

Forest Owner Carbon and Climate Education Program (FOCCE)

Annual Report 2024 (Year 3)

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Executive Summary

This report contains a review of the goals and milestones outlined in the original proposal to NIFA and a summary of the activities conducted in 2024. Despite shortages in staffing and changes in collaborators, we were able to achieve proposed milestones in several cases. Challenges and opportunities for each program as well as activities for 2025 are identified in this document. Individual program reports and educational materials can be found in the associated links.

In 2024, the library of extension articles was increased from 24 to 33 articles, three of which are in Spanish language. The articles have so far received over 168,000 views. We also gave a total of 44 extension talks some of which were webinar series hosted by FOCCE and a handful of invited talks. These events reached over 2,000 + landowners and professionals nationwide. Impact data suggests that the talks were well organized, successful in information transfer, compelling, relevant for informing management decisions, and promoted healthy discussions. Future actions include publishing more Spanish language articles, hosting more extension talks that include FOCCE collaborators, publishing an asynchronous learning course for educators, and developing an AI chat assistant for the FOCCE website to provide landowners with easily accessible information.

In the Fall we developed an online course called “Teaching Forest Owners about Carbon Incentives: A Training Series” The course prepared educators to answer landowner questions about carbon markets and was delivered over five weeks using a reverse classroom format. The course utilized the educator guidebook which contains resources for building an extension program on forest carbon topics and links to tools and resources produced by the USDA Climate Hubs and USFS. Pre and post-testing data indicates participants experienced a significant increase in confidence towards delivering educational content on forest carbon market topics. A total of 5 participants completed all the surveys and received certification. Future actions include developing strategies that increase rates of completion and establishing a grants program to support extension program delivery.

In the Fall we hosted a live webinar series for landowners. The program “Forest Owner Carbon and Climate Education Online Series for Landowners ” included six modules, over three weeks. Some of the largest impacts associated with this method were a better understanding of the elements of carbon credits and markets and an understanding of the contractual obligations.

We did not meet the milestone of establishing an online newsletter this year due to staffing shortages, but we completed the hiring process for a program coordinator in 2024, who will help to accomplish this goal in 2025. Opportunities to more fully leverage the resources provided by the USDA Climate Hubs could also be explored in 2025.

Publications produced to date:

- [Library of FOCCE Articles and Resources](#) (33 articles, links to 40+ partner resources)
- Guidebook for Extension Educators: Carbon Incentives for Forest Owners (103 pages)

FOCCE Goals

1. Facilitate basic literacy in forest carbon and climate issues, with a special focus on incentive opportunities, such as forest carbon markets and government programs.
2. Provide access to new and existing tools and resources to help guide planning and structured decision-making.
3. Foster communities around carbon and climate topics so participants continue to build knowledge through collaborative learning and collective engagement.
4. Reach different categories of forest owners who are less likely to participate in the carbon economy
5. Advocate for more innovative carbon incentive strategies by presenting outcomes to industry and government leaders.

Original Timeline and Milestones

Project Timeline:	FY 2022	FY 2023	FY 2024	FY 2025
Administrative actions				
Program leader meetings				
Review/advisory board meetings				
Evaluation activities				
Final reports				
Establishment Period				
Coordinators are installed				
Curriculum and program development				
Implementation Period				
Online self-directed training program				
Professional development trainings				
Peer educator trainings				
Peer educator projects implemented				
Sustainability Campaign				
Newsletter distributed				
Project presentations to national coalitions				

Activities in 2024

Milestone 1: Maintained an online library of resources (i.e., extension articles, and videos) to support self-directed learning.

Online Library of Resources

The [FOCCE website](#) was launched in 2022 using WordPress. It is the official project website for the NIFA grant and contains information such as project goals, collaborator names, and a library of resources developed by FOCCE.

The website primarily serves as a clearing house for content posted on other sites. For example, most FOCCE extension articles are housed on the Penn State Extension website and marketed through Penn State Extension. Readers are able to navigate through the FOCCE collection by visiting the [FOCCE website resources page](#). Or if they enter through the Penn State Extension website visitors can follow breadcrumb links at the end of each article to find other articles in the FOCCE collection.

Extension Articles

Program Leaders: Melissa Kreye and the Curriculum Committee

In 2022 the [curriculum committee](#) outlined an ambitious goal of developing up to 30 extension articles on a variety of topics. *In 2024, we completed five additional articles, for a total of 33 articles, and revised multiple existing Penn State Extension articles (Table 1).* Most articles (20) were designed to address three basic questions landowners have about carbon incentives (1) “How do I manage forest carbon?”, (2) “What is a fair price for forest carbon?” and (4) “What do I need to consider before signing a carbon contract?” Thirteen articles provided a broader picture of forest carbon offsets and were oriented toward professional or advanced audiences.

All new articles underwent external technical review with 2-3 subject matter experts before publishing. In 2024, the articles housed on the Penn State Website *received a total of over 168,000 views*. This is a three fold increase from 2023. Those listed under topics 1 and 3 received an average of about 3,000 views, with the exception of the article titled, “How Forests Store Carbon” which received over 80,000 views. This article quadrupled in views since 2023 alone, with 60,000 additional views. The single article written in Spanish also received an above-average number of views (7,898). This was double the amount of views in 2023. Three additional articles have been produced in Spanish in partnership with *Argentina Forestal*.

