

## West Virginia Woodland Welcome Wagon: Design, Implementation, and Evaluation in Three Priority Areas

### Abstract

The majority of West Virginia's forested land is owned by private family forest owners. It is essential that natural resources professionals work with and support these individuals as they establish their ideal woodlands and sustain ecosystem services, which are at risk from parcelization and fragmentation. The West Virginia Woodland Welcome Wagon was carried out in three priority areas to connect new landowners with natural resources professionals. Over the course of 6 months, absentee landowners, landowners with fewer than 50 acres, and those interested in socializing with other woodland owners were found to be more likely to participate in the project.

**Megan E. McCuen**  
Graduate Research  
Assistant  
[megmccuen@gmail.com](mailto:megmccuen@gmail.com)

**David W. McGill**  
Professor/Extension  
Specialist  
Forest Resources  
Management  
[Dave.McGill@mail.wvu.edu](mailto:Dave.McGill@mail.wvu.edu)

**Kathryn G. Arano**  
Associate Professor of  
Forest Economics  
[Kathryn.Arano@mail.wvu.edu](mailto:Kathryn.Arano@mail.wvu.edu)

**Sheldon F. Owen**  
Wildlife Extension  
Specialist  
[Sheldon.Owen@mail.wvu.edu](mailto:Sheldon.Owen@mail.wvu.edu)

West Virginia  
University  
Morgantown, West  
Virginia

## Introduction

Family forest owners are defined as families, family partnerships, individuals, trusts, estates, and other unincorporated groups of individuals that own forestland (Butler, 2008). Over 7 million acres of West Virginia's landscape is in the hands of 243,000 family forest owners (Widmann, Cook, Barnett, Butler, Griffith, Hatfield, Kurtz, Morin, Moser, Perry, Piva, Riemann, & Woodall, 2012). Clearly, family forest owners are vital to the conservation of resources and ecosystem services (clean air and water, nutrient cycling, etc.) provided by these wooded properties.

A key role of today's natural resources professionals (NRPs) and Extension educators is to promote conservation initiatives and sustainable forestry practices to family forest owners. A primary challenge for the natural resources management community is to keep "forests as forests" (USDA Forest Service, Northeastern Area, 2005); however, parcelization—the division of land into smaller ownership parcels (Gobster & Rickenbach, 2004)—poses a considerable threat to forestland and is a process that can limit forest ecosystem services (Gustafson & Loehle, 2006; Mehmood & Zhang,

2001). Increasing land taxes, intergenerational property transfers, and residential and industrial development all increase the risk of parcelization (DeCoster, 1998; Best & Wayburn, 2001). The significant amount of impending intergenerational land transfers and the expected increase in the number of new landowners in West Virginia are seen in the fact that 71% of the state's family forest owners are over the age of 55 and nearly 20% are over the age of 65 (Widmann et al., 2012; USDA Forest Service, 2012).

As land is transferred from one owner to the next, new landowners may be unsure of how to approach the care of their newly acquired property. Currently, very few direct marketing efforts promote forestry education exclusively to new landowners. Fifty-one percent of new landowners in Virginia showed a very positive reception to free information about various topics (Kendra 2003). This seeming enthusiasm contrasts with the 14% of all family forest owners in the U.S. have received professional advice about their woodlands (Butler, 2008). Hence, there is some evidence that reaching out to new woodland owners might bring about higher program impacts that exceed those targeting a broader audience.

