



SOUTHEAST PRESCRIBED FIRE TRAINING NEEDS SURVEY

Survey Report

2021



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Southeast Regional Strategy Committee
Prescribed Fire Training Coordination Work Group
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Foreward

The uphill battle to regain public acceptance of prescribed fire in the Southeast has in large part been won. We now must face the challenge we have created -- a market where demand exceeds supply. Many landowners yearn for their land to be burned but cannot find anyone to get the job done. Our capitalist system provides mechanisms for market-based solutions. We must make it economically worthwhile for folks to light fires, to become part of a firelighting workforce. We must foster an environment where the rewards of being part of a firelighting community -- not just talking about it but doing it -- exceed the costs of sidelines-bandwagoning, wet-finger-in-the-wind quasi-advocacy, or worse yet, insidious opposition to good-fire. Beyond providing dollars, we must restore and evolve our traditions to create a multicultural heritage in which pride-of-practice, pride in playing an active role in facilitating the natural process that is our oldest landscape management tool, is valued and lauded by society. In doing this we will make our landscapes -- urban, rural and wild -- both safer to live in, and more ecologically and economically healthy and sustainable.

Johnny Stowe - July 2021

SCDNR, Firelighter, Forester & Landowner



Summary

This survey was conducted in January 2021 to assess the state of prescribed fire training in the Southeast region. It was intended to identify barriers, deficiencies, and areas for improvement in the availability, type and quality of training delivery. The survey was developed, distributed, and analyzed by the Prescribed Fire Coordination Work Group of the Southeast Cohesive Wildland Fire Management Strategy Regional Strategy Committee (SRSC), building off of a previous survey conducted by the Northeast Regional Strategy Committee (NERSC). There were 955 responses from fire practitioners across the Southeast--both those who follow the National Wildfire Coordinating Group (NWCG) qualification structure, and those who do not. Respondents represented the diverse perspectives of the unique fire practitioner community in the Southeast, including participation from private landowners, private contractors, and non-forestry state agencies.

The SRSC Prescribed Fire Coordination Work Group analyzed the survey findings and developed a set of recommended actions intended to address the issues identified in the survey.

Recommendations that should be implemented by the partner and stakeholder agencies and organizations and the numerous land managers, landowners and prescribed fire practitioners in the Southeast region in order to have the greatest impact include:

- Increase access to, communication about, and number of training opportunities
- Increase opportunities for hands-on prescribed fire training
- Improve and streamline the process for achieving NWCG prescribed fire qualifications, particularly for those individuals working in agencies or organizations that do not have wildfire suppression responsibilities
- Develop and support more hybrid and virtual training options
- Identify and address policies that present barriers for accessing prescribed fire training and implementing prescribed fire on the ground
- Foster cross agency working relationships, including increasing opportunities for non-NWCG entities to partner with NWCG agencies in implementing prescribed fire
- Improve coordination, communication, and partnership with underrepresented groups including Tribes and landowners
- Secure and provide consistent, dedicated funding at levels sufficient to adequately address prescribed fire training needs

The expectation is that those agencies and organizations that deliver, develop and sponsor prescribed fire and associated wildfire training in the region consider and adopt the relevant recommendations provided within this report to overcome the identified training barriers.



Introduction

Fire has played a significant role in the forests of the Southeastern U.S. for centuries. The diverse ecosystems present became adapted to frequent fire with many plants requiring fire for regeneration. Frequent fires that oftentimes burned every two to five years helped reduce the build up of vegetation and supported healthy plant communities, wildlife, and forests. Native Americans and subsequently European colonizers used fire to protect themselves from wildfire, improve wildlife habitat, and to clear land for cultivation. In the 1930's, fire suppression programs were created in part to protect regenerating forests resulting in excluding fire from the landscape and increasing forest fuel for eventual wildfires.

Agencies from the Southeast mobilize personnel and equipment each year to assist the Western U.S. and other areas during periods of high wildfire occurrence with suppression of large scale wildfires. According to the Southern Area Coordination Center (SACC), over each of the past four years, SACC has mobilized an average of 98 Type 1, Type 2, and Type 2 Initial Attack Hand Crews and 13,037 Overhead positions nationally. Due to the prescribed burn training and skills possessed by responders from the Southeast, they are oftentimes specifically assigned to conduct firing operations, and burnouts on these wildfires because of their experience, knowledge and skill gained from the use of prescribed fire.

Prescribed fire use is necessary to restore the natural process of fire upon the landscape and to reduce risk of wildfires to residents and communities. The Southeast experiences almost 50% of all wildfire ignitions in the U.S. each year. According to the National Interagency Fire Center, an average of 31,000 wildfires burn over 1.2 million acres across the Southeast annually. In contrast, the Southeast burns over 6 million acres per year using prescribed fire¹.

The National Action Plan developed for the National Cohesive Wildland Fire Management Strategy identifies the importance of achieving the National goals determined in the strategy, which requires achieving four broad challenges. One of these challenges is managing vegetation and fuel. To address these broad challenges, several management options were developed and the one related to prescribed fire states, "Prescribed fire - One of the more effective and cost-efficient means of managing vegetation for multiple purposes, including hazard reduction, ecosystem restoration or maintenance, silviculture and others". The implementation guidance states, "Continue and expand the use of prescribed fire to meet landscape objectives, improve ecological conditions, and reduce the potential for high-intensity wildfires." This National Cohesive Wildland Fire Management Strategy is one of several concurrent efforts to increase prescribed fire in the Southeast.

¹Melvin (2020). Prescribed Fire Use Survey Report.

<https://www.stateforesters.org/wp-content/uploads/2020/12/2020-Prescribed-Fire-Use-Report.pdf>

The Southeast Regional Action Plan for the Cohesive Wildland Fire Management Strategy generated from the Southeast Regional Risk Analysis completed in November 2012 identified Regional Barriers to collaborative efforts of implementation. The following Regional Barriers were identified in the Regional Action Plan, and this survey will help efforts already initiated in the Southeast to mitigate those barriers.

- Identify policy barriers that prevent the effective sharing of resources - then change those policies at the appropriate level.
- Overcome barriers to qualification standard inconsistencies within federal agencies as well as between federal agencies and non-federal firefighters that pose challenges during the sharing of resources.
- Create an improved process for the sharing of trained prescribed fire resources including, but not limited to, utilization of the National Prescribed Fire Training Center.
- Identify complexities that need to be simplified in order to efficiently share resources.

In addition to identifying Regional Barriers, the Southeast Regional Action Plan for Cohesive Wildland Fire Management Strategy contains specific tasks for implementation. Several tasks related to prescribed fire activities are directly impacted and influenced by information gathered by this survey. Those tasks listed in the Southeast Regional Action Plan are:

- Develop and sustain capability and capacity required to plan and carry out landscape treatments, including prescribed fire.
- Identify and inform landowners about opportunities that can be used to incorporate prescribed fire in their land management.
- Promote and support the formation of Prescribed Burn Associations, in conjunction with the network of trained service providers, to help private landowners implement Rx fire in the most cost-effective way.
- Address prescribed fire practitioner and landowner liability concerns that currently limit their desire or ability to burn, including smoke management issues.
- Address the smoke and fire liability issue that is a hindrance to both landowner performing prescribed burns and practitioners in offering burning as a service.

The findings of this survey will also help to address the goals and objectives of the Southeast Regional Partnership for Planning and Sustainability (SERPPAS) Prescribed Fire Strategy. The SERPPAS Prescribed Fire Strategy represents a consensus among representatives of federal and state agencies, non-governmental organizations, academic institutions, and the private sector. The following goals will be addressed through this survey report:

- Ensure sufficient, consistently available resources to promote and implement increased prescribed fire operations.
- Implement focused, effective communication and education campaigns to increase awareness of prescribed fire and willingness to burn.
- Increase the number of trained, qualified and experienced burners (both landowners and contractors) conducting prescribed burning on private and public lands.
- Minimize landowners' risk of liability associated with prescribed fire.
- Support prescribed fire programs on private and public lands.

