attendees partly because most of the 158 undeliverable addresses in the database were from course attendees from the early years.

⁷ Dillman, D.A. 2000. *Mail and Internet Surveys: The Tailored Design Method*, Wiley, New York.

Results and Discussion

Respondent Profile

King County respondents averaged 22.7 acres of forestland with a median of 9.4 acres. King County participants own significantly less land than the statewide average (Table 1). The average and median age of the principal decision maker was 56 years. Respondents are highly educated with 91% having attended college. Household income was more than \$51,000 for 77% of King County respondents, with 38% making more than \$100,000. 20% of owners had owned their land for less than five years. King County respondents were wealthier and are newer owners than respondents in other parts of the state.

Table 1. Profile of survey respondents

Characteristic	Range	King County	Statewide
Age	median	56	58
	< 40 years	8%	4%
	40 – 55	41%	38%
	56 – 70	36%	43%
	+ 70	15%	15%
Education	Elementary school	0.9%	0.4%
	High School	6%	9%
	Trade School	2%	5%
	Some college	47%	42%
	Graduate school	45%	43%
Employment	Employed full-time	36%	32%
	Retired	30%	37%
	Other self-employed	22%	19%
	Employed part-time	6%	6%
	Homemaker	4%	2%
	Self-employed farmer or rancher	2%	4%
Income	0 - \$25,999	4%	9%
	\$26,000 - \$50,999	20%	31%
	\$51,000 - \$75,999	20%	23%
	\$76,000 - \$100,000	19%	18%
	\$100,000 +	38%	28%
Acres owned	median	9.4	20
	< 10	53%	22%
	10 – 49	43%	52%
	50 – 100	2%	11%
	101 – 400	1%	5%
	400 +	1%	10%
Years owned	< 5 years	20%	16%
	5 – 14	36%	33%
	15 – 29	29%	27%
	30 – 79	15%	21%
	80 +	1%	2%
Principal Decision-Maker	Male	49%	53%
	Female	27%	18%
	Joint family	24%	29%

Landowner Motivations

Learning how to manage and understand forest resources were the most cited reasons for taking the course (Table 2). Although the course is marketed and taught with the completion of a written management plan as a primary focus, only 60% of King County respondents indicated that this was one of their reasons for taking the course. Qualifying for reduced taxes was important to 53% (significantly higher than the statewide average of 31%), although only about 25% of class participants end up applying to current-use taxation programs⁸. King County respondents were less interested in technical or financial assistance than property owners in other areas of the state.

Table 2. Reasons for attending the Forest Stewardship Coached Planning Course (respondents could select more than one reason)

Reason for attending course	King County	State-wide
To learn more about forest stewardship planning and management	76%	82%
To learn more about forested and other ecosystems	66%	66%
To write a forest stewardship plan	60%	58%
To enroll or continue enrollment in tax incentive programs	53%	31%
To learn more about technical assistance	19%	26%
To learn more about educational assistance	12%	16%
To learn more about cost-share programs	9%	15%

Forest Stewardship Planning

Writing a forest stewardship plan was a reason that 60% of the respondents took the course (Table 2) and 63% completed a written plan during or after the course (Table 3). The rate of plan completion was higher in King County than in other parts of the state. Of those who did not complete plans, the most frequently cited reason was the perception that a written plan was unnecessary to accomplish their property objectives (7%). Lack of time (6%) and indecision about property goals (5%) were also common reasons for not completing a plan. Many landowners wrote in comments regarding their reasons for not writing a plan. These comments included:

- “Not the present priority [for me]”
- “County regulations are onerous. No desire to add even more regulation.”
- “My lot is too small to reap any benefit from incentives.”

⁸ Kristi McClelland, personal communication, 8/22/06.

Table 3. Summary of responses to question, “Do you have a written forest stewardship plan?”

Status of plan	King County	Statewide
Completed a written forest stewardship plan during or after the course	63%	58%
Did not complete a written plan because...		
I know what I want to do and don't need a written plan to accomplish my objectives	7%	8%
I have not had time	6%	7%
I am undecided about my goals for my property	5%	5%
I already had a written plan at the time of the course	3%	5%
I need more technical assistance	3%	2%
Other reasons	13%	15%

Knowledge Gained

This course has been very successful in imparting new knowledge to family forest owners. Over 90% of King County respondents indicated that they learned useful information about 6 of the major course topics (Table 4). As a result of taking the Forest Stewardship Coached Planning course, 96% of all respondents said they had a better understanding about management options for their forestland.