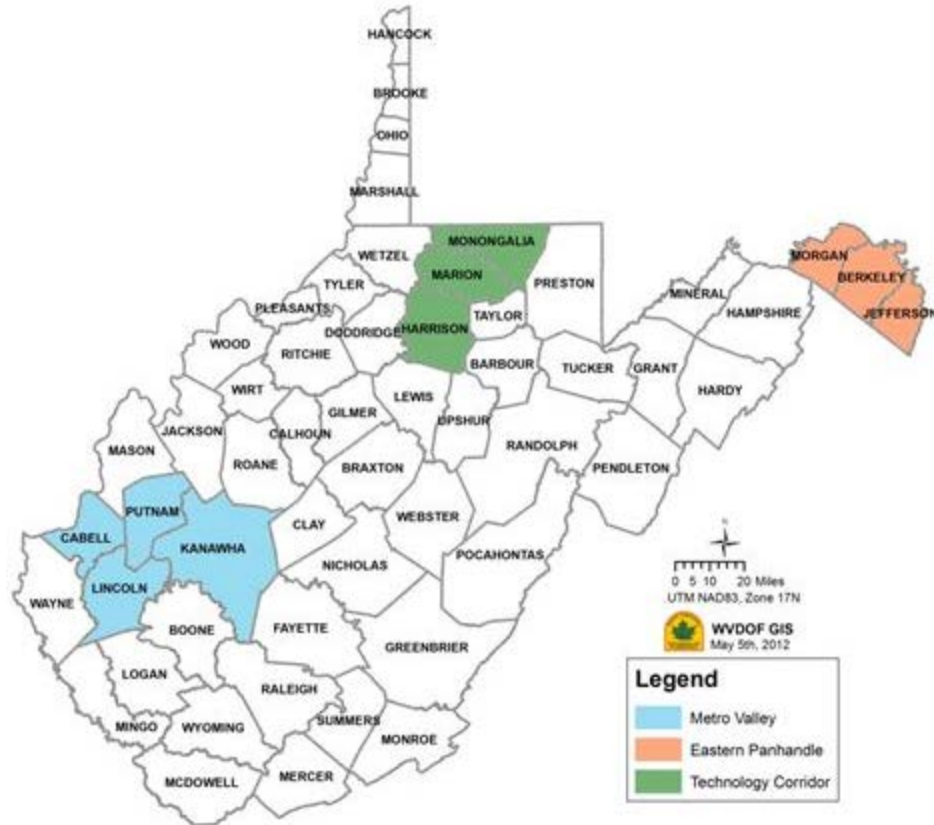
The Ohio Welcome Wagon (Apsley, Bagley, & Samples, 2005) was one program that targeted new woodland owners and was set up to provide these landowners with woodland management information. In 2011, we established the West Virginia Woodland Welcome Wagon (WVWWW) project to connect family forest owners with the professional forestry community. The following article documents the design, implementation, and evaluation of this project.

## Methods

A three-phase project called the WVWWW was established to connect woodland owners with natural resources professionals. The project focused on 10 counties in three rapidly urbanizing regions in West Virginia. Regions included: 1) the Eastern Panhandle (Berkeley, Jefferson, and Morgan counties), often thought of as a bedroom community for the Baltimore/Washington, D.C. area; 2) the Technology Corridor (Monongalia, Harrison, Marion counties); and 3) the highly developed Metro Valley (Putnam, Kanawha, Cabell, Lincoln counties; see Figure 1).

### Figure 1.

Map of Counties Within the Three Priority Zones: 1. Metro Valley; 2. Technology Corridor; and 3. Eastern Panhandle.



Project phases were as follows.

**Phase 1:** *Identification of new woodland owners.* The first phase of the project was simply identifying new landowners in the 10 counties who had acquired 10 acres or more of woodland within the past 1 to 2 years. State tax records from 2009 and 2010 were purchased from the West Virginia State Tax Department. Because date of acquisition was not available in the tax data, we used the unique map and parcel number to select those parcels with name changes that occurred between the 2009 and 2010 data; from these parcels we recorded the 2010 names as new landowners.

**Phase 2:** *Contact and outreach education effort.* Contact was made with 900 "new" woodland owners using an invitation letter and pre-posted return postcard (Figure 2); the postcard allowed a recipient to request an information packet, to be invited to upcoming workshops, or to respectfully decline the invitation. From June 2011 to November 2011, interested participants were invited to 10 different events or workshops, including a series called "meet your forester," which was offered at six different times and locations, twice in each of the three project areas.

**Figure 2.**

West Virginia Woodland Welcome Wagon Initial Contact Postcard

*Get Connected!... To the WV Woodland Welcome Wagon*

Return this postcard to access professional information about working in your woodlands. (Check all that apply)

Yes, please send me the general woodland information packet.

Yes, please invite me to upcoming woodland-related workshops.

No thanks, I am not interested.

If you have a minute, we'd like to know about your woodland activities.

Yes  No I have a written plan for my woodlands.

Yes  No I have contacted a professional forester about my woodlands.

Yes  No Do you live on your woodland property?