In order to meet these goals, similar to the Southeast Regional Action Plan, there are specific tasks for implementation. Several tasks are directly impacted and influenced by information gathered by this survey. Those activities listed in the SERPPAS Prescribed Fire Strategy are:

- Conduct workshops to educate landowners about longleaf pine and prescribed fire.
- Work with the states to establish locally-based prescribed fire training academies to educate and empower landowners to burn on their own.
- Use prescribed burn training programs to educate landowners about state laws protecting them from liability as well as insurance coverage available in the state.
- Use landowner workshops and training programs to educate burners about and encourage fire safety and best smoke management practices.
- Increase training and staffing capacity to enable public land managers to more effectively apply fire to restore longleaf.
- Hold regular workshops and/or training programs to promote best smoke management practices and educate landowners about weather and smoke forecasting tools.

There are several concurrent and ongoing efforts to address prescribed fire in the Southeast. The results of this survey help to meet many of the goals and objectives of these efforts. In addition, if implemented, the recommendations will help to advance prescribed fire training across the region.

The development, distribution, and analysis of this survey was a collaborative effort by the Southeast Regional Strategy Committee for Cohesive Wildland Fire Management Strategy, and representatives from SERPPAS Prescribed Fire Work Group, Southern Group of State Foresters, NC State University Extension Forestry, Consortium of Appalachian Fire Managers and Scientists, the Ember Alliance, USDA Forest Service, and the Southern Fire Exchange.

Background and Objectives 2021

The Southeast Prescribed Fire Training Needs Survey was conducted in January 2021 with the purpose of assessing the state of prescribed fire training in the 13 states of the Southern region of the Cohesive Wildland Fire Management Strategy. The survey provided an opportunity for stakeholders to provide feedback on the barriers, challenges, and concerns of those who participate in, develop, and deliver prescribed fire training. This survey was conducted in response to ongoing regional conversations regarding increasing the capacity of prescribed fire use, training needs and changes necessary to meet those needs, including a need for more virtual training options as a result of COVID-19 impacts to training delivery. Conducting this survey assists with implementation of the Southeast Regional Action Plan for Cohesive Wildland Fire Management Strategy² and the SERPPAS (Southeast Regional Partnership for Planning and Sustainability) Comprehensive Strategy for Prescribed Fire to Restore Longleaf Pine in the Southeast United States: A Vision for 2025³.

The Southeast Prescribed Fire Training Needs Survey was distributed to a wide and diverse group of agencies and individuals across the Southeast region in an attempt to collect the true concerns and needs of the prescribed fire community. Email and social media posts were used to ask participants to distribute and complete an online survey. A total of 955 individuals representing a diverse set of stakeholders completed the survey, providing feedback and information needed to help improve prescribed fire training in the future.

The responses to this survey underwent a thorough review to identify the barriers, challenges, and needs of the diverse community of prescribed fire practitioners in the Southeast. These identified issues are included within the findings of this report and were utilized to develop a set of recommendations to improve and increase prescribed fire training. Implementation of these recommendations should ultimately increase the capability, capacity and efficiency to safely apply prescribed fire across the landscape to restore and maintain resilient landscapes in the Southeast.

² Southeast Regional Strategy Committee (2013). Southeast Regional Action Plan. Available at: <http://www.southernwildfire.net/docs/Southeastern%20Regional%20Action%20Plan-12-14.pdf>

³ Burke, Steelman, & Gharis (2012). Comprehensive Strategy for Prescribed Fire to Restore Longleaf Pine in the Southeast United States: A Vision for 2025. Available at: <https://serppas.org/media/1939/comprehensive-strategy-for-prescribed-fire.pdf>

Methods 2021

Survey questions were developed based, in part, on the NERSC survey⁴ that was conducted in August 2020. Many survey questions remained similar or identical so results can be compared to identify potential similarities and potential future cross-regional training opportunities. Additional questions were included to gather information about prescribed fire training not associated with the National Wildfire Coordinating Group (NWCG). These questions were necessary to gather relevant information from the diverse prescribed fire community in the South, which includes many state agencies, NGOs, and landowners who do not follow NWCG training requirements but have successful prescribed fire programs. Questions were also included about preferences related to virtual and hybrid training as a result of increased interest in these options due to impacts of the COVID-19 pandemic.

Participants were asked up to twenty-eight questions⁵ through the online Qualtrics platform. The total number of questions participants answered depended on whether they chose to give feedback about NWCG training, non-NWCG training, or both. The questions were reviewed by a diverse group of partners and stakeholders before the survey was administered in order to ensure questions were relevant and clear.

The survey was distributed beginning on January 4, 2021 and was available for approximately three weeks. Stakeholders including state and federal agencies, Prescribed Fire Councils, the Southeast Prescribed Fire Council Regional Coordinating Group, Consortium of Appalachian Fire Managers and Scientists, Fire Learning Networks, The Nature Conservancy, Southern Fire Exchange, Southern Group of State Foresters, Southeast Regional Partnership for Planning and Sustainability, Southeastern Association of Fish and Wildlife Agencies, Department of Defense, and private landowners and forestry consultants were invited to share the survey link with their membership and other relevant organizations and individuals. These same entities were also informed that the intention of the survey was to receive feedback from a diverse group of individuals representing a variety of affiliations, job duties, and geographies.

The survey was distributed through email, website postings and social media. A snowball sampling method was used, whereas those receiving the survey were encouraged to share the link with others. It is therefore unknown how many people received the survey link and what percentage chose to participate. Responses were submitted anonymously.

⁴ Northeast Regional Strategy Committee Prescribed Fire Coordination Work Group (2020). Prescribed Fire Training Needs Survey Report. <https://www.northeasternwildfire.net/wp-content/uploads/2020/10/NE-RSC-Prescribed-Fire-Training-Survey-and-Report-Oct-2020.pdf>

⁵ Fawcett, Kays & Wood (2021). Southeast Regional Cohesive Strategy Prescribed Fire Training Needs Survey: Survey Questions and Qualtrics Overview Report. Available at: <https://research.cnr.ncsu.edu/blogs/southeast-fire-update/files/2021/09/Appendix-Default-Report.pdf>

Results | 2021



Below is a summary of the survey results. There were a total of 955 participants; however, the number of responses per question varies since the participants could skip questions and could select multiple answers for some questions. Each graph notes the total number of responses for that question. The following sections (i.e., demographic information, NWCG, non-NWCG, and course format) provide each survey question, followed by a summary of the respective responses.

Respondent Demographics

In what state/s do you work? select all that apply

Representatives from all 13 Southern states responded to the survey (Figure 1). Participants could select more than one state, or they could choose all/regional if they worked across the Southern region. No states outside of the Southern region were included. Of the 1081 selections made by respondents, Florida represented a large portion (28%).