Table 4. Percent of respondents who reported learning useful information on course topics (King County respondents).

Forest health	98%
Growing or caring for trees	95%
Improving/protecting wildlife and fish habitat	94%
Forested ecosystems	93%
Forest soils	93%
Mapping/describing my property	93%
Improving/protecting water quality	88%
Timber and wood products	86%
Special forest products/agroforestry	78%
Protecting property from wildfire	75%
Forest recreation, aesthetics, & cultural resources	72%
Threatened and endangered species	71%

Forest Stewardship Implementation

As a result of taking this course, 72% of King County respondents reported implementing a forestry practice that they would not have done otherwise (73% statewide). When questioned about specific forest stewardship practices undertaken or possibly to be undertaken in the future, respondents reported a wide variety of practices. Table 5 reports on a selection of stewardship practices undertaken or contemplated in the following categories: growing or caring for trees, improving/protecting wildlife and fish habitat, improving/protecting water quality,

forest recreation/aesthetic enhancement, and non-timber forest products. These findings are consistent with other studies showing that family forest owners participating in WSU Extension educational programs are more likely than non-participants to implement forest management practices^{9,10}.

Table 5. Stewardship practices undertaken or planned (King County respondents)

Practice	Yes	No, but maybe in future
<i>Growing or caring for trees</i>		
Control competing grasses, weeds, or brush	76%	21%
Plant trees or shrubs	77%	21%
Pruning	54%	36%
Site preparation prior to planting trees	53%	38%
Salvage harvest of blowdown	49%	29%
Used services of a professional consulting forester	45%	43%
Non-commercial thinning	41%	41%
Control wildlife damage to trees	19%	48%
Partial harvest/commercial thinning	12%	43%
Harvest of root rot areas	11%	45%
Clear cut harvest	6%	16%
<i>Improving/protecting wildlife and fish habitat</i>		
Control non-native vegetation	84%	15%
Create snags or downed woody debris for wildlife	68%	26%
Retain "wildlife trees" during harvest activities (above minimum required)	41%	42%
Plant trees and/or shrubs specifically for wildlife	38%	52%
Create or improve springs, wetlands, or ponds	25%	44%
Install nest boxes or platforms	21%	66%
Establish wetland plants	15%	47%
Establish riparian vegetation	11%	43%
<i>Improving/protecting water quality*</i>		
Maintain roads/culverts to ensure drainage and minimize erosion	43%	28%
Restrict harvesting activity or vehicle access to protect soil/control erosion	23%	25%
Seed for erosion control	33%	40%
Install erosion control devices on roads	20%	30%
Fence livestock out of streams or wetlands	11%	18%
Close, rehabilitate, or abandon roads	4%	23%
*Since not all landowners have streams, wetlands, or forest roads on their property, many reported that they were unlikely to implement the practices in this category		

⁹ Creighton, J.H., Baumgartner, D.M. and Blatner, K.A. 2002. Ecosystem management and nonindustrial private forest landowners in Washington State, USA. *Small-scale Forest Economics, Management and Policy*, 1(1): 55-69.

¹⁰ Baumgartner, D.M., Creighton, J.H., and Blatner, K.A. 2003. Use and effectiveness of Washington State's extension forest stewardship program. *Small-scale Forest Economics, Management, and Policy*, 2(1):49-61.

