

Power Hours-Invasive Species Communication Through Collaborative Webinars

Abstract

The collaborative webinar project Emerald Ash Borer University (EAB-U) was established in 2009 to address pressing communications needs regarding the invasive emerald ash borer in the midst of national financial crisis. The 40 EAB-U webinars to date have been viewed over 10,000 times. Results of a post-webinar survey evaluating audience composition, impact, and participant satisfaction are presented, and suggest EAB-U webinars reach key audiences who share and apply learned information. Extension professionals faced with complex issues such as invasive species should consider a collaborative webinar approach to efficiently communicate harmonized messages in a cost effective manner.

Annemarie M. Nagle

Invasive Forest Pest
Outreach Coordinator
Purdue University
West Lafayette,
Indiana
naglea@purdue.edu

Robin Usborne

Communications
Manager
Michigan State
University
East Lansing,
Michigan
robinu1@msu.edu

Amy Stone

County Extension
Director
The Ohio State
University Extension
Toledo, Ohio
stone.91@osu.edu

Deborah

McCullough
Professor
Michigan State
University
East Lansing,
Michigan
mccullo6@msu.edu

Clifford S. Sadof

Professor and
Extension Specialist
Purdue University
West Lafayette,
Indiana
csadof@purdue.edu

Introduction

Invasive species are widely recognized as critical threats to global biodiversity, agriculture, and natural resources (Aukema et al., 2011; Pimentel, Zuniga, & Morrison, 2005). As our understanding of invasion pathways and the role of human transport in spreading invasive species has increased, so too has the importance of public education and outreach. Invasive species education and management are thus increasingly important aspects of the duties of agriculture and natural resources Extension professionals at local, state, and federal levels (Sundermeier, 2005).

In a time when many state and federal agencies are experiencing budget cuts and some states are terminating their Extension programs altogether, cross-agency collaborations can help reduce costs and increase efficiency and impact. Indeed, cooperation between agencies with convergent outreach

missions has been highlighted previously as a method of enhancing impact (Rodewald, 2002) and stretching shrinking budgets by merging resources (Ober, Giuliano, & Dillard, 2012). Often government agencies lack critical personnel, infrastructure, and/or local contacts to carry out successful, coordinated outreach programs, but Cooperative Extension services specialize in doing just that. Collaboration, interdisciplinary research teams, and projects with regional or greater impact are imperatives in today's competition for dwindling funding resources (Carter, 2004; Katz & Martin, 1997; Melin, 2000).

Detection of the tree-killing emerald ash borer (EAB) in Detroit in 2002 necessitated interagency cooperation to develop and communicate a coordinated message to clientele. Despite state and federal efforts to contain or slow spread of this pest, by 2008 it had spread to 10 states and two Canadian provinces. Researchers were developing improved approaches to protect ash trees in landscapes and to help slow the progression of ash mortality (Herms et al., 2009; McCullough & Mercader, 2012; Sadof, Purcell, Bishop, Quesada, & Zhang, 2011). Unfortunately, the capacity to get this information to landowners, managers, and decision makers was curtailed after the stock market crashed in late 2008, which resulted in slashed federal and state support for educational programs and travel budgets for continuing education. A more efficient and economical educational approach was needed.

The EAB University (EAB-U) Webinar Project

In response to this need, the EAB-U webinar project was developed in 2009 through a collaborative effort between Michigan State University, Purdue University, and The Ohio State University, funded by USDA Forest Service. The goal is to deliver accurate, timely information about EAB and other regionally important forest pests to stakeholders at no cost to the participant. This open-access, Web based educational initiative is housed at www.emeraldashborer.info. Experts in forest pest research and management are invited by EAB-U organizers to present 50-minute webinars, which are followed by a 10-minute question and answer period. Presenters' affiliations are diverse, with local, state, federal, and private agencies from across the nation represented (Table 1). Webinars are publicized through regional email listservs maintained by EAB-U organizers and in select trade magazines. Webinars have been used as educational tools for other Extension issues and have been shown to be a cost-effective and well-accepted method for reaching diverse audiences (Allred & Smallidge, 2010; Cecil & Feltes, 2002; Rich et al., 2011).