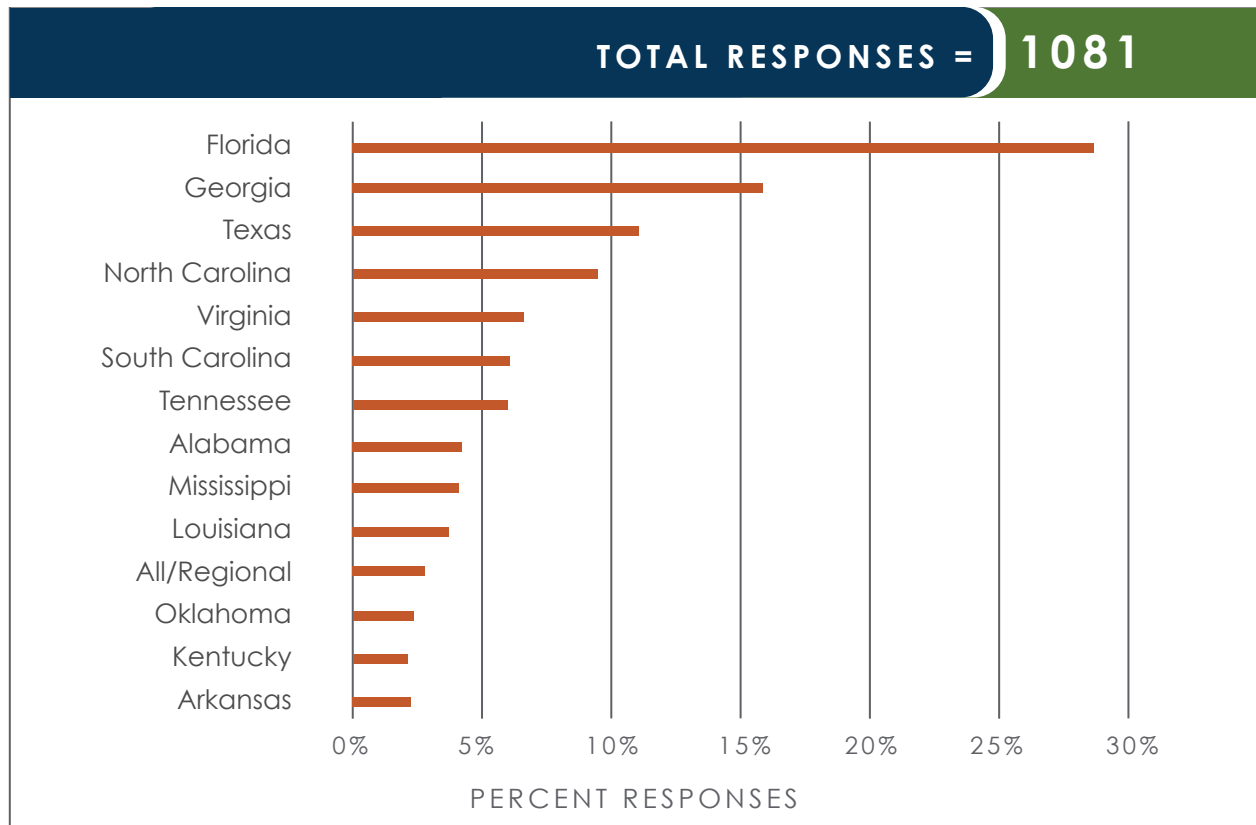


Figure 1: Percent survey responses by state in which participants worked.

▶ **What is your affiliation? select all that apply**

▶ **Which of the following best describes your role in your agency or organization? select all that apply**

▶ **Which best describes the focus area of your work? select all that apply**

Respondents represented a diversity of affiliations (Figure 2) and roles (Figure 3) including state, federal, Non-Governmental Organizations (NGOs) and private landowners. State agencies (35%) and managers/practitioners (57%) had the greatest number of responses. Students, Tribal employees, Tribal citizens, Cooperative Extension, and university faculty/ staff did not have high levels of participation. When given a selection of choices that described the focus area of their work, the top three focus areas identified were wildlife management, forestry, and prescribed fire.

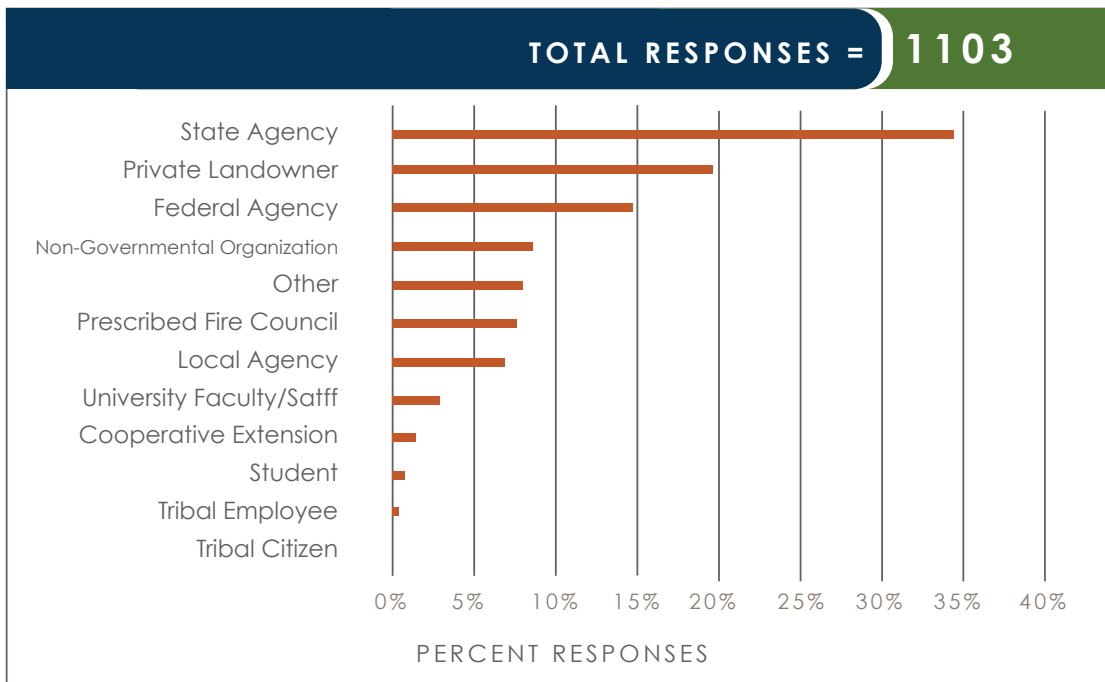


Figure 2: Respondent affiliations

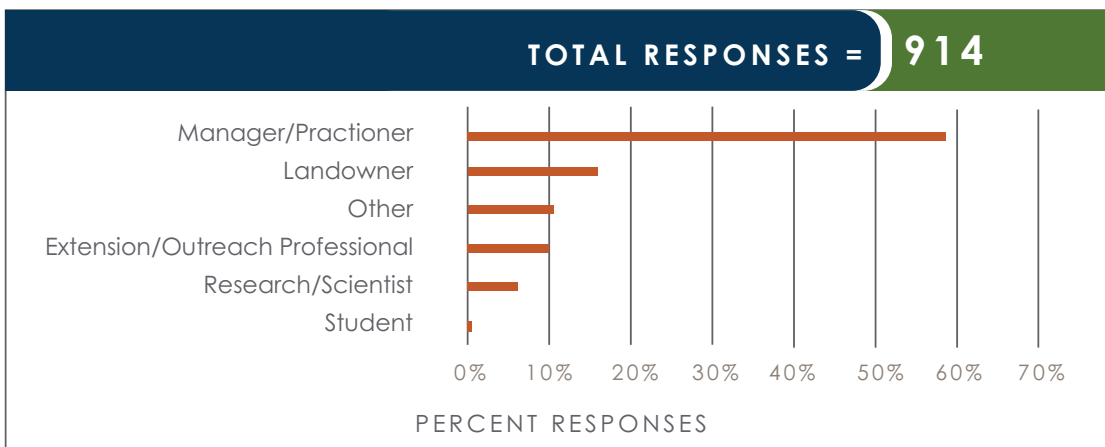


Figure 3: Respondent roles within their organizations

Prescribed Fire Training

The following survey questions were separated into two categories: NWCG and non-NWCG. Participants were asked to respond to a set of survey questions for the category of training that they were interested in taking. In some cases, respondents fell into both categories and therefore responded to both sets of questions. Each section provides the survey questions, followed by a summary of the respective responses.

Prescribed Fire Training | NWCG Survey Responses

This portion of the survey was designed to obtain information from people interested in taking NWCG courses. Responses were provided by 768 people (80%) who identified themselves as being interested in taking NWCG education courses. The number of total responses vary by question since respondents could skip questions or select multiple answers for some questions.

Are you currently working toward obtaining qualifications for any of the following positions? select all that apply

Are you NWCG qualified for any of the following positions? select all that apply)

Participants were asked to indicate if they were working towards the NWCG qualifications for Burn Boss I, Burn Boss II, or Other. Not Applicable was also offered as a choice and respondents could select all that applied. Of the 655 selections made for this question, 26% indicated that they were working towards obtaining qualifications for Burn Boss I or Burn Boss II. The 14% who selected 'Other' indicated in the comments that they were working towards NWCG qualifications such as RxB3, Engine Boss, Firing Boss, FFT1, etc.

