

12-1-2007

The Role of the West Virginia Extension Service in Forestry Education and Technical Assistance

David W. McGill

West Virginia University, dmcgill@wvu.edu

Larry G. Campbell

West Virginia University, lgcampbell@mail.wvu.edu

Chad Pierskalla

West Virginia University, cpierska@wvu.edu



This work is licensed under a [Creative Commons Attribution-Noncommercial-Share Alike 4.0 License](https://creativecommons.org/licenses/by-nc-sa/4.0/).

Recommended Citation

McGill, D. W., Campbell, L. G., & Pierskalla, C. (2007). The Role of the West Virginia Extension Service in Forestry Education and Technical Assistance. *The Journal of Extension*, 45(6), Article 15.
<https://tigerprints.clemson.edu/joe/vol45/iss6/15>

This Research in Brief is brought to you for free and open access by the Conferences at TigerPrints. It has been accepted for inclusion in The Journal of Extension by an authorized editor of TigerPrints. For more information, please contact kokeefe@clemson.edu.



The Role of the West Virginia Extension Service in Forestry Education and Technical Assistance

Abstract

We conducted a survey of county-based West Virginia University Extension Service personnel to clarify the contribution of the organization to forestry outreach education in the state. Questionnaires were mailed to 235 Extension personnel, and 76% responded. Despite few with advanced forestry training, 65% receive forestry-related questions, and 72% of those answer an average of 24% of the questions. The proportion of forestry questions answered by Extension personnel was found to vary as a function of position and program. Referrals of questions to other agencies went most frequently to the West Virginia Division of Forestry and secondarily to other Extension personnel.

David W. McGill

Forest Resources Extension Specialist and Associate Professor
West Virginia University
Morgantown, West Virginia
dmcgill@wvu.edu

Larry G. Campbell

Harrison County Extension Agent and Assistant Professor
Clarksburg, West Virginia
LGCampbell@mail.wvu.edu

Chad Pierskalla

Associate Professor of Recreation, Parks and Tourism
West Virginia University
Morgantown, West Virginia
cpierska@wvu.edu

Introduction

The Cooperative Extension Service is an organization that takes different forms in different states. An organization that has deep roots in many communities, it is one that traditionally has served as an educational outreach pipeline for new innovations, translating recent findings in agriculture and forestry from land-grant universities into working solutions for farmers and other landowners in rural America (Herren & Hillison, 1996; Hillison, 1996).

Forestry outreach education is integrated into forest industry, which is big business in West Virginia. Forests cover about 79% of the land area (Griffith & Widmann, 2003), and the forest products industry contributes \$4 billion annually to the state's economy (Childs, 2005). This large economic role, however, results from a high degree of forest utilization; much of this takes place on private forests, as 88% of the West Virginia forest landbase is in private nonindustrial or "family forests".

The intense rate of forest utilization in the state points to a need to support landowners who may have limited knowledge of complex timber transactions and the opportunities available for managing forestlands. These opportunities are not only related to wood products, but also include alternative natural resources crops and enterprises as well (Kays, 2004).

We surveyed West Virginia University Extension Service (WVUES) personnel in an effort to define the contribution of the WVUES within the broader network of forestry outreach programs and organizations in the state. We conducted this research to:

1. Illuminate the type and quantity of forestry-related assistance and information the organization provides in the state, and
2. Determine more precisely who within the organization deals with forestry-related questions.

Methods

We used a mailed questionnaire as our survey instrument. Following the protocols of Dillman (2000), our survey was initiated in September 2005 with a pre-survey announcement, followed by a cover letter and questionnaire, a reminder letter, and finally a second cover letter and questionnaire mailed to non respondents; these subsequent mailings were made at approximately 2-week intervals following the initial mailing. Preposted return envelopes were coded to eliminate duplicate mailings to those who had already responded.

Our mailing database was taken from an August 2005 list of 235 West Virginia University Extension personnel working at the county level, outside of central Extension administration at West Virginia University (WVU) in Morgantown, West Virginia. All personnel working at county offices were sent a questionnaire regardless of their position.

