

LISTENING TO YOUR AUDIENCE: DEVELOPING AN EDUCATIONAL TOOL TO ASSIST WITH RECREATION PLANNING ON PRIVATE LANDS

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Abstract.—The Georgia Forestry Commission in conjunction with the U.S. Forest Service instituted the Forest Stewardship Program (FSP) in 1991. A growing component of the FSP is recreation, which is the component least understood by stewardship planners. A survey was developed to better understand the needs of planners with regard to developing forest recreation plans, and the results will be used to create an Internet-based educational resource. Less than half of the forest planners surveyed had experience with writing recreation plans, and only 31 percent had previously written aesthetic plans. The results indicate a strong desire for a database of fact sheets related to all facets of natural resources. Based on the survey findings, the planned tutorial-style Website was changed to a fact sheet database for stewardship planners.

1.0 INTRODUCTION

Management plans have long been used on public lands by resource managers. The National Park Service (NPS) developed the Visitor Experience and Resource Protection (VERP) framework to assist with management on NPS lands (Manning 2001). The U.S. Forest Service (USFS) developed Limits of Acceptable Change to assist with Wilderness Area management (Stankey et al. 1985). Other public agencies use the Recreation Opportunity Spectrum and Visitor Impact Management (Clark and Stankey 1979, Graefe et al.

1990). All of these frameworks deal with managing the impacts of recreation on a resource while ensuring an appropriate experience for the user.

In contrast, private lands have historically lacked management plans. To address this need, the USFS implemented the Forest Stewardship Program (FSP) in 1991, which was authorized by the Cooperative Forestry Assistance Act of 1978. The purpose of the FSP is to better educate nonindustrial private landowners about the benefits of proactive stewardship management plans. The program uses natural resource professionals from a variety of backgrounds to develop comprehensive management plans for private landowners. Participating landowners choose two of five objectives for their land plan, of which one option could be recreation and aesthetics.

In Georgia, urbanization and a growing population are changing land-use patterns statewide. These trends influence where people are moving, especially in relation to forested lands. Many higher-income residents in the South are purchasing forested land for personal recreational pursuits (Cordell and Tarrant 2002). Subsequently, in many cases forested lands are developed as homesites, and management practices that previously occurred on these lands are discontinued. Unfortunately, new landowners often have a limited understanding of forest processes, and their objectives for land management may be very different from the previous landowner's. According to Dangerfield and Newman (2001), these new landowners generally have shorter planning horizons, produce multiple forest products, have different cash flows and income needs, and use the land for multiple purposes. With current and future population increases, changes and implications for land use are of the utmost concern. To help address this concern, the Georgia Forestry Commission (GFC) in conjunction with the U.S. Forest Service instituted the Forest Stewardship Program (FSP) in Georgia in 1991.

The majority of past management plans have focused on timber and wildlife management. However, today more and more landowners are requesting Stewardship Plans with recreation as a major component. Planners in Georgia (who are mostly GFC foresters and forestry consultants) have historically been readily capable of completing plans, especially those concerning forestry and wildlife. As a group, though, they are less familiar with recreation plans. Interestingly, a 1981 survey of Georgia foresters found that they had little interest in continuing education opportunities focused on forest recreation, with the exception of recreation as it related to wildlife habitat management (Hampton and Stauffer 1981). These preferences and resulting areas of training are not consistent with the changing land-use trends in the South, especially on private lands.

To better serve private landowners, GFC is funding work to develop an Internet-based educational resource to assist Stewardship planners in developing and writing sustainable plans for the FSP. The educational resource will encompass many facets of natural resource management but will focus on recreation and aesthetics. Design of the resource will be guided by the results of a survey administered to Georgia forest planners.

2.0 METHODS

A focus group of GFC Forest Stewardship planners was held a month before the survey was conducted. Information from the focus group participants was used to design a survey to better understand the needs of Forest Stewardship Planners. The survey was based on a modified Dillman approach (Dillman 2000) and was designed to be Web-based using Survey Monkey (www.surveymonkey.com). It asked planners about their history and experience with the FSP and recreation, overall comfort levels with recreation and other land-use practices, use of and comfort level with the Internet, and learning preferences. A link for the survey was embedded in an email from the interim director of GFC and sent to each planner's email address. Eight days later a reminder email was sent to those planners who had not taken the survey. Another reminder was sent 2 weeks later, along with a

thank-you note to those who had already participated. Nonrespondents and partial respondents were sent a paper copy of the survey to reduce bias in the sample.

A Likert-type scale was used for five matrix-style questions (for example, 1 = "never heard of it" and 5 = "Use it frequently and can troubleshoot"). The possible answer choices were dictated by question wording and include scales based on relative comfort levels, frequency of use, or level of agreement/disagreement. When appropriate, a nonresponse choice was provided. Most of the questions were close-ended to reduce the respondent's burden. The question about the use of fact sheets was open-ended, as was a final question asking for comments and suggestions.