Participants were provided 22 options for NWCG courses related to prescribed fire and wildfire. All 22 of the courses were selected at least 40 times, with the most frequently selected being: RX 301 - Prescribed Fire implementation, RX 410 - Smoke Management Techniques, RX 341- Prescribed Fire Plan Preparation, RX 310 - Introduction to Fire Effects, and S-390 - Introduction to Wildland Fire Behavior Calculations, respectively (Figure 4). Participants were also given the opportunity to list other courses. Responses for other courses included ICS-200, ICS-300, ICS-400, refresher courses and state specific courses required for continuing education credits and certified burner recertification requirements.

Prescribed Fire Training | **NWCG Survey Responses**

Please select the NWCG courses that you need to maintain your qualifications but are difficult to obtain? select all that apply

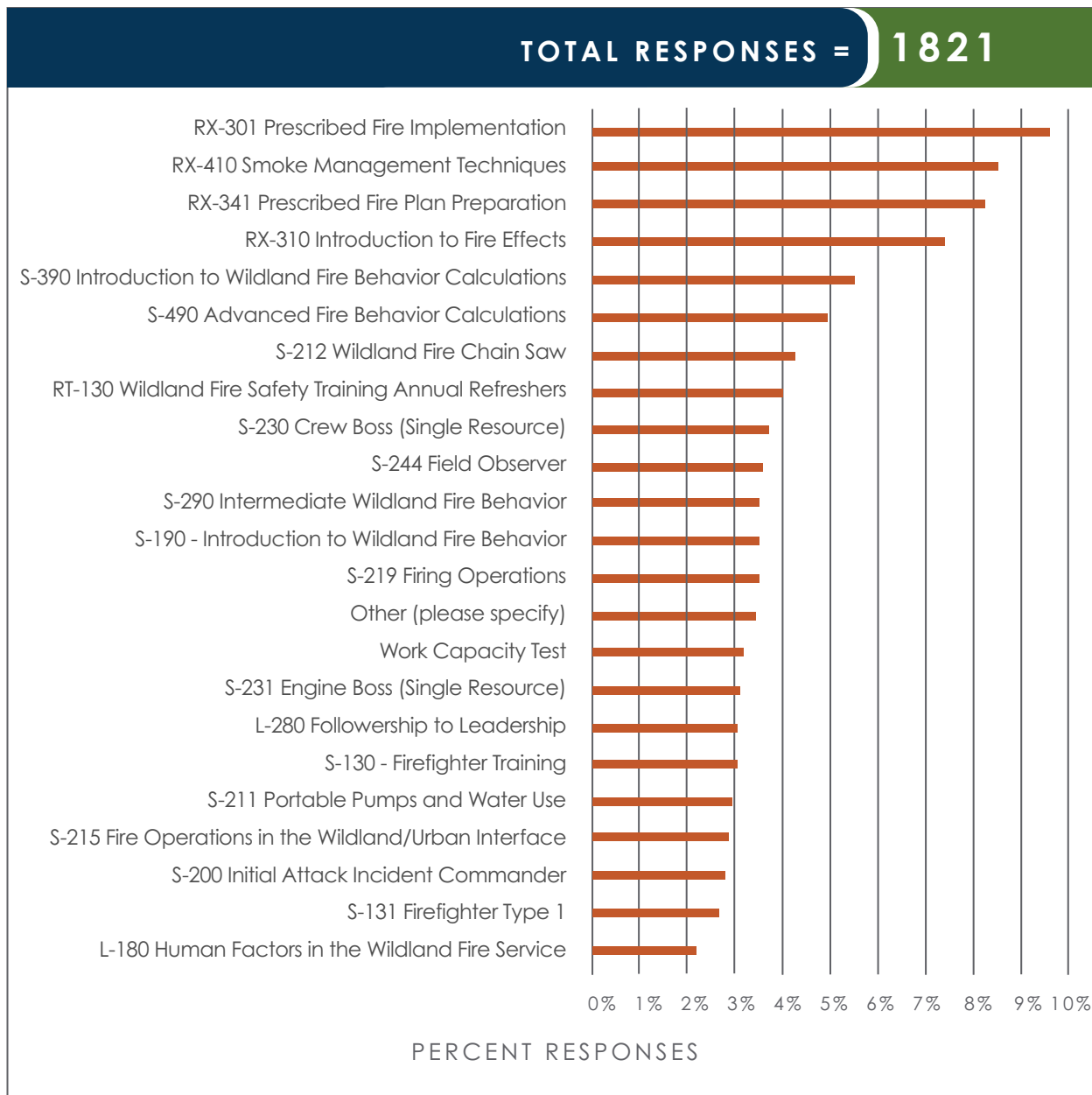


Figure 4. Courses that are difficult to obtain to maintain NWCG qualifications as identified by the survey participants.

Prescribed Fire Training | *NWCG Survey Responses*

Are you familiar with the National Interagency Prescribed Fire Training Center (PFTC)?

Have you taken any training courses at the PFTC? If so, what courses have you taken? select all that apply

Of the 681 responses, 56% were familiar with the Prescribed Fire Training Center (PFTC), and 23% had taken a course there. Respondents had taken a variety of courses, with many attending the 21-day sessions but also including the Agency Administrator Workshop, Resource Specialist Workshop, Burn Boss Workshop, and academies.

Does your state or organization have any prescribed fire qualification requirements that are different from the NWCG requirements? If yes, please explain.

Results showed that out of the 516 respondents, 33% said their state or organization does have different qualifications for prescribed fire as compared to NWCG; 67% said their state or organization does not have different qualifications for prescribed fire. Many comments indicated that participants were required to take the state Certified Burn Manager Course. Several comments also said that participants were required to have hands-on experience. Several respondents stated that their agency or organization either had, or were in the process of, developing their own training program and that some NWCG courses would be included in the curriculum but not follow all of the NWCG requirements.

What are the barriers to achieving and maintaining your prescribed fire qualifications? Please rank in order of importance.

“We are biologist/area managers. Prescribed fire experts. We are not wildland firefighters. The training tree from NWCG does not take in account full time employed area managers workload.”

Prescribed Fire Training | NWCG Survey Responses

The top barriers to achieving and maintaining prescribed fire qualifications were lack of project opportunities and other work duty priorities (Figure 5). While these were identified as the top barriers by the most respondents, all of the provided options were identified as barriers by greater than 60% of respondents. There was an option for "Other," where additional barriers could be added. Examples of responses for "Other" included issues such as lack of cooperation between agencies, COVID-19 impacts, and the inability to take classes that would advance an individual because the courses were not offered locally. Several comments stated that it is generally difficult to understand the process to become qualified. It was also noted that legal concerns between partners can be a barrier, as legal protections can be limited if a non-employee is in charge of a burn even if qualifications are equal.