The first question inquired about the frequency with which the individuals receive forestry-related questions and further instructed those "never" receiving these types of questions to "skip" to the demographics section in the back of the questionnaire. Otherwise, respondents filled out questions related to the types of forestry questions they receive, the proportion of questions they answer and refer to others, resources they use, direct forestry assistance they render, and the types of continuing education that would support their work in better serving the forestry needs of their counties.

Fill-in type "open-ended" questions were categorized for analysis by our research group. Each response was categorized, then these categories were again scrutinized and revised by other authors.

We used analysis of variance (SAS Proc GLM; SAS Institute 2000-2004) to test for differences in the proportion of incoming forestry questions answered and referred among the various Extension positions and programs. Specifically, we investigated as explanatory variables:

- Position (faculty, program assistant, and clerical staff),
- Program (agriculture and natural resources, 4-H, family and consumer sciences, multi-program)
- position \times program interaction, and
- Years of service (covariate).

In this article, we used $\alpha=0.05$ as a critical level for tests of differences among various groups using pairwise t-tests on SAS LSMEANS (due to the unbalanced nature of our design). Proportions were arcsine square root transformed prior to hypothesis testing.

Results

Just over three-quarters (76%) of the questionnaires that we mailed out were returned. Completed questionnaires totaled 162; just over a third (35%) of the respondents indicated they never receive forestry-related questions (Table 1). As a group, clerical staff report received forestry-related questions more frequently than faculty or program assistant, with 84% reporting they receive forestry questions at least a few times each year.

Table 1.
Number and Frequency of Forestry-Related Inquiries Received by WV Extension Personnel by Position

Frequency	Position						Total	
	Faculty		Program Assistant		Clerical Staff		N	%
	N	%	N	%	N	%	N	%
Daily	4	5	0	0	2	4	6	4
Weekly	7	10	2	6	2	4	11	7
Monthly	16	22	2	6	13	27	31	20
A few times/year	23	32	6	18	24	49	53	34
Never	23	32	23	70	8	16	54	35
Total	73		33		49		155	

Of those respondents receiving forestry questions, at least "a few times a year," 72% answered at least some of the questions themselves. Those who did answer forestry questions answered an average of about one out of four (24%) of incoming questions. A large percentage (76%) of forestry questions were referred to other individuals or organizations.

Position ($p=0.019$) and program ($p=0.018$) accounted for a significant amount of variation ($R^2=32\%$) in the proportion of forestry-related questions answered by Extension personnel; no interaction between these factors was found ($p=0.406$). Years of service did not explain any additional variation when added to this model ($p=0.792$).

Of those respondents who answered at least some of the incoming calls, agriculture and natural resources (ANR) agents and multi-program agents answered the highest proportions of questions-50.5 and 45.3%, respectively. Only the ANR mean proportion was statistically greater than those of the family and consumer science (F&CS) and 4H programs (Table 2).

Table 2.
Mean Percentage of Incoming Questions Answered by Extension Personnel for Three Position Levels and Four Program Types

Program	Position			Mean*
	Faculty	Program Asst	Clerical Staff	
ANR	50.5	40.0	10.0	33.5 a
	(26)***	(2)	(1)	
4H	8.0	5.0	17.8	10.3 b
	(4)	(1)	(4)	
F&CS	5.0	*	2.0	3.5 b
	(2)	(0)	(1)	
Multi-program**	45.3	30.0	12.9	29.4 ab
	(12)	(2)	(14)	
Mean	27.2 a	25.0 ab	10.7 b	20.6

*Means for main factors (Position and Program) with different letters are statistically different ($\alpha=0.05$; test: pairwise comparisons of SAS LSMEANS).
 **"Multiprogram" category includes single county agents and other agents responsible for more than one program area.
 ***The number of respondents.

By far, public or "service" foresters of the West Virginia Division of Forestry were the recipients of most referrals; 37% of the individuals or organizations listed as additional sources of forestry-related information were from this organization. Referrals to Extension agents ranked second (14%), and specialists ranked third (8%) in a tie with the West Virginia Division of Natural Resources (8%). Other agencies and individuals were represented as referrals in the survey responses, but none exceeded 5%.