Table 1.
EAB-U Webinar Topics, Number of Viewers, and Professional Affiliation of Webinar Presenters

EAB-U Webinar Topics	Number of Webinars Hosted	Total Number of Viewers ¹	Presenter Affiliations ²
EAB			
Municipal Management	8	2,189	EU, FA, PC,

Series			EO
Planning	6	2,045	EU
Research—Control, Management, and Impacts	9	1,637	EU,FA
Community Action	7	1,048	EU,PC
General Info and Basics	4	740	EU,FA
Other Forest Pests			
Thousand Cankers Disease	1	992	EU
Viburnum Leaf Beetle	1	737	EU
Asian Longhorned Beetle	2	632	EU,FA
Invasive Forest Pests Overview	1	150	EU
Hemlock Woolly Adelgid	1	115	FA
<p>¹Includes live webinar participants and downloads recorded from time of webinar broadcast until July 17, 2013</p> <p>²EU—Extension Educator/University Specialist</p> <p>FA—Federal Agency</p> <p>PC—Practitioner or Community Organizer</p> <p>EO—Elected Official or Lawyer</p>			

The Webinar Platform

EAB-U webinars are hosted with Adobe® Connect™ software licensed to Michigan State University. Integrated chat boxes allow instant messaging among viewers and presenters, and all webinars are recorded and archived for access on demand. The format requires only an Internet connection, computer speakers, and a spare hour. There is no cost to participants, and no registration, software downloads, or specialized equipment is needed.

Assessing Impact—Survey and Results

Since EAB-U's inception in 2009, 40 different EAB-U webinars have been hosted, recorded, and attended by more than 2,600 live participants. Recorded webinars were downloaded over 7,800 times, yielding an overall ratio of three asynchronous views for every live participant. For individual webinars, this ratio was sometimes as high as 20:1.

To evaluate impacts and potential outcomes of EAB-U programming, a voluntary survey was

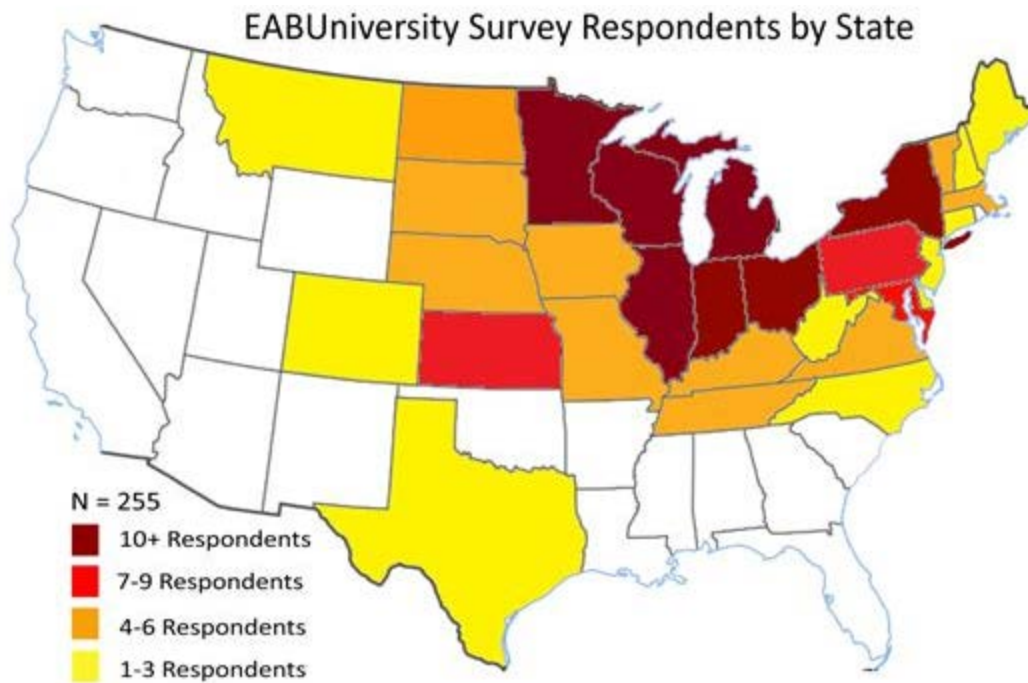
administered over the course of 15 webinars in 2012-2013 using Qualtrics survey software, Copyright© 2013, licensed to Purdue University. Participants were provided with a link to an online survey following each webinar. Survey completion was incentivized with the offer of "EAB University Goodie Bags" for the first 10 respondents. There were 260 survey participants (37% of total live viewership during this time period).

Geographical Reach

Question 1: In what state do you live and work?