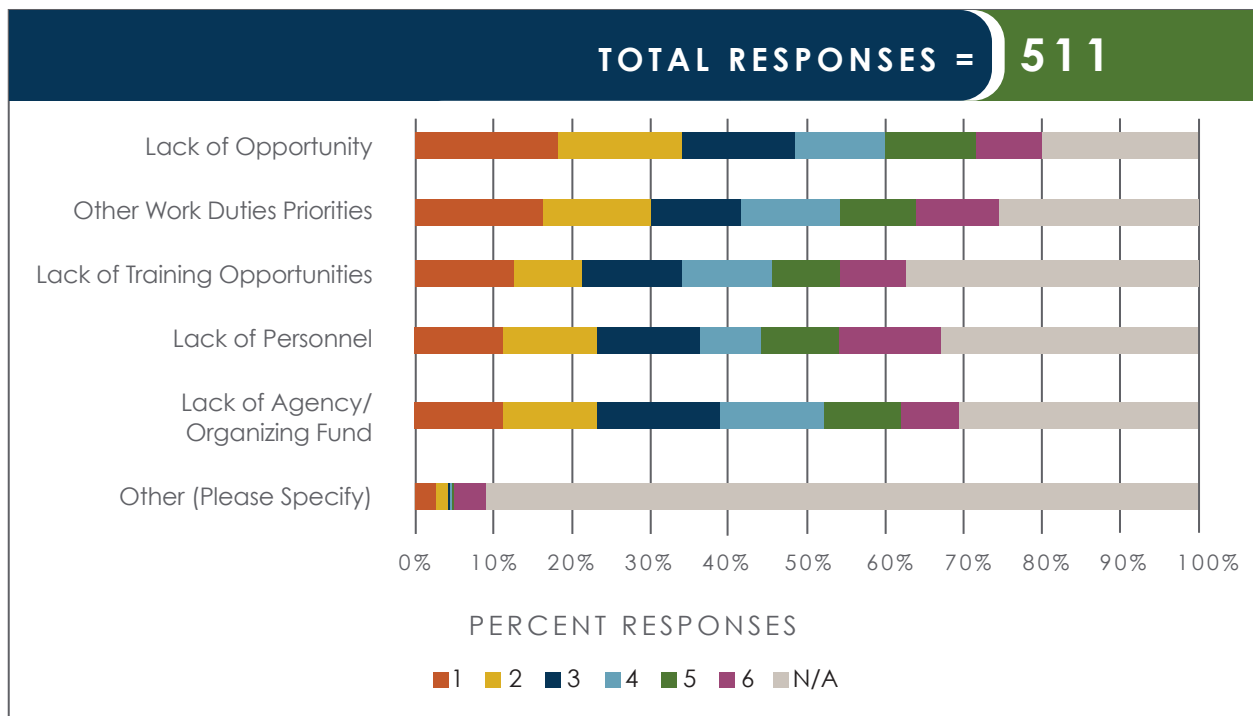


Figure 5. Barriers to achieving and maintaining NWCG rx qualifications. Choices were ranked on a scale 1 - 6, with 1 as the greatest barrier.

Prescribed Fire Training | NWCG Survey Responses

Are there different challenges in achieving your qualifications for the first time compared to maintaining those qualifications?

Of the 482 respondents, 34% reported different challenges in achieving their qualifications for the first time as compared to maintaining them. However, a majority (66%) did not have different challenges. Respondents could comment further on the challenges they faced, and highlighted challenges such as access to training, time, and issues related to achieving NWCG requirements, especially those requiring wildfire experience. Several comments also mentioned that it is difficult to perform and achieve required qualifications to advance in the prescribed burn requirements while trying to monitor, obtain and complete other training needed for career advancement.

“Under NWCG qualifications it is highly tied to wildfires that the agency I am with doesn't normally respond to, and it is extremely hard to get the wildfire tasks signed in task books.”

How would increased NWCG training opportunities help you address prescribed fire needs on the ground

This question was open-ended in order to allow the survey participants to share their ideas in greater depth. The comments were then grouped into categories based on the content within them. The top five categories that contained the most comments, in order of frequency, were:

Capacity: Increase the available NWCG-qualified practitioners to conduct prescribed fire in all positions including burn boss and firing boss. Potential increase for collaboration with other agencies and possibility to conduct more cooperative burns.

Qualifications: Address issues including capacity by allowing more personnel to be qualified to conduct prescribed fire in various positions.

Access to training: Address the need to increase available training opportunities, including offering more courses and courses more than once per year or every other year, better advertising of offered courses, seasonality of training and decreasing cost and travel time to access courses.

Implementation: Improve ability to implement prescribed fire and allow to significantly increase the pace and scale of burning on the landscape.

Knowledge and understanding: Improve expertise of practitioners related to prescribed fire implementation and communication with stakeholders

“We would have more opportunity to strengthen partnerships with other agencies, and hopefully be able to provide manpower and resources to implement prescribed fire in our area.”

Prescribed Fire Training | **Non-NWCG Survey Responses**

This portion of the survey was designed to obtain information from the large base of individuals that conduct prescribed burns, but do not want to pursue NWCG training courses and designated qualifications, or who seek other types of training outside the NWCG system. A total of 60% of survey participants, or 575 people indicated they were interested in taking non-NWCG prescribed fire training courses (ex. Certified Burn Manager courses, smoke management courses, etc.) and responded to this section. Similar to the section above, the number of total responses vary by question since respondents could skip questions or select multiple answers for some questions.

▶ **Are you a Certified Burn Manager in your state?**

Out of 511 respondents, 54% of people indicated they were a Certified Prescribed Burn Manager (CPBM) in their state. Approximately 3% of respondents did not believe that their state had a CPBM program.

▶ **Why do you want prescribed fire training? (select all that apply)**

When provided with several choices as to why respondents wanted prescribed fire training, career advancement was selected as the top reason (Figure 6). Respondents who selected “Other” could also provide comment responses, with common themes being knowledge and understanding, benefits of burning, and gaining skills in burning. In the comments, respondents specifically mentioned wanting to learn more about topics including burning for ecosystem and ecological benefits, wildlife habitat management, and management of endangered species. Respondents also mentioned wanting training in order to increase and improve their skills, become more efficient and safer burners, help others burn, and manage university properties with prescribed fire.

Prescribed Fire Training | *Non-NWCG Survey Responses*

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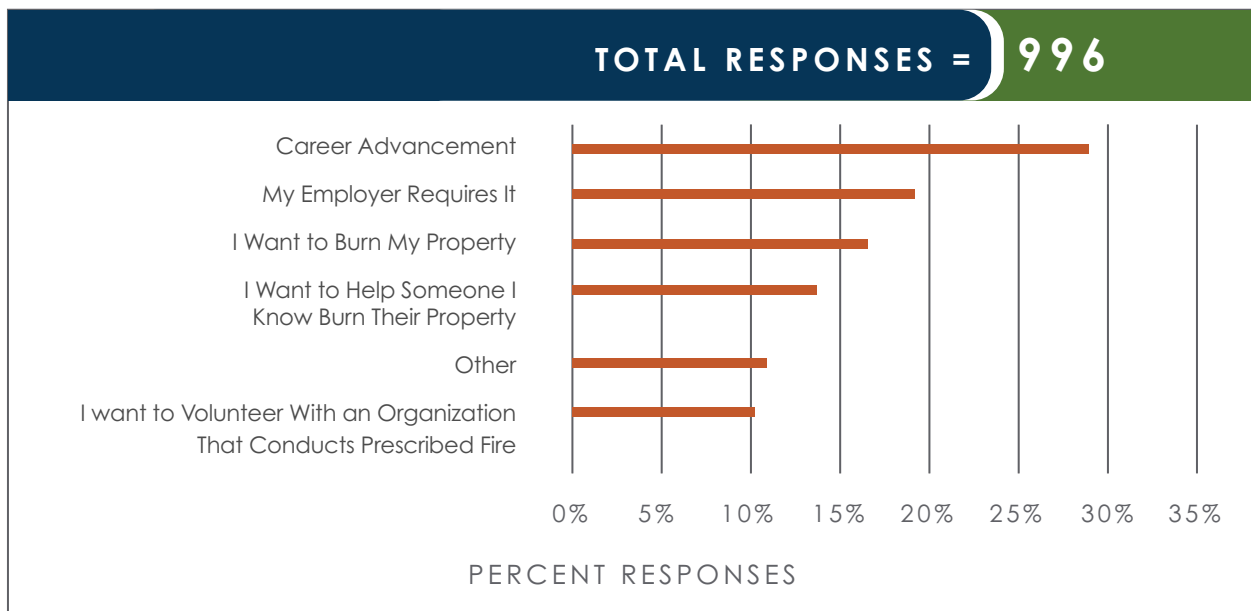


FIGURE 6. Reasons for wanting prescribed fire training by non-NWCG practitioners

Prescribed Fire Training | *Non-NWCG Survey Responses*

What types of prescribed fire training courses do you need, but are difficult to obtain?

When provided with several choices as to the types of fire courses that respondents need but are difficult to obtain, field-based operational training was noted as the greatest need, followed by the Certified Burn Manager Course (Figure 7). Respondents who selected "Other" could also provide comment responses. Examples of "Other" comments included various NWCG courses, smoke management, burn plan development and writing, and fire ecology/fire effects. Some people noted that they did not have any courses that were difficult to obtain.