Rank the priorities you have for your woodland property? (1 = highest priority)

     *Wildlife*      *Timber*      *Residence*      *Recreation*      *Aesthetics*      *Privacy*      *Gas/minerals*

**Phase 3: Evaluation.** An evaluation questionnaire was sent 6 months after the initial postcard contact. The questions included in the survey inquired about possible behavior changes (e.g., management planning and contacting a forester) as a result of contact with the WWWW. Questionnaire responses received from landowners were matched to their initial postcard responses in the follow-up study reported here.

## Data Analysis

The evaluation questionnaire was used to investigate two primary questions related to participation and program impact. These questions were explored as a means of evaluating the effectiveness of the WWWW:

- Evaluation question 1 (EQ1): What woodland owner attributes, if any, were associated with respondents' participation level, and
- Evaluation question 2 (EQ2): What impacts or changes in behavior or woodland practices could be linked to their participation with the program.

The original list of 900 WWWW contacts was categorized into participants and non-participants and used as a binary dependent variable (participant/non-participant) in logistic regression to explore the factors associated with participation (EQ1). Explanatory variables represented demographic information, woodland management perspectives, tenure time and residency, and certain social indicators (e.g., interest in coming to workshops). Variables used in the evaluation have been found to be important indicators in explaining landowner motivations (Allred, Goff, Wetzel, & Luo, 2011; Joshi & Arano, 2008; Rickenbach & Kittredge, 2009). Based on determinants used in other studies, 14 explanatory variables were chosen as potential participation indicators from the survey (Table 1).

In addition to these variables, a variable called "level of contact" classified respondents into low (LOW), medium (MED), and high (HIGH) levels of contact (LOC) with the WVVWW:

- a. LOW—individuals who had received the initial invitation postcard, but did not want to participate or had simply not responded,
- b. MED—individuals who requested the informational packet, but not the invitations to workshops, and
- c. HIGH—individuals who asked for the informational packet and to be invited to workshops.

**Table 1.**

Variables Examined for Relationship with Participation in the WVVWW

<b>Variables</b>	<b>Definitions</b>
<b>Owner characteristics</b>	
AGE	Age in years (1=61 -70+ yrs., 0= 18 -60 yrs.)
EDU	1=some college to Ph.D., 0=some high school -some college
GENDER	1= male, 0= female
INCOME	1=income > \$60,001, 0=income< \$60,000
TENURE TIME	3 states, new/new, new/long, long/long (most recent property/first property)
RESIDENCY	1=resident, 0= absentee landowner
TOTAL ACREAGE	1= 1 to 50, 0=51+
GEOGRAPHIC ZONE	1= Metro Valley, 2=Technology Corridor, 3=Eastern Panhandle
<b>Management characteristics</b>	
SELL	Likelihood of selling timber in 10 years (1= very or somewhat likely, 0= not likely or don't know)
FINANCIAL	Binary variable from the attitudinal segmentation (1= supplemental income, 0=otherwise)
WOODLAND RETREAT	Binary variable from the attitudinal segmentation (1= woodland retreat, 0=otherwise)
<b>Social characteristics</b>	
SOCIALIZE	Interest in socializing (1=interested, 0=not interested)
NETWORK	Interest in building a network (1=interested, 0= not interested)

TOUR	Interest in touring another's woodland (1=interested, 0=not interested)
------	---

The variable "tenure time" is divided into three states:

- a. New/New—most recent property is the same as the first property, making this group the truly "new" landowners.
- b. New/Long—established owners (owned more than 5 years), yet recently acquired a new property.
- c. Long/Long—have owned their land for at least 5 years or more and do not have a recent acquisition.

PROC LOGISTIC was used in SAS® (SAS Institute 2004) to assess associations between response and explanatory variables. Significance level for logistic regression assessments was  $\alpha=0.10$ .

EQ2 explored impacts associated with the WVWWW project. Changes made by respondents between the initial contact and the questionnaire period (approximately 6 months) represented indicators of program outcomes. Two indicators were "contacting a forester" and "developing a written plan."

## Results

### **WV Woodland Welcome Wagon Project: Initial Contact**

Of the 900 invitation postcards sent out to invite new landowners to participate, a total of 218 postcards were returned. Including three ineligible, this yielded a 24% response rate and an 86% cooperation rate (willing participants/total respondents). A total of 187 woodland owners requested and were mailed an informational packet; of these, 108 (58%) requested to be invited to upcoming workshops.