Table 1. Extension articles developed in years 2021-2024 and number of views. Articles posted in 2021 were created before the FOCCE project was implemented.

Topics and Titles	Views [SW3]	Post Date
1. How do I manage forest carbon?		
How to Manage Forests for Carbon: An Introduction for Family Forest Owners	1,689	2/1/2023
Climate Change Effects on Pennsylvania's Forests	2,170	3/15/2021
What Do Forest Carbon "Sequestration" and "Storage" Mean?	5,222	1/3/2022
CÃ³mo los bosques almacenan el carbono	7,898	4/21/2022
Forest Carbon Pools: Where Are They?	2,941	1/31/2023
Methods for Estimating Carbon Within Forests	4,302	1/31/2023
Carbon Accounting in Forest Management	5,397	2/1/2023
How Forests Store Carbon*	82,482*	8/22/2023
Facts about Forest Carbon and Carbon Markets	187	2/12/2024
El carbono forestal ¿dónde encontramos los reservorios?	605	1/19/2024
	<i>Total</i>	<i>112,893</i>
	<i>Average</i>	<i>3,379</i>
2. What is a fair price for forest carbon?		
Conversions Commonly Used When Comparing Timber and Carbon Values	3,946	1/31/2023
How Much Should I be Paid to Manage Forest Carbon?	10,129	2/1/2023
Long-Term Financial Planning for Timber and Carbon	2,360	2/1/2023
Carbon Markets 101	6,205	6/26/2023
	<i>Total</i>	<i>22,640</i>
	<i>Average</i>	<i>5,660</i>
3. What do I need to consider before signing a carbon contract?		

<u>What is Selling Forest Carbon Like? Three Landowners' Experiences</u>	10,981	9/1/2021
<u>Questions to Ask Before Joining a Carbon Program</u>	881	12/1/2021
<u>Case Study 1: Two Landowners' Experiences With Carbon Payment Programs</u>	775	1/31/2023
<u>Case Study 2: Three Landowners' Experiences with Climate Smart Forest Programs</u>	276	1/31/2023
<u>What Should I Think About Before Signing a Forest Carbon Contract?</u>	6,529	2/1/2023
<u>Valoración del carbono en la actividad forestal: conectando el manejo forestal con los mercados de carbono</u>	855	2/21/2024
	<i>Total</i>	19,442
	<i>Average</i>	3,882

4. Professional and Advanced Audiences

<u>The Economic Value of Private Forests and Climate Change Mitigation</u>	3,851	2/1/2023
<u>Climate Regulation and Change: What is Causing it?</u>	1738	2/24/2023
<u>How Forest Carbon Programs Work: Two Case Studies With Private Organizations</u>	611	8/22/2023
<u>Reducing Carbon Emissions Using Private Forests</u>	551	8/22/2023
<u>How a Forest Carbon Offset is Made and Sold</u>	4,958	8/24/2023
<u>Forest Carbon Market Structures and Mechanisms</u>	774	10/12/2023
<u>Strategic Messaging: A Guide for Leaders and Officials</u>	1,229	8/22/2023
<u>Can Carbon Payments Support Invasive Plant Management on Private Forests?</u>	66	12/6/2024
<u>Forest Carbon Stocks Based on Land Ownership in the U.S.</u>	28	12/18/2024
<u>Women in Forest Leadership: Addressing Climate Change in Forest Management</u>	85	12/10/2024

<u>New Study Highlights the Role of Land Ownership and Carbon Storage</u>	115	12/11/2024
<u>Climate-smart forestry: Mitigating climate change and enhancing resilience in Pennsylvania</u>	NA	7/2/2024
<u>Perspectivas del mercado voluntario de carbono tras la experiencia de un propietario de bosque y una consultora argentina</u>	605	8/5/2024
	<i>Total</i>	<i>14,611</i>
	<i>Average</i>	<i>1,123</i>
<hr/>		
	<i>Grand total</i>	<i>170,441</i>
<hr/>		

**This article is excluded from the average values.*

Short Term Impacts

FOCCE did not conduct any surveys about the extension articles in 2024.

Opportunities/Challenges

The Penn State Extension website has significant marketing reach, signaling that it is an important platform for delivering FOCCE content. However, there were several challenges. The Penn State Extension article format did not allow us to list authors not affiliated with Penn State as lead authors. Analytic information made available by Penn State Extension included the number of views, but not the number of unique visitors to the article page, or place of origin. Google Analytics will be added to the FOCCE website and can help to provide additional information on viewership. The “Carbon Stock Based on Land Ownership” is temporarily retracted to facilitate corrections to carbon estimates.

Plans to submit articles to the USDA Ag Data Commons library and secure a DOI# have been stalled. When we contacted the USDA, they requested that we wait until they launch a new platform for submitting public education materials (the expected date is unknown).

To our knowledge, very little extension information on carbon markets is published in the Spanish language. The high number of views of our Spanish articles suggest that Spanish-speaking audiences found FOCCE and are interested in this information. To date, we have identified two qualified translators who can help with producing more Spanish articles.