Some differences for referrals exist among Extension personnel by position (Table 3). Extension faculty, program assistants, and clerical positions all ranked the WV Division of Forestry as their primary source for referrals. However, referrals to consulting foresters and the WV Forestry Association made by faculty were not listed by respondents in the program assistant or clerical position categories.

Table 3.
List of Organizations and Affiliations that are Sources for Referrals by West Virginia Extension Personnel

Referral+	Position		
	Faculty	Program Asst.	Clerical
	Ranks++		
WV DOF	1	1	1
WVU ES Specialists	2	3	6
USDA Natural Resources Conservation Service	3	5	5
WVU ES Agents	4	2	2

WV Department of Natural Resources	5	3	3
Consulting foresters	6	*	*
USDA Farm Services Agency	7	5	7
Loggers	8	*	*
WV Forestry Association	8	*	*
WVU Appalachian Hardwood Center	10	5	*
+Referral frequency is ranked by position type (1=most frequently listed as a referral). ++Similar ranks within a given position represent ties. *=not listed in top ten referral categories.			

Most respondents (76%) had no forestry training. Only 1% had college-level forestry degrees. Others had taken forestry courses (10%), attended workshops (8%), or had become familiar with forestry topics in other ways (3%). When asked what professional development training topic(s) related to forestry they would choose if they could, a few topics were nearly equally represented: alternative enterprises/non-timber forest products (21%), general woodlot management topics (20%), and tree health, care, and maintenance (18%).

Most Extension personnel (70%) provide no direct forestry services. Sixteen percent, however, provide forest site visits and discuss opportunities with landowners, and 2% offer estimates of the value of forest resources; none provide forest management plans.

Forest and tree health, or "insects and disease," represented by far the most frequent questions that clients asked of Extension personnel (Table 4). Thirty-four percent listed examples of this category including:

- "What is killing my trees?";
- "Why did my tree die?";
- "Do I have gypsy moth?"; and
- "What is this black substance on my tree limbs?"

Table 4.
Number and Percentage of Various Categories of Most Frequently Asked Questions

Question Topic Category	Total N	Percentage
Tree health	56	35.4
Timber management	29	18.4
Getting assistance	18	11.4
Tree identification	16	10.1
Tree care	9	5.7
Forest management info.	8	5.1
Miscellaneous	5	3.2
Nontimber forest products	5	3.2
Wildlife	5	3.2
Legal matters	3	1.9
Soils	2	1.3
Fruit trees	2	1.3
Total	158	100.0

Questions related to timber management were second in frequency (18%) and included inquiries like:

- "What is the going rate for timber";
- "How and where to sell timber"; and
- "Am I getting the most money from the logger?"

Where to get forestry assistance (11%) and tree identification (10%) questions ranked third and fourth, respectively.

Only 11 (7%) Extension employees indicated that they advise local towns and communities regarding urban forestry issues. However, under the urban forestry topics they do answer, a greater proportion responded that they answer questions regarding tree pruning and maintenance questions (35%), tree health (31%), which tree species to plant (16%), and hazard tree management (8%) (Table 5).

Table 5.
Number and Percentage of Extension Personnel Answering Questions
Regarding Primary Urban Forestry Issues

	Number	Percent
Urban Issues	11	6.7
Hazard tree	13	8.0
Tree health	51	31.3
Tree species	26	16.0
Pruning /maintenance	57	35.0
Other	5	3.1

Discussion

Despite the low amount of direct forestry technical assistance provided to forestland owners (on-site forest visits, writing management plans, etc.), WVUES personnel do provide an important linkage for landowners trying to access information and technical assistance for their forestlands. While county Extension agents are generally thought to be the purveyors of agriculture and forestry information, all Extension personnel can have a role in this information network as 84% of Extension clerical staff stated they have answered at least some questions related to forestry.