### **Evaluation Questionnaire**

Six months following the initial invitations, evaluation questionnaires were mailed to the original Welcome Wagon list. Two hundred and four were returned and classified as "complete" questionnaires, producing a response rate of 24% (with 30 ineligible) and a cooperation rate of 82%.

Despite the fact that 900 woodland owners received an initial invitational postcard, over two-thirds ( $n=133$ ) did not remember receiving the WVWWW postcard (Table 2). Interestingly, 50 of those respondents asked to be sent a packet and or to be invited to upcoming workshops. Questionnaire respondents were also asked about any actions taken since participating in the project in addition to whether or not they had contacted a forester or developed a written plan. One participant reported that he had attended two workshops as a result of being sent direct invitations through the mail. Two respondents noted their interest, but commented on having time and date conflicts with the scheduled workshops.

## Factors Associated with WVWWW Participation

Three landowner attributes were found to be statistically related to program participation ( $p < 0.10$ ). Respondents interested in socializing and discussing productive woodlands (SOCIALIZE) were more likely to be a participant of the WVWWW (Table 3;  $\chi^2 = 15.8332$ ,  $p = < 0.0001$ ). Total acreage was also found to be an indicator of participation, where those with less land (1-50 acres) were more likely to be participants ( $\chi^2 = 5.0780$ ,  $p = 0.0242$ ). Residency was statistically significant with those who were absentee landowners being more likely to be participants of the WVWWW ( $\chi^2 = 3.5190$ ,  $p = 0.0607$ ).

**Table 2.**

Comparison of Postcard Responses to WV WWW Invitations with Recollections Reported in Mailed Evaluation Questionnaire

Evaluation questionnaire: Did you receive a postcard?	Number of postcard responses				Total
	No thanks	Send packet only	Send packet and invite	No postcard Returned	
<b>Answered Q40<sup>1</sup></b>					
No	6	24	26	77	133
Yes	0	12	24	22	58
I don't know	1	1	1	1	4
<b>Did not answer Q40</b>					
No answer <sup>2</sup>	0	1	3	5	9
Non response <sup>3</sup>	24	41	54	577	696
<b>Total</b>	<b>31</b>	<b>79</b>	<b>108</b>	<b>682</b>	<b>900</b>
<p><sup>1</sup>Question #40 (Q40) inquired Within the past year have you received a postcard from the WV Woodland Welcome Wagon Project?</p> <p><sup>2</sup>No answer represents questionnaire respondents who did not answer this question.</p> <p><sup>3</sup>Non response includes all of those individuals on the original mailing list that did not respond (696), this was made up of those that were deemed ineligible (30), refused to answer questionnaire (47), and non-contacts (619).</p>					

**Table 3.**

Significant Variables Associated with West Virginia Woodland Welcome Wagon

## Participation

Independent Variable <sup>a</sup>	OR <sup>b</sup>	90% CI <sup>c</sup>	P > $\chi^2$ <sup>d</sup>
Residency	2.09	1.10–3.97	0.061
Socialize	4.93	2.55–9.52	<0.001
Total acreage	0.45	0.25–0.81	0.024

<sup>a</sup>Logistic regression using binary dependent variable 'associated with WVWWW participation', <sup>b</sup>Odds ratio (OR), <sup>c</sup>90% confidence interval of the odds ratio point estimate, <sup>d</sup>Probability values for Wald  $\chi^2$  test for respective independent variables.

Other indicators of outcomes from the project were whether or not the participants had contacted a professional forester or developed a written management plan since receiving a packet. Most (61 of 88) were consistent in their responses that they had not contacted a professional forester, either at the time of the initial WVWWW postcard or 6 months later on the evaluation questionnaire (Table 4). However, nine woodland owners who indicated they had no contact with a professional forester on the initial postcard responded 6 months later on the questionnaire that they had indeed contacted a forester. Each of these nine respondents was a WVWWW participant who was sent an information packet; seven of the nine were HIGH contact participants receiving both a packet and workshop invitations.