Extension videos were not created in years 1 or 2. Delays were largely associated with delays in curriculum development in year 1 and staffing shortages within FOCCE and Penn State Marketing. These shortages have been resolved with the hiring of the FOCCE coordinator who can help with video production.

Large increases in viewership of FOCCE articles demonstrate a growing interest in carbon markets from the general public. FOCCE is continuing to update and improve the website to make information more accessible to landowners. FOCCE is currently working to add an AI chat feature to the website that can answer specific landowner questions drawing from the extension article resources.

Action Items for 2025

- The Program Coordinator will update and improve the website, including adding Google Analytics to the FOCCE website
- Explore opportunities to promote the FOCCE website to the online community.
- Continue to explore opportunities to design and produce extension videos.
- Reevaluate the remaining draft extension articles and set goals for review and publication, specifically identifying the error in carbon stock calculations.
- Submit articles to the USDA Ag Data Commons library when it accepts public education materials.
- Develop procedures for supporting the Spanish translation of FOCCE articles.
- Embed information about lead authorship in the body of the articles, upon request by the authors.
- Work with Penn State marketing to gather more information about visitors to the web articles.
- Use personal invitations to solicit more reviews from landowners to get better feedback on the extension articles.
- Develop an AI chat feature for the FOCCE website to increase accessibility

Milestone 2: Host up to 15 live events annually (e.g., extension talks, panel discussions) reaching up to 1,000 participants annually

Program leaders: Melissa Kreye, Calvin Norman, Penn State Extension

Extension Talks

Most talks ranged from 30 to 50 minutes in length and were given live, either in person or by Zoom, and questions were addressed at the end. Topics covered include the carbon cycle/forest carbon pools, definitions for climate-smart forestry, understanding elements of a carbon offset, carbon market conditions and drivers, and benefits for family forest owners. Audiences were also directed to relevant extension articles, guidebooks, and the FOCCE website for more information.

In 2024 we gave a total of 44 extension talks reaching over 2,000 landowners and professionals nationwide. This is a small increase from 2023 when we gave 19 talks reaching over 1,700 participants. A full list of extension talks can be found in Appendix A. Talks given by Melissa were at a variety of events, including conferences, webinars, and forums. She served as the keynote speaker at the "Collaboration on Carbon: A Workshop to Understand Downstream Impacts and the Future of US Forest Carbon Markets." In addition, she either co-hosted and/or presented at the Goddard Forum, the Pennsylvania Forest Seminar, the Northern Institute of Applied Climate Science, the Drawdown Georgia Business Compact team, the Association of Natural Resources Extension Professionals National Conference, the Westmoreland Woodlands Improvement Association, the Forest Stewardship Program, Georgia Technical Institute, and the Climate Consortium VIP program. Melissa has also contributed to hosting a series of workshops and webinars, such as the Keep Penn's Woods Healthy Workshop and a Carbon Capacity Workshop. Furthermore, she led several webinar series focused on topics like engaging landowners and understanding their perspectives. She also hosted a climate forest walk for highschool students in collaboration with Penn State's television station, WPSU.

Melissa also hosted and co-hosted two webinar series for landowners. The "Forest Owner Carbon and Climate Education Online Series for Landowners" was a six-session informational program designed to help family forest owners in the United States understand the role of their forests in climate change mitigation and explore carbon incentive opportunities. It ran from September 2 to September 18, 2024, and participants represented landowners from 24 states, DC, and Chile. This series provided essential insights into forest carbon markets, carbon storage, and best management practices. The series began with an introduction to private forest lands, covering carbon budgeting, forest carbon stocks, and their economic value. Participants then explored forest carbon offset projects, including the fundamentals of carbon credits, nature-based solutions, and project development processes. The third session focused on carbon markets, explaining different market structures, credit transactions, and supply-demand dynamics. This was followed by a session on resilient forestry which highlighted sustainable management practices, forest carbon pools, and the role of smart wood products. In the fifth session, managing forest carbon, landowners learned how carbon stocks are measured, strategies for maintaining forest health, and how improved forest management impacts carbon sequestration. The series concluded with deciding about forest carbon incentives, which guided participants through values-based decision-making, economic trade offs, contractual obligations, and the risks and benefits of participating in carbon programs.

Melissa also co-hosted with Michigan State University the Building Forest Carbon and Market Decision Capacity Webinar Series. Two webinar events were in September and December of 2024. The series will continue in 2025 with 3 additional talks. The events were the result of collaborations with faculty at the host institutions and had approximately 150 participants in each webinar series.

[Calvin Norman](#) presented work at a handful of conferences and events including, the New York Farm Show, the Southeast Green Industry meeting, the Southeast Pennsylvania Green Industry Forum, the Green Build Event, the Association of Natural Resource Extension Professionals, and a USDA roundtable. Calvin hosted two additional webinar series in 2024. The first series presented 6 webinars in the “Land Transition Series,” which focused on estate planning. Four of the sessions were held in 2024, and the remaining two were completed in early 2025. The series had 233 participants from 32 states and DC. The second course was a 5 part webinar series on “Climate Smart Forestry” that took place in March 2024. The course had about 300 people at each session.