Preliminary analysis has been completed on 23 surveys (roughly half of the total; three surveys were only partially completed) using SPSS 15.0. Cronbach's alpha was conducted on the overall survey and each section. Principle component analysis was performed on particular scale items using Varimax rotation. Using the output from the principle component analysis, we developed constructs that were interpretable, logical, and meaningful. Cronbach's alphas were again conducted for each construct to ensure reliability and validity. Factor loadings >0.400 were considered to be reliable indicators of an underlying relationship between associated factors (Huck and Cormier 1996).

During fall 2007, an initial website with helpful information for Forest Stewardship Planners was developed using Plone. Plone is an open-source content management system that is used for the current GFC website. The website will be modified based on both the results of the survey and Forest Stewardship planners' needs that were brought up in the focus group.

3.0 RESULTS AND DISCUSSION

Of the 23 planners whose survey responses are analyzed in this paper, each has written a forest management plan, 46 percent have completed recreation plans, and 31 percent have completed aesthetic plans. The mean length of time involved

with FSP was 7.46 years, the average age of planners was 37 (ages ranged from 24-60), and 86 percent were male. On a scale of 1 to 6 (where 1 is “never heard of it” and 6 is “Use most aspects and can troubleshoot”), the best understood computer programs were Microsoft Word (mean=5.43), Microsoft Excel (mean=4.78), ArcView3.x (mean=4.74), Microsoft Powerpoint (mean=4.57), ArcGIS9.x (mean=4.39), Google Earth (mean=4.39), and Adobe Acrobat (mean=4.00). The least understood computer program was Plone (mean=1.09; most respondents had not heard of it).

The overall α for the survey was 0.810, and the α for each component part was between 0.540 and 0.865. Regarding attitudes related to recreation and forest uses ($\alpha = 0.540$), three constructs were determined using five iterations with α 's between 0.671 and 0.726. The three constructs have factor loadings ranging between 0.483 and 0.828. One construct ($\alpha = 0.726$) included positive responses to statements like “recreation planning is mostly trail development,” and “forestry and recreation are not compatible.” Another construct ($\alpha = 0.698$) included responses like “I could use help planning recreation” and “I think it is important for foresters to understand other land uses.” Comfort levels with various land management activities ($\alpha = 0.835$) produced two constructs using three iterations. The α for each construct was 0.823 and 0.764, respectively, and factor loadings were between 0.637 and 0.859. One construct ($\alpha = 0.823$) included activities related to forestry practices like thinning a young pine stand, using herbicides, and prescribing a burn. The other construct ($\alpha = 0.764$) included activities related to creating educational signs and monitoring impacts to trails. Comfort levels with using the Internet ($\alpha = 0.865$) produced three constructs with α 's between 0.720 and 0.906 using five iterations. The factor loadings for these constructs ranged from 0.524 to 0.922. The three constructs can be best understood based on experience with the Internet: average Internet users ($\alpha = 0.906$), who are comfortable using it to email files, stream audio, and find information; more advanced users ($\alpha = 0.906$), who are comfortable using it to find scientific journals and submit forms; and advanced users ($\alpha = 0.720$),

who are comfortable using it to create wiki's and download podcasts.

The focus group was beneficial in suggesting an additional survey question concerning fact sheets that planners would insert in the appendix of Forest Stewardship Plans. Focus group members were ardent about the overall usefulness of these fact sheets. They further implied that an online tutorial-style website related to recreation planning would not be used nearly as frequently as fact sheets. Several planners mentioned how useful it would be to have a single website where information concerning FSP could be found, and where each planner would have equal access to information. Planners overwhelmingly supported this idea. When survey respondents were asked on the survey what fact sheets would be most helpful, they gave a wide variety of answers, including removal of feral cats, native plantings for wildlife, woodland structures, and forestry terminology for landowners. Other answers provided did not pertain directly to subjects of fact sheets, but were related to the utility of having fact sheets widely available to all planners.

Further revisions of the website will be conducted as additional data are collected and analyzed. Currently, the website is being overhauled to make it more consistent with the results of the survey. Central to these improvements is the acquisition of reputable fact sheets, largely obtained from planners and extension websites. Before being loaded to the Internet, each fact sheet will be divided into appropriate subject areas and will be reviewed by someone with expertise in that area. It is hoped that this process will ensure that high quality publications are available for planners, and will minimize time spent searching the Web for appropriate publications.

4.0 CONCLUSIONS AND IMPLICATIONS

The survey was successful in generating new ideas and solidifying previous ideas. Before the survey, the plan was to create an online tutorial related to recreation planning. Following the survey, the focus has changed

to creating a database of fact sheets concerning land management. As previously stated, the purpose of the survey was to develop a widely applicable and usable educational tool. The survey permitted the collection of information related to the planners' needs. Further, the survey helped gather information about planners' attitudes towards land management practices and their use of certain technologies. We hope that the online database will be widely accepted and will be used by Forest Stewardship planners in Georgia with the potential to expand to other southern states involved in Forest Stewardship.

5.0 CITATIONS

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