**Table 4.**

Contact with Professional Forester According to Postcard Responses and Respective Questionnaire Responses 6 Months Later

Questionnaire response	Postcard response			Total
	No forester	Forester	No answer	
No forester	61	2	11	74
Forester	9	9	3	21
Total	70	11	14	95

Another measure of potential impact was whether participating in the WVWWW led participants to develop a written forest management plan. The majority of respondents (67) replied on both the initial postcard and on the questionnaire that they did not have a written plan for their woodlands (Table 5). Interestingly, three participants who indicated on the postcard that they did not have a written management plan revealed on questionnaire that they did in fact develop a written plan. Two of these participants were HIGH levels of contact, the other MED.



It is difficult to state exactly what prompted this change in forester contact and written plan status; however, the fact that only participants of WVVWW had made these changes points strongly to the WVVWW as a motivator of this change. This aspect of the project should be explored in more detail in future program evaluations.

**Table 5.**

Written Woodland Management Plan According to Postcard Responses and  
Respective Questionnaire Responses 6 Months Later

Questionnaire response	Postcard response		Total
	No plan	Plan	
Yes	3	7	10
No	67	1	68
I don't know	3	1	4
I have contacted a forester but do not have plan yet	2	0	2
<b>Total</b>	<b>75</b>	<b>9</b>	<b>84</b>

HIGH contact respondents were familiar with an average of 3.2 natural resources organizations and programs. This was significantly higher than those who had only received the invitational packet and non-participants, who reported familiarity with only 1.9 and 2.2 organizations, respectively (Tukey's HSD;  $p < 0.004$ ).

## Discussion

While few in number, respondents of our survey who did carry out new woodland stewardship activities (e.g., new stewardship plans or recent contacts with a professional forester) had been in the high level of program contact (being invited to multiple workshops). From this we conclude that more mailings in the first 2 years of ownership may be beneficial to more firmly encourage and support new stewardship activities among program participants. While it was not an objective of the WVVWW project to generate brand recognition (Keller, 1993), doing so might increase program recollection by respondents.

While there is no accepted minimum or maximum time period for assessing results for an outreach program like the one reported here, the 6-month time period between the initial WVVWW postcard invitation and the evaluation questionnaire was likely not sufficient time to measure full impacts. Waiting at least 1 year before evaluating the program might have shown a greater number of outcomes, especially because it takes time to carry out activities like developing a forest management plan.

New landowners were the intended target of the WVVWW project. We identified three classes of

landowners based on tenure time: 1) recent or "new" landowners, 2) long-term landowners who recently acquired more property, and 3) long-term landowners. Among WVVWW questionnaire respondents, 42% were new woodland owners. Research on family forests in other areas of the eastern U.S. have seemingly more efficient access to their tax records (Apsley, Bagley, & Samples, 2005; Kendra & Hull, 2005), yet these other studies made no mention of this additional category; long-term landowners with recent acquisitions. While we did not find any significant statistical association of length of landownership with participation, this may be a factor to explore in future research to consider the differential behavior of these general classes of woodland owners.

Some evidence points to an interest in social benefits as a reason for participating in the WVVWW. This finding is compatible with Allred and others (2011), who found that over 35% of volunteers in a New York Master Forest Owner Program listed social connectivity as the "favorite aspect" of being an outreach volunteer. Social appeal may be the primary reason for someone to initially join an outreach education program, as well as being a reason for continuing involvement in the program. Therefore, marketing outreach education programs and woodland owner networks might be made more efficient by promoting the aspects of peer-to-peer interactions and the opportunity to share information with other like-minded landowners. Though it may be hard to target a particular group interested in networking, using the "peer-to-peer" aspect as a featured program benefit might produce optimal participation.

## **Conclusions and Implications**

1. Pre-posted postcard invitations worked effectively as a way to establish a connection with new woodland owners.
2. Over the course of 6 months, absentee landowners, landowners with fewer than 50 acres, and those interested in socializing with other woodland owners were found to be more likely to participate in the outreach project.
3. While a few respondents made changes in woodland stewardship in the 6 months of the project, it is likely that these changes take a much longer period to evolve.
4. Extension educators should promote the social aspect (networking, socializing, etc.) of educational programming to encourage participation.