Kripa Neupane presented at the Society for American Foresters Convention (SAF) in September 2024. She presented information with Melissa on Landowner Views about Carbon Payments in Pennsylvania and Virginia. Kripa also gave a poster presentation at the SAF conference in September. She also presented in two webinars in 2024 on Forest Management and Climate and at the Pennsylvania Forest Seminar.

FOCCE sponsored Tatyana Ruseva, a collaborator from Appalachian State University, to attend the Association for Public Policy and Management (APPAM) conference in November 2024. Dr. Ruseva presented her research: “Improving Participation in Nature-Based Climate Solutions through Program Design: Evidence from a Conjoint Experiment Analysis.” Melissa Kreye was a coauthor of this paper. The audience for the talk was about 15 people.

Short Term Impacts

Findings suggest that landowners with smaller properties who are engaged in active forest management were the most common type of participants at the talks. Customer satisfaction data suggests that information transfer was largely successful, which is in line with our goal of facilitating basic literacy in forest carbon and climate issues. The topics discussed were also relevant for informing management decisions.

Moderate improvements in attitudes suggest that the extension talks provided compelling information about what they could do with their forest to increase resilience. Moderate improvements in confidence about considering a carbon payment program suggest that the extension talks provided more clarity on how to engage as an economic actor in carbon markets if they chose to do so. Finally, moderate improvements in willingness to talk to peers and professionals suggest the extension talks were also helpful in shepherding a sense of community around carbon and climate issues.

Opportunities/Challenges

One of the benefits of being invited by different organizations to speak at their private events was our ability to reach audiences that would perhaps not attend a FOCCE event.

There were several challenges in being an invited speaker, however. Impact data was more complicated to collect, especially if the organizer was already collecting their own evaluation data and most data needed to be collected using paper surveys.

Action Items for 2025

- Continue to respond to speaker invitations. Melissa plans to attend the International Conference on Forest Carbon and Resilience in Auburn and is co-hosting the Michigan State Learning Exchange series for 2025.
- Produce a recorded webinar series for landowners (10-12 short videos on youtube) about climate-smart forestry, management practices, and economic considerations.
- Continue to collect evaluation data to measure program impacts
- Host a graduate student forum where graduate students can present their research that pertains to climate-smart forestry and related topics.

Milestone 3: Develop and Deliver Online Training Programs for Educators to Help Support Landowner Decisions about Forest Carbon Markets.

Program Leaders: Melissa Kreye, Calvin Norman, Margarita Fernández, Kripa Neupane, Penn State Extension

Expected Outcomes

- Educators are prepared to answer landowner's basic questions about forest carbon markets.
- Educators have access to the library of FOCCE extension articles, which they can share with their clients.
- Educators are directed to resources developed by the USDA Climate Hubs and FOCCE collaborators, which they can use to inform their curriculum.
- Educators who complete the program have the opportunity to apply for a FOCCE grant to support educational programs on forest carbon topics for forest owners.

Approach

In Fall 2024, we developed and piloted an online course called "Teaching Forest Owners about Carbon Incentives: A Training Series". The target audience for this training program was Extension educators and professionals who support forest landowner decision-making. The platform used to advertise and deliver this program was Penn State Extension. The course contained ten modules and was delivered online over five weeks. The participants join an hour-long webinar twice a week. The webinar included lectures from PI's and time for questions from the audience. The presentation came with attached readings and assignments for the participants.

Each week participants completed the assigned readings from the digital guidebook and took a short assessment to measure comprehension of the materials. The course had optional discussion sessions on Wednesday nights to teach educators the “Peers and Pros methodology.”

Figure 4 displays the topics covered during the webinar series. This course was designed for educators but was open to other participants.

Table 4. Modules in the Teaching Forest Owners about Carbon Incentives: A Training Series.	
<i>Module 1. How to Approach a Carbon Market Extension Program</i>	Which landowners are we talking about? Why promote carbon incentives? What does success look like? A philosophy for carbon markets extension programs
<i>Module 2. Climate Change and Forests</i>	Definitions for climate change Causes and evidence of climate change in forests Experiencing climate change When changes in climate matters
<i>Module 3. Private Forest Lands and Climate Change Mitigation</i>	Concept of carbon budgeting in forests Carbon stocks in family forests The “value” of forest carbon Economic Implications
<i>Module 4. Elements of a Forest Carbon Offset Project</i>	What is a carbon credit? Nature-based projects Project development stages Registries and protocols
<i>Module 5. Elements of a Carbon</i>	Differences across the market schemes Motivation for credit transactions Dynamics of supply and demand
<i>Module 6. Climate-Smart Forestry and Carbon Pools</i>	Climate-Smart forestry Carbon pools in a forest Forest type and site index Climate-Smart Wood products
<i>Module 7. Managing Forest Carbon</i>	How carbon stocks are measured Protecting forest health Improved forest management Implications for forest land use

Table 4. Modules in the Teaching Forest Owners about Carbon Incentives: A Training Series.	
<i>Module 8: Landowners and Decision Making</i>	Values and priorities Contractual Obligations Risks and benefits
<i>Module 9: Strategies for Engaging Landowners</i>	Peer education approaches Panel discussions
<i>Module 10: Extension Resources for Landowners</i>	Extension articles Tools and calculators Panel discussions