Survey respondents hailed from 30 U.S. states and Canada (Figure 1.) Not surprisingly, the highest concentrations of respondents came from states experiencing the greatest EAB impacts, but it was also encouraging to see viewership in states with no detections of the insect (e.g., Maine, Montana, New Hampshire, Texas).

Figure 1.
Distribution of EAB University Survey Respondents in the U.S.



Impacts

Most respondents (84.6%) ranked themselves as "very satisfied" with the quality and relevancy of webinar content (Table 2). In addition, webinars also appeared to increase participants' knowledge of subject matter and result in enhanced level of preparation to manage the pest. Finally, most participants (95.3%) indicated that they would share information gleaned from webinars with others, further magnifying impacts.

Table 2.

Responses to Questions Evaluating Impact and Satisfaction with EAB University Webinars. Results Are Reported as a Percentage (N = 260).

Question 2: Overall, did the content of this webinar meet your expectations in quality and relevancy?

Very Dissatisfied (1)	(2)	(3)	(4)	Very Satisfied (5)	No Response
3.1	0.8	3.1	8.5	84.6	0

Question 3: To what extent did the webinar change your knowledge of the subject matter?

No Change (1)	(2)	(3)	High Degree of Change (4)	No Response
1.5	16.2	51.2	20.8	10.4

Question 4: Based on the information presented in this webinar, do you feel more prepared to manage this pest?

No More Prepared (1)	(2)	(3)	Much More Prepared (4)	No Response
2.3	8.8	46.2	34.2	8.5

Question 5: Do you plan to share the information you learned today with friends or colleagues? If so, what info will you share?

Yes, will share	No, will not share	No Response
95.3	4.7	1.2

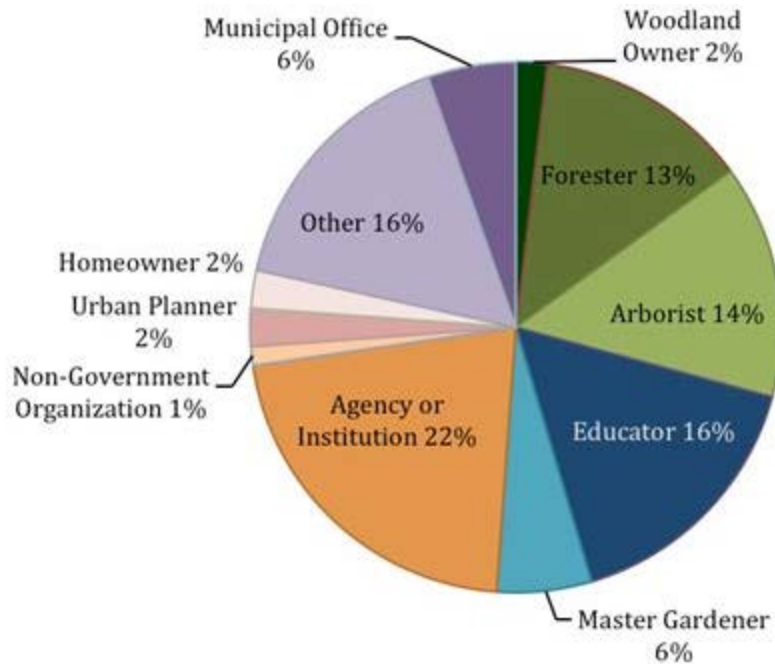
Demographic Reach

Question 6: What is your primary perspective when viewing this webinar?

Nearly 30% of the respondents were directly involved in making management decisions in the field (woodland owners, foresters, and arborists), indicating a desirable direct transfer of the latest research to those who will implement it (Figure 2). Another 22% identified as professional or para-professional educators (Educator or Master Gardener), who will presumably share the information with a broader audience, increasing the likelihood that pertinent information would continue to "trickle down" to others through these primary trainees.

Figure 2.

Primary Perspectives of EAB University Survey Respondents. N = 260



Outcomes

Question 7: Please list one specific action that you plan to take in the next year as a result of viewing today's presentation.

The vast majority of survey participants (87%) indicated a plan to act as a result of viewing the webinar. These actions could be placed into two broad categories: (1) Education—plans to share learned information and educate others and (2) Action—plans to perform a management action. Proportions of participants planning Education (43%) and Action (40%) were similar, with 4% of participants indicating they planned both Education and Action.