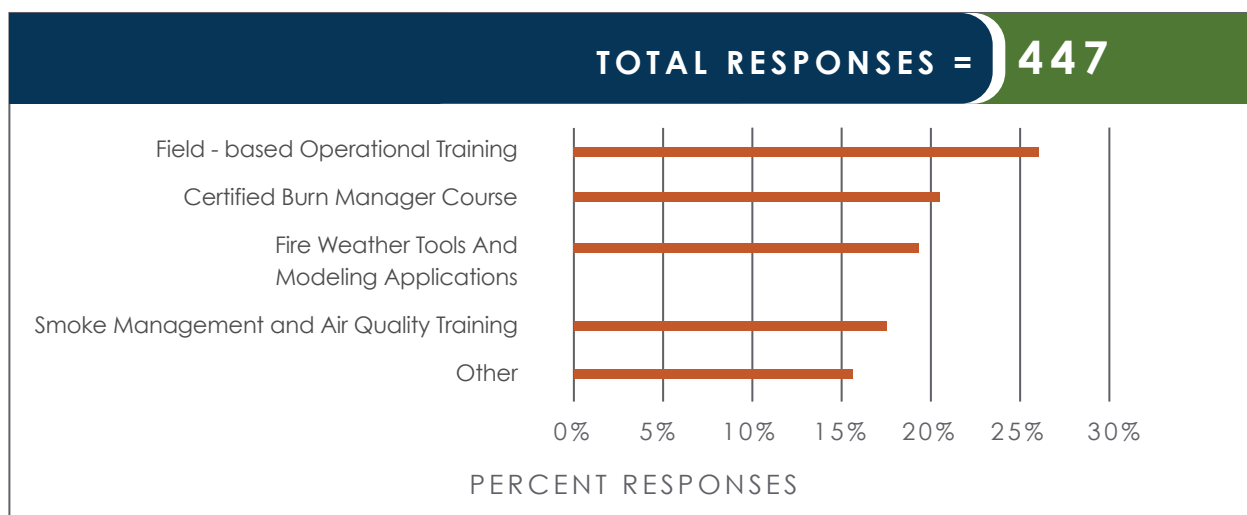


FIGURE 7. Types of non-NWCG courses that are needed but are difficult to obtain

"Training appears like a secret that's being kept close.
I have contacted countless people for years till
I finally made a good contact."

Prescribed Fire Training | **Non-NWCG Survey Responses**

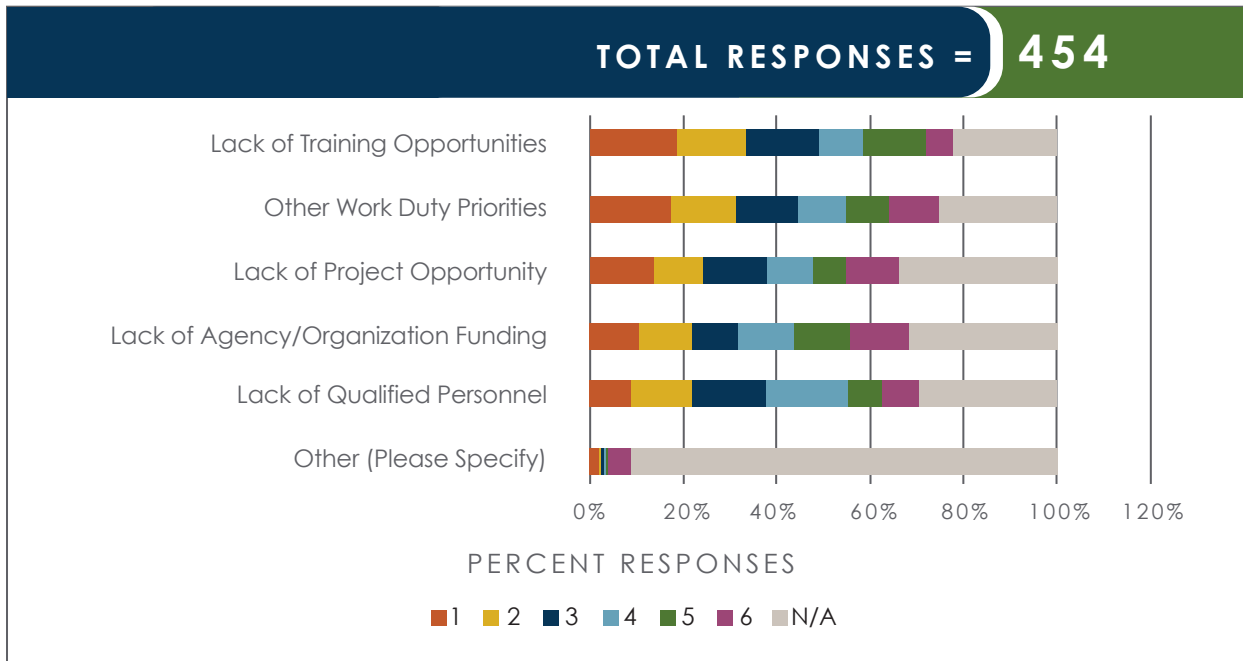


FIGURE 8. The top ranked barriers to achieving and maintaining non-NWCG rx qualifications. Choices were ranked on a scale 1 - 6, with 1 as the greatest barrier.

Are there different challenges in achieving your qualifications for the first time compared to maintaining those qualifications?

Of the 414 responses, 29% of people said that they had different challenges in achieving their qualifications for the first time as compared to maintaining them. These included challenges such as access to training, time, and issues related to achieving NWCG requirements. However, 71% of respondents indicated they did not face different challenges in achieving and maintaining their qualifications.

Prescribed Fire Training | *Non-NWCG Survey Responses*

“Keeping qualifications requires consistent experiences in roles that will “reset” the experience time clock per NWCG. Job change, poor weather period, funding, etc. all create issues for experienced and qualified people to maintain quals as they advance in their careers.”

How would increased prescribed fire training opportunities help you address prescribed fire needs on the ground (ex. increasing the number of practitioners with required qualifications, helping landowners burn their own property, etc.)?

This question was open-ended in order to allow the survey participants to share their ideas in greater depth. Based on the respondents’ comments, the responses were grouped into categories. The top five categories that contained the most comments, in order of frequency, were:

Capacity: Increase the number of prescribed fire practitioners, including both agency personnel, landowners, and private contractors.

Implementation: Improve ability to implement prescribed fire, including on private lands with burning done by private landowners.

Qualifications: Address issues including capacity and safety by allowing more people, including landowners, to be qualified to conduct prescribed fire operations.

Landowner Assistance: Improve both professionals’ ability to assist landowners in and experience of seeking assistance from the landowner side. Assistance including education, technical, and financial assistance.

Access to Training: Address the need to increase available training opportunities, including offering more courses, courses in more varied locations, courses more convenient and tailored for landowners and allowing agencies that do not use NWCG task books to access needed NWCG courses.

Prescribed Fire Training | *Non-NWCG Survey Responses*

“The gap remains between the training and actual experience and many potential practitioners (landowners) never manage to cross that gap making them reliant on contractors with limited resources.”

What training courses or educational resources are you using to further your prescribed fire training? (ex. Prescribed Burn Associations, online courses, publications, etc.)

This question was open ended in order to allow the survey participants to share their ideas in greater depth. Based on the respondents' comments, the responses were grouped into categories. Online courses, publications, in-person training, webinars, and other online resources were the top five categories of resources mentioned in comment responses (Figure 9).