Program Materials

- Educator Guidebook (100+ pages)
- Teaching philosophy and FOCCE values for extension programming
- List of over 60 key terms and phrases
- List of over 40+ online resources developed by the USDA Climate Hubs, USFS, and other FOCCE collaborators.
- Select extension articles that cover core concepts (11)
- Case studies of landowners who enrolled in carbon markets (5)
- Questions landowners should ask before enrolling in a carbon program.
- Peers and Pros 360 teaching methodology
- Evaluation survey tool

Short Term Impacts

Around 100 participants registered for the training program. The majority of participants were educators, private industry professionals, and state and federal agency employees, respectively. A number of landowners also attended the sessions. Despite the high number of registrants, only 15 people responded to the evaluation surveys. Pre and post-testing indicate a significant change in confidence in delivering educational content on forest carbon market topics (Table 5). At the beginning of the program, almost half (44%) reported that they were not confident at all and after the program, 79% were somewhat confident and 16% were very confident.

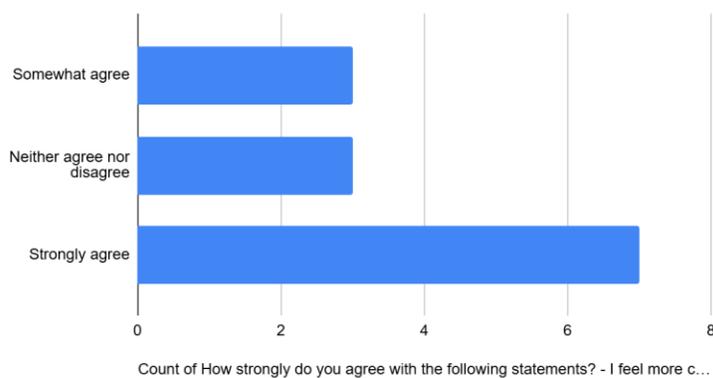
Table 5. Change in confidence towards delivering education about forest carbon markets.		
	Before the training program	After the training program
Not confident at all	44%	7%

Somewhat confident	38%	79%
Very confident	8%	16%

Evaluation Data

General trends across the surveys indicated that the lessons were useful for increasing confidence in sharing information about forest carbon and carbon offsets. Following the first two courses 53 percent of landowners (out of 15 survey responses) said they felt more confident talking about forest carbon. Generally, respondents felt that the presentations were well organized and presented useful information in a way that was easy to understand. Low levels of responses to the surveys, limit the generalizability of findings.

How strongly do you agree with the following statements? - I feel more confident teaching about forest carbon after today



Broader Impacts

Participants who completed the survey indicated that the number of participants in their programs each year ranged from about 20-100 landowners, with the exception of one educator that reported outreach to roughly 1000 landowners a year. The skills and information learned in this course can be translated to a broader audience.

Opportunities/Challenges

Nonindustrial private forest (NIPF) owners are the traditional extension landowner audience. A surprising number of participants in this training program were not formal educators or working directly with NIPF owners. Some participants work with only a limited number of landowner clients in both the public and private sectors. *This suggests there is a large demand for “introductory” level learning opportunities for professionals working across all landowner categories.* Even though this gap is currently being filled by FOCCE, it is unclear if FOCCE is

well suited to meet the educational needs of professionals who have only a few large landowner clients.

The rate of completion and willingness to use the Peers and Pro's method was lower than expected. The finding that many participants were not educators, as a primary role, could explain the low interest in the new teaching method. Many participants were also still in the exploratory phase and did not have a large number of clients asking for this information.

Marketing strategies that are better at attracting formal educators may be needed if a higher rate of completion is preferred. Requesting a small fee (\$10- \$15) for the guidebook may also help participants stay invested in the program. Offering small grants to educators that complete the full course requirements will help encourage survey completion.

Additionally, better accountability for completing the survey will help to increase the ability to reflect on course materials and make improvements for future modules. For many of the survey's there were only about 5 respondents. Low response levels make it difficult to track the effectiveness of the material.

Action Items for 2025

- Set up procedures for a small grants program for 2024 educator participants and new participants in 2025.
- Follow up with program graduates to (A) assess the use of FOCCE training materials, and (B) solicit applications for the educator grant.
- Conduct a needs assessment that can help inform a more targeted marketing campaign.
- Review comments and other evaluation data from 2024 and make improvements to content, approach, and delivery procedures.
- Deliver the training program again in Spring 2025 but using asynchronous class format
- Set up evaluation procedures that are better at tracking impacts on professional educators compared to participants where education may be a secondary role.
- Add climate and carbon-related materials to the Forest Stewardship course offered by Penn State Extension

Milestone 4: Develop and Deliver a Peer Education Program on Forest Carbon Incentives to Better Reach Landowners.

Program Leaders: Melissa Kreye, Allyson Muth, Penn State Extension; Janet Steele, Clemson Cooperative Extension; Mysha Clarke, University of Florida IFAS Extension; Kripa Neupane, Penn State Graduate Student

Due to staffing shortages, and limited time, FOCCE did not achieve any additional work to this milestone in 2024. FOCCE has plans to host a peer education program in 2025, hopefully with partner universities, such as Virginia or West Virginia. Initial communications for planning this event are in the early stages.