## **Acknowledgments**

The project reported here was funded through a subcontract with the West Virginia Division of Forestry as part of a 2010 USDA Forest Service State and Private Forestry Redesign Grant. The authors wish to thank B. Radspinner, J. Wildman, C. Copeland, L. Six, B. Kunze, M. Metz, J. Bell, D. Warner, E. Voss, D. Magill, H. Lagen, E. Voss, T. Burhans, A. Regula, L. Basham, M. Sieber, R. Raspa, and S. Cross Owen for their help on the project. The longitudinal study of woodland owners was carried out under a research exemption (H-23689) of the West Virginia University Institutional Review Board.

## References

- Allred, S. B., Goff, G. R., Wetzel, L.P., & Luo, M. K. (2011). Evaluating peer impacts of a master forest owner volunteer program. *Journal of Extension* [On-line], 49(5) Article 5RIB3. Available at: <http://www.joe.org/joe/2011october/rb3.php>
- Apsley, D., Bagley, S., & Samples, D. (2005) Using a welcome wagon approach to reach out to woodland owners in Appalachian Ohio. *Journal of Extension* [On-line], 43(1) Article 11AW4. Available at: <http://www.joe.org/joe/2005february/iw4.php>
- Best, C., & Wayburn, L. (2001). *America's private forests: Status and stewardship*. Washington, DC: The Pacific Forest Trust, Island Press. 268 p.
- Butler, B. J. (2008). *Family forest owners of the United States, 2006*. Gen. Tech. Rep. NRS-27. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 72 p.
- DeCoster, L. A. (1998). The boom in forest owners—a bust for forestry? *Journal of Forestry*, 96(5):25–28.
- Gobster, P. H., & Rickenbach, M. G. (2004). Private forestland parcelization and development in Wisconsin's Northwoods: Perceptions of resource-oriented stakeholders. *Landscape and Urban Planning*, 69(2–3): 165–182.
- Gustafson, E. J., & Loehle, C. (2006). Effects of parcelization and land divestiture on forest sustainability in industrial forest landscapes. *Forest Ecology and Management*, 236:305–314.
- Joshi, S., & Arano, K. G. (2009). Determinants of private forest management decisions: A study in West Virginia NIPF landowners. *Forest Policy and Economics*, 11 (2), 132–139.
- Keller, K. L. (1993). Conceptualizing, measuring, and managing customer-based brand equity. *Journal of Marketing*, 57(1):1-22.
- Kendra, A. (2003). New landowners in Virginia's forests: A study of motivations, management activities, and perceived obstacles. (Doctoral dissertation). Retrieved from: <http://scholar.lib.vt.edu/theses/available/etd-08262003-120653/unrestricted/KendraETD2.pdf>
- Kendra, A., & Hull, R.B. (2005). Motivations and behaviors of new forest owners in Virginia. *Forest Science*, 51(2):142–154.
- Mehmood, S., & Zhang, D. (2001). Forest parcelization in the United States—A study of contributing factors. *Journal of Forestry*, 99:30–4.
- Rickenbach, M., & Kittredge, D.B. (2009). Time and distance: Comparing motivations among forest landowners in New England. *Small-Scale Forestry* 8:95-108.
- SAS Institute Inc. (2004). SAS/STAT® 9.1 User's Guide. Cary, NC: SAS Institute Inc.
- US Census Bureau. (2012) *U.S. Census Bureau Maps and Cartographic Resources*. Retrieved from:

<<http://www.census.gov/geo/www/maps/>>.

USDA Forest Service. (2012). NWOS Table Maker Ver. 101. Retrieved from:

<http://apps.fs.fed.us/fia/nwos/tablemaker.jsp>.

USDA Forest Service, Northeastern Area. (2005). *A snapshot of the Northeastern forests*. United States Department of Agriculture Forest Service, Northeastern Area, State and Private Forestry NA-IN-01-06. October 2005. Retrieved from: [http://www.na.fs.fed.us/pubs/misc/snap\\_shot/ss.pdf](http://www.na.fs.fed.us/pubs/misc/snap_shot/ss.pdf)

Widmann, R. H., Cook, G. W., Barnett, C. J., Butler, B. J., Griffith, D. M., Hatfield, M. A., Kurtz, C. M., Morin, R. S., Moser, W. K., Perry, C. H., Piva, R. J., Riemann, R., & Woodall, C. W. (2012). *West Virginia's Forests 2008*. Resour. Bull. NRS-61 Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 64 p.

---

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](mailto:joe-ed@joe.org).

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