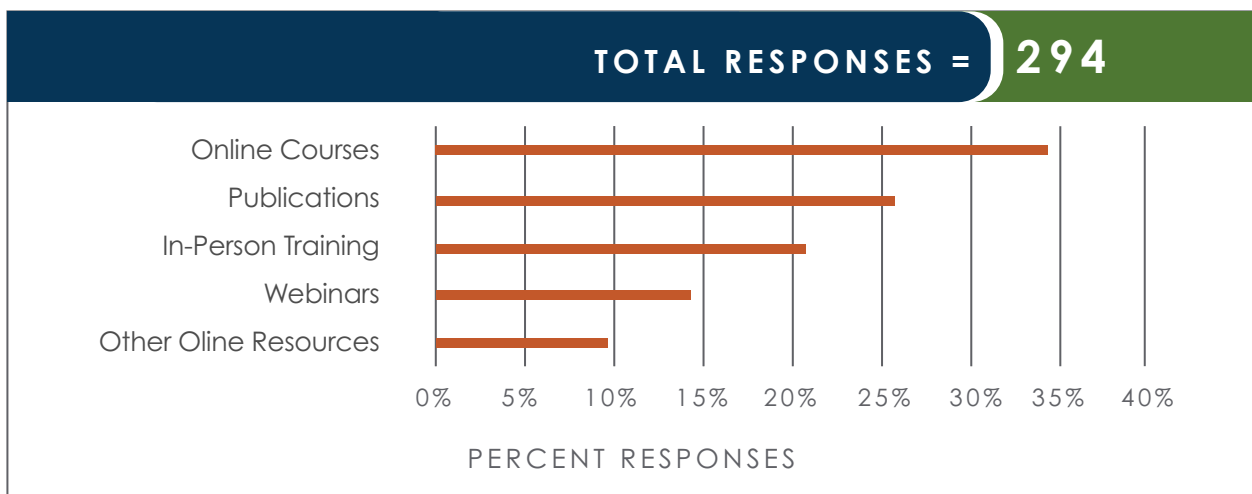


Figure 9. Top five identified resources used for non-NWCG prescribed fire training

Multiple respondents advised that online training, publications and webinars were obtained from several of the Fire Science Knowledge Exchanges located in the region, specifically Southern Fire Exchange as well as Consortium of Appalachian Fire Managers and Scientists, and Oak Woodlands and Forest Fire Consortium.

Training Format Preferences

Both NWCG and non-NWCG survey participants were asked to provide input on their preferences related to training formats, including virtual and hybrid options. Both sets of responses were very similar, and are shown together in this section.

What format would you prefer for prescribed fire training courses?

Respondents were asked to select one of the provided options for their preferred type of training format. A hybrid training format (i.e., a combination of virtual and in-person options) was preferred by the majority of NWCG and non-NWCG respondents (Figure 10). In-person training was the second most preferred training format followed by virtual format as the least preferred format for training.

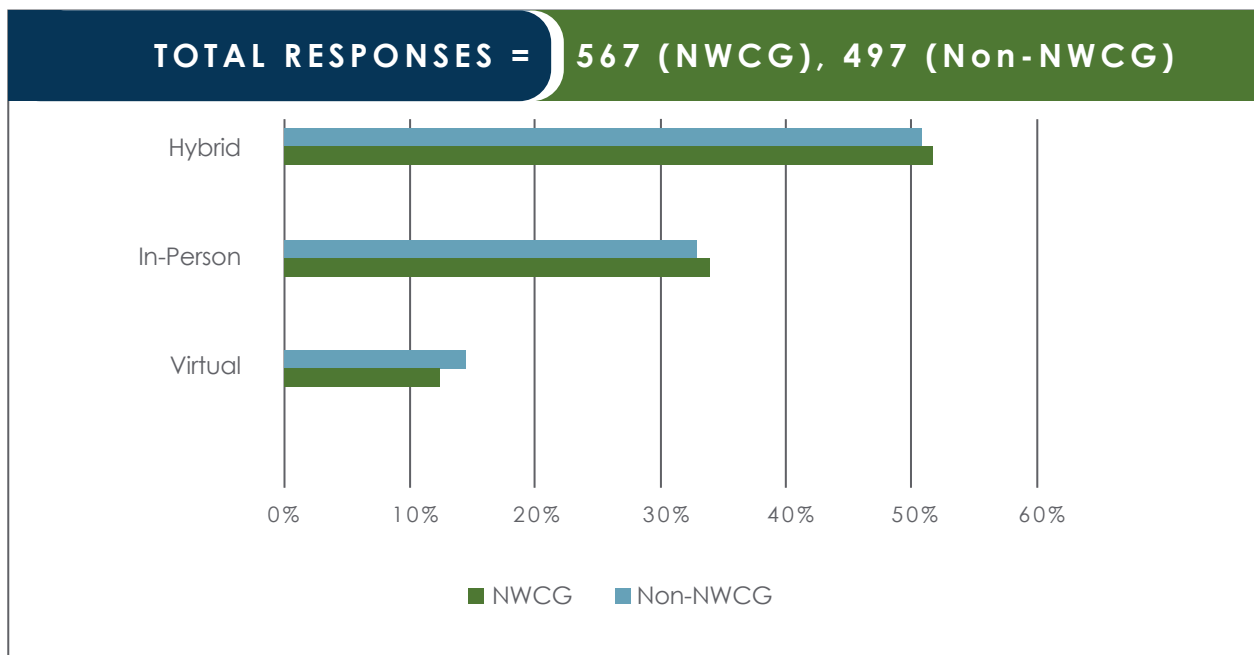


Figure 10. Preferred type of training format

Training Format Preferences

How would you like the virtual portion of courses to be offered?

Respondents who indicated in the previous question that they were interested in hybrid or virtual training were asked to select one of the provided options for how they would like virtual training to be delivered. A majority of both NWCG and non-NWCG respondents indicated that they preferred virtual courses with a combination of asynchronous and synchronous learning (Figure 11). Asynchronous training refers to training where participants can participate and access materials at any time, while synchronous training are those in which participants must join or access materials at a designated time.

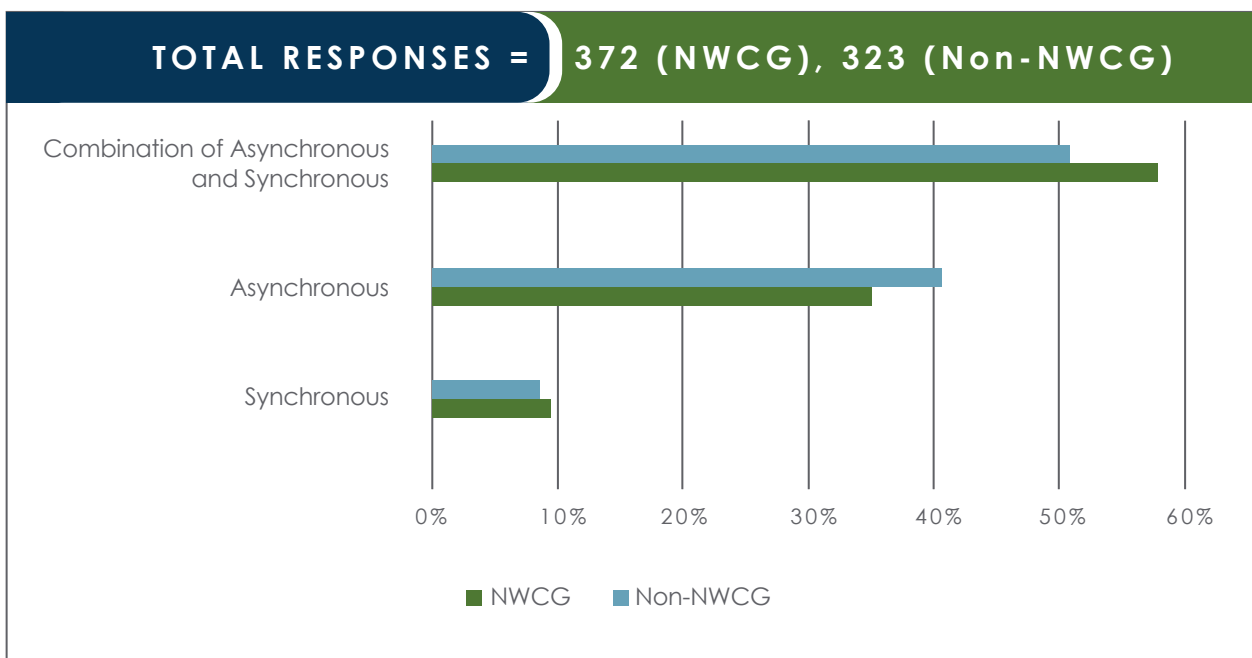


Figure 11. Preferred virtual training format

Training Format Preferences

All participants were asked to provide open-ended comments on how training opportunities could be improved across the region.