Action Items for 2024

- Modify program procedures based on feedback from participants in 2023.
- Host 3- 6 more small groups in other states through collaborations
- Follow up with participants from 2023 to determine if expected intermediate impacts occurred.
- Continue to collect more evaluation data to measure evidence of short-term impact

Milestone 5: Establish the Online Newsletter Series.

Visitors to the FOCCE website are able to subscribe to the FOCCE newsletter by submitting their contact information. So far, we have received 395 entries. A newsletter series has not yet been established due to shortages in staff support. In 2024 FOCCE hired a Program Coordinator. The coordinator will be responsible for helping to achieve this goal in 2025.

Action Items for 2025

- Work with FOCCE collaborators to establish a newsletter series.
- Create a list-serve with contact information collected on the FOCCE website

Appendix A

FOCCE Extension Talks given in 2022, 2023 and 2024

M.Kreye, Classroom, External to Penn State, Visioning Climate-Smart Forestry in the Mid-Atlantic Region, Goddard Chair in Forestry and Environmental Resource Conservation, University Park, 60 participants, Fall, (October 16-17, 2024), Co-director and Instructor.

M. Kreye, On-Line, External to Penn State, Pennsylvania Forest Seminar: Opportunities in Forest Carbon Markets, 60 participants. Spring (November 12, 2024), Co-Instructor.

M. Kreye, Classroom, External to Penn State, Forest Owner Carbon and Climate Education, Westmoreland Woodlands Improvement Association, Greensburg, PA, 25 participants, Fall (October 17, 2024). Director and Instructor.

M. Kreye, Classroom, External to Penn State, Keep Penn's Woods Healthy Workshop, Northern Institute of Applied Climate Science, University Park, 35 participants, Spring (October 15, 2024). Co-Instructor.

M. Kreye, Classroom, External to Penn State, Engaging Underserved Landowners, State, National Forest Stewardship Program, Frederick, MD, 100 participants, Fall (September 11, 2024), Co-Director and Instructor

M. Kreye, On-Line, External to Penn State, Forest Owner Carbon and Climate Education, The Drawdown Georgia Business Compact Team , 90 participants, Summer (June 14, 2024), Director and Instructor

M. Kreye, Classroom, Internal to Penn State, Ecological Depression Panel Discussion, Penn State Extension, University Park, 24 participants, Spring (April 15, 2024), Co-Director and Instructor.

M. Kreye, Classroom, External to Penn State, WPSU climate-forest walk, WPSU Television Station, State College, PA, 25 participants,. Spring (April 2, 2024). Instructor.

M. Kreye, On-Line, External to Penn State, Forest Management and Climate: A Woman's Perspective, Penn State Extension, 60 participants. Spring (March 22, 2024). Co-Instructor.

M. Kreye, On-Line, External to Penn State, Advice from the Woods, Penn State Extension, 100 participants, Spring (March 20, 2024), Team Instructor,

M. Kreye, On-Line, External to Penn State, Open House for Forests and Climate Change: Peer Education Strategies for Underserved Landowners, Penn State Extension, 60 participants, Professional. Spring (March 18, 2024), Co-Director and Instructor.

M. Kreye, On-Line, External to Penn State, Forest Owner Carbon and Climate Education, Georgia Technical Institute, 25 participants, Professional. Spring (February 9, 2024), Co-Director and Instructor.

Kreye, M., Classroom, External to Penn State, Engaging and Supporting Private Forest Landowners in Ecosystem Service Markets, Collaboration on Carbon: A workshop to understand downstream impacts and the future of US forest carbon markets,, US Endowment for Forests and Communities and Dovetail Partners, Nashville, TN, 50 in attendance, Summer (June 18, 2024).
Keynote Speaker

Kreye, M, Classroom, External to Penn State, Forest Owner Carbon and Climate Education, Climate Consortium VIP Program, Penn State Climate Consortium, University Park, PA, 20 participants, Fall (November 3, 2024) Author and Presenter

Kreye, M. "Reaching Underserved Communities with Climate-Smart Forestry: A Pilot Peer Education Extension Program," Association of Natural Resources Extension Professionals National Conference, Hershey, PA, 50 participants, Spring (May 6, 2024) Co-Author and Presenter.

Kreye, M. "Harnessing the Potential of Forests as Nature-Based Solutions Through Climate-Smart Forestry," Penn State Climate Consortium, University Park, PA, 100 participants, Spring (May 14, 2024)Panel Member

C. Norman, On-Line, External to Penn State, Estate Planning Webinar Series, 6 webinars, 233 participants, Spring 2024.

M. Kreye, On-Line, External to Penn State, Building Forest Carbon and Market Decision Capacity Webinar Series: Introductions to Forest Carbon Markets and Payment Programs, Michigan State University, 150 participants, Fall (September 26th, 2024), Invited Speaker/Co-host

M. Kreye, On-Line, External to Penn State, Building Forest Carbon and Market Decision Capacity Webinar Series: Cost-benefit of Voluntary Carbon Projects, Michigan State University, 150 participants, Winter (December 12th, 2024), Invited Speaker/Co-host.