It is not surprising that ANR and multi-program agents answered a greater number of forestry questions than other groups; however, even clerical assistants serve clients by either answering forestry questions or making referrals to other agents. The specific questions answered by clerical staff cannot be elucidated, because no direct connection between whether a respondent answers question and the type of questions they answer was made in the questionnaire.

This is an area that needs further investigation. Implications may arise concerning whether these Extension personnel have the education and professional competency to answer these questions and whether efforts should be made to provide them will additional forestry education. Given the differences in the referral affiliations among Extension position types pointed out above (Table 3), trainings that bring awareness of other forestry information sources to all Extension personnel might extend the services provided by the WV Extension Service to county residents.

About one out of three respondents stated they answer forestry-related inquiries at least once a month, and 12% answered questions at least weekly from some of the estimated 260,000 West Virginia landowners (Birch, 1996). As in New York (Schneider & Smallidge, 2000), forestry topics likely take a back seat to other topics perceived by Extension personnel to be priority issues. However, given the number and frequency of incoming questions to the Extension offices in the state and the number of referrals to other agents and agencies, it is probable that additional training on the topics among the questions most frequently asked would benefit both the Extension service and their clients.

Conclusions

There are four major conclusions to be drawn from this study:

1. All Extension service personnel participate in the forest resources education network; even those who do not answer specific forestry questions make referrals to those that can.
2. Most (72%) Extension personnel who receive incoming forestry questions at least a few times a year answer at least some of those questions. However, most respondents do not have forestry training.
3. Professional development training in alternative enterprises/non-timber forest products, general woodlot management topics, and tree health, care, and maintenance are most desired by respondents.
4. The majority of forestry questions received by county Extension personnel are related to forest health and, more specifically, insects and diseases on individual trees.

Acknowledgements

Funding for this project was made possible by a WVU Extension Service Seed Grant. Thanks go to K. Sanders and E. Tichner for data entry and other logistical support. The authors would also like to thank the WV Extension Service Forestry Team and, in particular G. Plaucher and D. Cooke for contributions to the survey development.

References

- Birch, T. W. (1996). *Private forest-land owners of the northern United States, 1994*. Resource Bulletin NE-RB-136. Radnor, PA: USDA Forest Service, Northeast Research Station.
- Childs, R. A. (2005). *West Virginia forests growing West Virginia's future*. Bureau of Business and Economic Research, College of Business and Economics, Morgantown, WV; West Virginia University.
- Dillman, D. (2000). *Mail and Internet surveys, the Tailored Design Method*. New York John Wiley & Sons, Inc.
- Griffith, D. M., & Widmann, R. H. (2003). *Forest statistics for West Virginia: 1989 and 2000*. Forest Inventory and Analysis Unit, Northeastern Research Station, USDA Forest Service.
- Herren, R. V., & Hillison, J. (1996). Agricultural education and the 1862 land-grant institutions: The rest of the story. *Journal of Agricultural Education* 37(3):26-32.
- Hillison, J. (1996). Agricultural education and Cooperative Extension: The early agreements. *Journal of Agricultural Education* 37(1):9-14.
- Kays, J. S. (2004). Alternative income opportunities: Needs of county agents and foresters in the Mid-Atlantic Region. *Journal of Extension* [On-line], 42(2). Available at: <http://www.joe.org/joe/2004april/rb6.shtml>
- Schneider, R. L., & Smallidge, P. J. (2000). Assessing Extension educator needs in New York to address natural resource issues for the new millennium. *Journal of Extension* [On-line], 28(3). Available at: <http://www.joe.org/joe/2000june/a4.html>

Copyright © by Extension Journal, Inc. ISSN 1077-5315. Articles appearing in the Journal become the property of the Journal. Single copies of articles may be reproduced in electronic or print form for use in educational or training activities. Inclusion of articles in other publications, electronic sources, or systematic large-scale distribution may be done only with prior electronic or written permission of the *Journal Editorial Office*, joe-ed@joe.org.

If you have difficulties viewing or printing this page, please contact [JOE Technical Support](#)