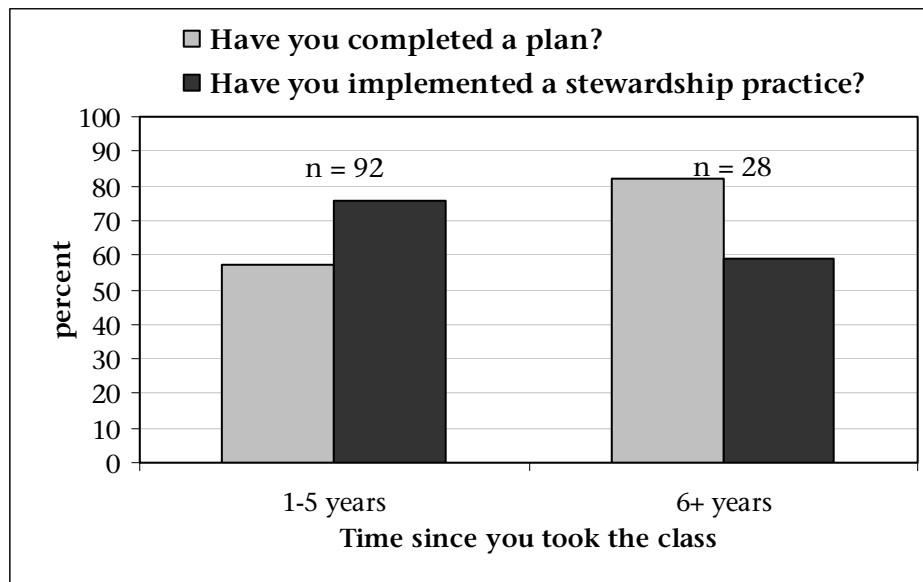
<i>Forest recreation/aesthetic enhancement</i>		
Create/maintain trails	65%	28%
Plant trees/shrubs specifically for aesthetic purposes	50%	35%
Thin/prune for aesthetics	45%	37%
Conduct activities to improve aesthetics for outside viewers	41%	31%
Allow individuals to access property with permission for hunting, hiking, etc.	24%	30%
<i>Non-timber forest products</i>		
Harvest edible mushrooms/berries for personal use/gifts	46%	30%
Actively enhance edible mushroom/berry or floral green resources	20%	50%
Grow Christmas trees for personal use	19%	26%
Harvest edible mushrooms/berries or floral greens for sale	2%	39%

Table 5 shows that landowners are most likely to implement practices that have directly tangible benefits for forest health and habitat value (i.e. controlling non-native vegetation, creating snags and downed woody debris). The high rate of implementation of these practices attests to both the predominance of these values as management objectives among landowners, and the effectiveness of the Coached Planning program at imparting information about these practices.

On the other hand, less than half of the respondents indicated that they have harvested timber, either in the form of a commercial or precommercial thinning or clearcut harvest (Table 5). For many landowners, timber harvest is not an important management objective; only about half of the landowners that participate in the Coached Planning program state at the outset of the class that they are interested in harvesting timber. However, as most of the respondents participated in the class only recently, and the time interval between harvesting activities usually spans years to decades, it is possible that more timber harvesting may occur in future years. In fact, more respondents indicated that they may conduct either thinning or clearcut harvests in the future than those that indicated that they had already done so.

There were divergent trends with respect to plan writing and practice implementation among recent and earlier King County class participants. The rate of stewardship practice implementation appears to be going up in more recent class participants; on the other hand, the rate of plan writing is going down compared to earlier classes (Figure 1). There are several possible explanations for these trends. Perhaps, as parcel sizes grow increasingly smaller, there is less incentive for class participants to complete a written plan (reduced acreage making it less likely to qualify for tax incentive programs). Alternatively, the focus of the class content may have shifted somewhat over the years from a strictly “how to write a plan” focus to more of a holistic approach including practical advice on management practices.

Figure 1. Trends in plan writing and stewardship practice implementation with time since participation in the Forest Stewardship Coached Planning Class (King County respondents). Differences among groups are significant at $p < 0.10$.



Conclusions

The Forest Stewardship Coached Planning course is successful at educating and motivating family forest owners as well as assisting them in planning and implementing stewardship practices. Key to this success is the three-pronged educational approach of traditional in-class lectures and discussions, a hands-on, learn-by-doing field day, and one-on-one site visits with a forester. This educational model empowers landowners with knowledge and helps them to put practices on the ground.

In King County, landowners are participating in the course primarily to learn about forest ecosystems, develop written plans, and qualify for reduced property taxes. The most commonly implemented practices include planting trees, controlling non-native vegetation, creating trails, and improving wildlife habitat. More recent class participants are implementing stewardship practices at higher rates. WSU Extension personnel are using the results of this survey to develop advanced and specialized educational programs for Coached Planning graduates to further help them implement stewardship practices.

Through educating NIPF owners, the Forest Stewardship Coached Planning program is encouraging the retention of forested land in King County. Participants in the King County Forest Stewardship Coached Planning classes since 1999 collectively own approximately 4,400 forested acres; at least 2,500 of those acres are now covered under written forest stewardship plans¹¹. The protection of these forested lands will reduce environmental impacts and improve quality of life as the interface areas of King County continue to grow in population.

¹¹ Amy Grotta, unpublished data.