T. Ruseva, Classroom, External to Penn State, Improving Participation in Nature Based Climate Solutions through Program Design, Association for Public Policy and Management (APPAM), National Harbor, Maryland, 15 participants, Fall (November 21-23, 2024), Accepted Speaker.

M. Kreye & Norman C., On-Line, External to Penn State, Forest Owners and Carbon Incentives: An Informational Webinar Series, 6 webinars, 150 participants, 150 participants, Fall (August - September, 2024), Host.

M. Kreye, C. Norman, M. Fernandez, K. Neupane, On- Line, External to Penn State, Teaching Forest Owners about Carbon Incentives: A Training Series, 10 webinars, 100 participants, Fall (August - September, 2024), Host

C. Norman, Classroom, External to Penn State, New York Farm Show, Onondaga County, 2 talks, 30 participants, Winter (February 22, 2024), Invited Speaker.

C. Norman, Classroom, External to Penn State, Southeast Green Industry Meeting, Duluth, Georgia, 100 participants, Winter (January 6, 2024), Keynote Speaker.

C. Norman, Classroom, External to Penn State, Southeast PA Green Industry Forum, Temple University, Ambler PA., 65 participants, Winter (February, 26, 2024), Invited Speaker.

C. Norman, Classroom, External to Penn State, Green Build Event: “We Sought the Woods”, Philadelphia Pennsylvania, 30 participants, Summer (July, 22, 2024), Invited Speaker.

C. Norman, Classroom, External to Penn State, Association of Natural Resource Extension Professionals (ANREP), Hershey Pennsylvania, Summer (June 6, 2024), Invited Speaker.

C. Norman, Classroom, External to Penn State, Roundtable with (Former) USDA Chief, Erie Pennsylvania, Spring (May 23, 2024). Invited Speaker.

C. Norman, On-Line, External to Penn State, Climate Smart Forestry Webinar Series, 5 webinars, 300 participants (per talk), Spring (February-March, 2024) Host.

K. Neupane, Classroom, External to Penn State, Society of American Foresters Convention, Loveland Colorado, Fall (September 17-20, 2024). Invited Speaker.

K. Neupane, On-Line, External to Penn State, Forest Management and Climate Webinar, Spring (March, 22nd 2024), Speaker

K. Neupane, Classroom, External to Penn State, Society of American Foresters Convention, Loveland Colorado, Fall (September 17-20, 2024). Poster Presentation

K. Neupane, On-Line, External to Penn State, Pennsylvania Forest Seminar, Fall (November 12, 2024). Invited Speaker

M. Kreye, On-Line, External to Penn State, Professional Agricultural Workers Conference, Tuskegee University, 300 participants. Fall (October 30, 2023). Accepted speaker.

M. Kreye & Norman, C., Classroom, External to Penn State, Society of American Foresters National Convention, Sacramento, CA, 35 participants. Fall (October 28, 2023). Forest Carbon Markets: Extension Programs and Resources. Accepted speaker.

C. Norman & M. Kreye, Classroom, External to Penn State. International Union of Forest Researchers (IUFRO) Extension and Knowledge Exchange (EKE), IUFRO EKE Working Group Meeting, Padua, Italy, 35 participants. Fall (October 9, 2023). Accepted speaker.

M. Kreye, Classroom, External to Penn State, Forest Carbon Management in Central Appalachia, 300 participants. Fall (September 25, 2023). Invited keynote speaker.

M. Kreye, Classroom, External to Penn State, VA Forest Products Annual Meeting, Hot Springs, VA, 40 participants. Fall (September 25, 2023). Invited speaker.

C. Norman & Kreye, M., Classroom, External to Penn State, PA Forest Stewards Training, Ligonier Pennsylvania, 25 participants. Fall (September 9th, 2023) Climate, Carbon, and Forests. Invited speaker.

M. Kreye, On-Line, External to Penn State, the 3rd Annual Sustainable Forestry and African American Land Retention (SFLR) Joint Regional Conference, Prairie View A&M University, 300 participants. Summer (August 25, 2023). Invited speaker.

M. Kreye, Classroom, External to Penn State, Three Rivers Land Trust, Mooresville, NC, 50 participants. Summer (August 11, 2023). Invited speaker.

M. Kreye, On-Line, External to Penn State, Conservation Forestry, 15 participants. Summer (July 25, 2023). Invited speaker.

M. Kreye, Classroom, External to Penn State, Forest Landowner Conference, Nashville TN, 300 participants. Summer (June 20, 2023). Invited keynote speaker.

M. Kreye, Classroom, External to Penn State, Virginia Forestry Summit on Climate Change and Forestry, Williamsburg, VA, 125 participants. Spring (May 27, 2023). Invited speaker.

M. Kreye, On-Line, External to Penn State, Wisconsin Farm Bureau, 33 participants. Spring (April 12, 2023). Invited speaker.

M. Kreye & Norman C., Classroom, External to Penn State, Pennsylvania Forest Landowners Conference, State College, PA, 35 participants. Spring (March 25, 2023). Invited speaker.