Conclusions and Recommendations

EAB-U represents a model of collaboration among institutions and demonstrates the feasibility of using webinar technology as a cost-effective means for timely distribution of research results and new innovations. This strategy is particularly relevant for invasive species and other topics where new information is continually generated. EAB-U uses expertise from a nationwide pool of presenters with various professional affiliations and draws viewership from unique contact networks at three state universities. These attributes facilitate continued development of the project and provide a means to communicate a coordinated message to a geographically and demographically broad audience. Live participant surveys indicated high levels of satisfaction with the platform and suggested meaningful changes in behavior. Moreover, the 3:1 ratio of downloads to live views indicate the target audience is willing to take advantage of asynchronous training opportunities. Collaborations such as these will be increasingly important to offset diminishing resources available for Extension programs.

Acknowledgements

Emerald Ash Borer University was developed and supported through financial assistance from the United States Forest Service, State and Private Forestry, Forest Health Protection program.

References

- Allred, S. B., & Smallidge, P. J. (2010). An educational evaluation of Web-based forestry education. *Journal of Extension* [On-line], 48(6) Article 6FEA2. Available at: <http://www.joe.org/joe/2010december/a2.php>
- Aukema, J. E., Leung, B., Kovacs, K., Chivers, C., Britton, K. O., Englin, J., Frankel, S. J., et al. (2011). Economic impacts of non-native forest insects in the continental United States. *PLoS one*, 6(9), e24587. doi:10.1371/journal.pone.0024587
- Carter, S. (2004). Grant writing in the age of collaboration. *Journal of the American Association of Grant Professionals*, 3(2), 17–22. Retrieved from: http://grantprofessionals.org/images/Journal/2004/Grant_Writing_in_the_Age_of_Collaboration.pdf
- Cecil, K., & Feltes, D. (2002). Distance education--A case study in practical application. *Journal of Extension*, 40(5) Article 5TOT4. Available at: <http://www.joe.org/joe/2002october/tt4.php>
- Herns, D. A., McCullough, D. G., Smitley, D. R., Sadof, C. S., Williamson, R. C., & Nixon, P. L. (2009). Insecticide options for protecting ash trees from emerald ash borer. *North Central IPM Center Bulletin* 12. Retrieved from: http://www.emeraldashborer.info/files/multistate_eab_insecticide_fact_sheet.pdf
- Katz, J. S., & Martin, B. R. (1997). What is research collaboration? *Research Policy*, 26(1), 1–18. doi:10.1016/S0048-7333(96)00917-1
- McCullough, D. G., & Mercader, R. J. (2012). Evaluation of potential strategies to Slow Ash Mortality (SLAM) caused by emerald ash borer (*Agrilus planipennis*): SLAM in an urban forest. *International Journal of Pest Management*, 58(1), 9–23.
- Melin, G. (2000). Pragmatism and self-organization: Research collaboration on the individual level. *Research Policy*, 29(1), 31–40.
- Ober, H. K., Giuliano, W. M., & Dillard, J. (2012). Leveraging partnerships to achieve high impact: Lessons from wildlife field days. *Journal of Extension*, 50(1) Article 1FEA1. Available at: <http://www.joe.org/joe/2012february/a1.php>
- Pimentel, D., Zuniga, R., & Morrison, D. (2005). Update on the environmental and economic costs associated with alien-invasive species in the United States. *Ecological Economics*, 52(3), 273–288.
- Rich, S. R., Komar, S., Schilling, B., Tomas, S., Carleo, J., & Colucci, S. (2011). Meeting extension programming needs with technology: A case study of agritourism webinars. *Journal of Extension*, 49(6), Article 6FEA4. Available at: <http://www.joe.org/joe/2011december/a4.php>
- Rodewald, A. D. (2002). Interagency collaboration on wildlife management issues: Opportunities and constraints. *Journal of Extension*, 40(2) Article 2RIB3. Available at: <http://www.joe.org/joe/2002april/rb3.php>

Sadof, C. S., Purcell, L., Bishop, F. J., Quesada, C., & Zhang, Z. (2011). Evaluating restoration capacity and costs of managing the emerald ash borer with a web-based cost calculator in urban forests. *Arboriculture and Urban Forestry*, 37(2), 74–83.

Sundermeier, A. (2005). Exotic pest invasion—Plan of action for extension educators. *Journal of Extension*, 43(5) Article 5TOT5. Available at: <http://www.joe.org/joe/2005october/tt5.php>

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](#)