M. Kreye & Norman C., Classroom, External to Penn State, Pennsylvania Northwest Woodland Owners Association, Erie, PA, 48 participants. Spring (March 18, 2023). Invited speaker.

M. Kreye, Classroom, External to Penn State, Southern Allegheny Woodlands Owner's Association, Bedford, PA, 45 participants. Spring (March 11, 2023). Invited speaker.

M. Kreye, Lecture, External to Penn State, Virginia Tech Symposium on Forest Carbon, Williamsburg, VA, 75 participants. Spring (March 3, 2023).

M. Kreye, On-Line, External to Penn State, Pennsylvania North Central Woodland Owners Association, 28 participants. Spring (February 23, 2023). Invited speaker.

M. Kreye, On-Line, External to Penn State, Florida Forest Service CFA Meeting, 35 participants. Spring (February 14, 2023). Invited speaker.

M. Kreye, Classroom, Internal to Penn State, Department of Ecosystem Science and Management, University Park, PA, Academic. Spring (March 23, 2023). Delivered to 24 undergraduate students in FOR 480: Natural Resource Policy.

M. Kreye, Classroom, External to Penn State, Pennsylvania Forestry Association, State College, PA, 65 participants. Fall (November 5, 2022). Introduced concepts related to managing forest carbon, carbon markets and payment opportunities in the eastern United States. Invited speaker.

M. Kreye, On-Line, External to Penn State, Dakota Society of American Foresters Fall Conference, 28 participants, Professional. Fall (October 21, 2022). Introduced concepts related to managing forest carbon, carbon markets and payment opportunities in the eastern United States. Invited speaker.

M. Kreye & Norman C., On-Line, External to Penn State, South Dakota Department of Agriculture and Natural Resources, 30 participants, Professional. Fall (October 16, 2022). Hosted subject matter experts on managing forests under climate change. Invited speaker.

M. Kreye & Norman C., Classroom, External to Penn State, Arkansas Forestry Association, Little Rock, AR, 300 participants. Fall (October 12, 2022). Introduced concepts related to managing forest carbon, carbon markets and payment opportunities in the eastern United States. Invited speaker.

C. Norman., Online, Internal to Penn State, Penn State Facilities Engineering Institute, 25 participants. Fall (October 31th, 2022). Climate and Carbon. Invited speaker.

C. Norman & Kreye, M., Classroom, External to Penn State, PA Forest Stewards Training. Fall (October 2, 2022) Climate and Carbon. Invited speaker.

M. Kreye, On-Line, Both, Forest Landowner Association- Forest Carbon University, 70 participants. Fall (September 8, 2022). Introduced concepts related to managing forest carbon, carbon markets and payment opportunities in the eastern United States. Invited speaker.

M. Kreye, On-Line, External to Penn State, 2022 Special Focus Sessions of the FIA National User Group, 65 participants. Spring (March 25, 2022). Introduced concepts related to managing forest carbon, carbon markets and opportunities for payments in the eastern United States. Invited speaker.

M. Kreye, On-Line, 2022 Watershed Forestry Summit- PA Bureau of Forestry, 50 participants. Spring (March 2, 2022). Introduced concepts related to managing forest carbon, carbon markets and opportunities for payments in the eastern United States. Invited speaker.

M. Kreye & Norman C., On-Line, External to Penn State, Central State Foresters and Forestry POC, 45 participants. Spring (February 14, 2022). Introduced concepts related to managing forest carbon, carbon markets and payment opportunities in the eastern United States. Invited speaker.

M. Kreye, On-Line, Pennsylvania Hardwood Development Council, 65 participants. Spring (February 10, 2022). Introduced concepts related to managing forest carbon, carbon markets and opportunities for payments in the eastern United States. Invited speaker.

M. Kreye, On-Line, Both, USDA Northeast Climate Hub, 35 participants. Fall (December 6, 2022). Introduced concepts related to managing forest carbon, carbon markets and payment opportunities in the eastern United States. Invited speaker.

M. Kreye & Norman C., Classroom, Both, Ag Progress Days, State College, PA, 15 participants. Summer (August 11, 2022). Introduced concepts related to managing forest carbon, carbon markets and payment opportunities in the eastern United States. Accepted.

M. Kreye, Classroom, External to Penn State, University of Alaska, Fairbanks, AK, 8 participants. Summer (June 25, 2022). Introduced concepts related to managing forest carbon, carbon markets and payment opportunities in the eastern United States. Invited speaker.

M. Kreye & Norman, C., On-Line, External to Penn State, New York Institute of Technology-Vancouver, 20 participants. Spring (June, 27th, 2022). New York Institute of Technology-Vancouver. Invited speaker.

M. Kreye, Classroom, External to Penn State, Penn State Energy Days, University Park, PA, 10 participants. Spring (May 26, 2022). Introduced concepts related to managing forest carbon, carbon markets and opportunities for payments in the eastern United States. Invited.

M. Kreye, On-Line, Both, College Connections webinar series, 150 participants. Spring (April 20, 2022). Introduction on how forests store carbon, carbon markets, and opportunities in Pennsylvania. Invited.

C. Norman, Classroom, External to Penn State, Somerset County Master Gardeners, 20 participants. (April,02, 2022). Spring Climate Change and Forest Health. Invited speaker.