What would you like the Southern regional wildland fire management community to do to improve training opportunities across the region?

Based on the respondents' comments, the responses were grouped into categories. The six categories below were the most common, listed in descending order of frequency. Other comments that were less frequently mentioned and did not fall into these six categories are not included here. Access to training was the most common theme, with nearly 150 responses, or 48% of the 314 total comments, addressing it in some way.

Access to training: Expand the ability of practitioners to get necessary training, including offering more courses, virtual courses, better advertising courses, and expanding the ability of non-agency and non-NWCG practitioners to access courses and training.

Online course offerings: Expand virtual NWCG and non-NWCG course offerings. Ensure virtual training is effective and coordinated across boundaries.

Hands-on experience: Expand training that provides on the ground experience and training.

Communication and outreach: Improve and increase communication with the public, among practitioners, within and across partnerships, and in other ways to increase access to training, improve training, and ultimately improve wildland fire management.

NWCG Courses: Address issues related to NWCG courses, including increasing access to those courses, offering them more frequently, and offering them virtually.

Partnership: Work with and encourage partnerships to address issues including access to training, implementation, and providing virtual training.

Observations



Survey data analysis revealed trends of the significant and repetitive responses related to various aspects of training. These responses were identified and grouped to establish the areas of greatest concern to be utilized for developing recommendations that can have the most impact for resolution and offering improvement in training. The observations below are separated into their respective sections (NWCG or non-NWCG) from within the survey. A third section, 'Other/All Respondents Observations', was added to provide observations for those responses that were inclusive of both NWCG and non-NWCG since there was overlap among them in many instances.

NWCG Observations

- 1 **Access to Training** - Access to training was the most noted issue from respondents regarding NWCG course offerings. The lack of advertisement or information sharing of upcoming courses was identified as the top issue.
- 2 **Capacity** - The ability to conduct courses, frequency of course offerings, and number of persons needing training courses was identified as a major issue in survey responses. Additional and related concerns listed were:
 - The number of personnel needing training courses and on the ground experience far exceeds the number of instructors / trainers / mentors.
 - It was noted that there is a need for more staff devoted specifically to prescribed fire and training.
 - A lack of mentors to help train and bring newer employees along was mentioned.
 - Respondents specified the need for more qualified individuals to be able to instruct, mentor and conduct prescribed burns to be able to implement more prescribed fires.
- 3 **Obtaining Qualifications** - Most people have a harder time getting the original qualifications than maintaining them, but some people also have trouble maintaining them. The top barriers identified by the NWCG respondents were lack of project opportunities and other work duty priorities.
 - Several responses stated that non-wildfire suppression agencies that conduct prescribed burning have difficulty completing requires wildfire, or "W" tasks, required by NWCG task books because they do not respond to wildfires, evaluators were reluctant to sign off on tasks completed during prescribed burns, or there is no qualified evaluator available.
 - Tasks related to obtaining ICT4 (Incident Commander Type 4) were noted as being particularly difficult to obtain.

"I think there are 2 limits to getting NWCG qualified burn bosses. 1, The requirement of ICT4 before opening RXB2. Not all land management agencies do wildland firefighting response. There are not opportunities for these people to complete the ICT4 task book prior to opening RXB2. Also, those individuals that possess the needed pre-reqs are scared of the liability if a burn escapes so they do not open their RXB2 books."

- 4 **State Certified Burn Manager Courses** - Survey results indicate that not enough state Certified Burn Manager courses are offered during the year - Courses are needed more than once each year. Most agencies and organizations who follow NWCG guidelines require employees to be certified.
- 5 **Agency Guidelines** - It was observed that many agencies have a conglomerate of varying course requirements mixing specific NWCG course completion and agency specific courses or training as required training to achieve agency certification to conduct prescribed burns or serve as a Burn Boss / Burn Manager.

Non-NWCG Observations

- 1 **Capacity** - Not enough state Certified Burner courses offered during the year - Courses are needed more than once each year. This was a concern also shared by those responding to the NWCG portion of the survey as most agencies require employees to obtain state prescribed burn manager certification.
- 2 **Access to Training** - The lack of advertisement or information sharing of upcoming courses was identified as the top issue. There needs to be more and better advertising for training opportunities and available courses. Additional concerns expressed were:
 - Backlogs for course delivery and waiting lists for attendees continues to grow. Courses not offered enough and limited available seats in offered courses, which often go to people in the sponsoring agency.
 - More virtual and hybrid options for training, particularly hybrid options with online coursework and in-person training for field based skills are needed.
 - Particularly difficult for non-NWCG agencies/orgs to access NWCG courses, particularly higher level ones. Several non-NWCG respondents stated that they were not allowed into some NWCG courses because they did not have "open" task books for positions requiring the course.
- 3 **Qualifications** - Most people have a harder time getting the original qualifications than maintaining them, but some people also have trouble maintaining them. Notable barriers to achieving and maintaining prescribed fire qualifications include lack of training opportunities, other work duty priorities, and lack of project opportunities.

"We do not currently follow task books but do follow most of the course requirements. This makes it difficult though to then get into NWCG courses which have prerequisites and need a task book. Even though we have the courses and live fire experience we don't have a training log/task book to show and thus are denied entry to courses."

All Respondent Observations

- 1 Type of Training** - Approximately 40% of respondents are actively working towards NWCG qualifications, but more than 80% desire NWCG courses. Fire practitioners that may not follow NWCG guidelines, including landowners, NGOs and other non-fire suppression state agencies, would like to or are required to take NWCG courses.

 - NWCG curriculum is tailored too much to wildfire suppression, courses need to be developed for specific prescribed burning, promoting ecosystem restoration / maintenance, ecological benefits, fire effects, wildlife habitat, and endangered species management.
 - Current NWCG prescribed fire task books requires wildfire experience, those opportunities are not available or are difficult for many, particularly those whose agency does not have wildfire suppression as part of its mission/responsibility
 - The preference for training across NWCG/non-NWCG was for hybrid training and virtual training with both asynchronous and synchronous portions
 - More field-based training opportunities are needed.
- 2 Time/Priorities**

 - People may not have the time to devote to training, especially if they have other job duties.
 - Leadership of agencies/organizations may not consider prescribed fire training worth the time and resources, particularly if they would need to seek it out, sponsor it, etc.
- 3 Seasonality of Training**

 - Training courses have historically been offered June through November in the Southeast. This time frame coincides with the ever-expanding Western fire season when resources mobilize from the Southeast to assist.
- 4 Barriers**

 - Agencies with non-wildfire management responsibilities try to follow NWCG prescribed fire requirements in an effort to be able to assist Federal and State agencies who follow NWCG requirements with prescribed burns. However, the non-wildfire agency personnel have a difficult time obtaining the NWCG requirements related to "W" tasks on position task books which prevents being able to participate on prescribed burns with those who strictly follow NWCG.
 - Personnel from agencies who do not utilize NWCG task books are denied entry into prescribed fire training courses because they do not have an initiated / open task book, but would benefit and improve their knowledge by attending the course.
 - Lack of agencies willing to sponsor individuals from non-suppressions agencies or NGO's for Red Cards for prescribed fire qualifications.
 - Lack of understanding for non-NWCG and NWCG personnel, NGO's and landowners on how or what to do to get training, become certified or qualified if required to conduct prescribed burns or become burn bosses.
- 5 Funding**

 - Lack of funds to pay for travel to attend courses delivered out of normal home units or work areas.
 - Lack of funds to put on enough courses, and support enough quality people/capacity to teach them.
- 6 Survey Participation**

 - Groups including students, Cooperative Extension, Tribal employees, and Tribal citizens did not have high rates of participation.

Work Group Recommendations



The following recommendations were developed by a diverse collaborative group of individuals with experience in attaining certifications and qualifications, course development, and administering and delivering training courses in both NWCG and non-NWCG programs. Based upon the observations identified in the survey, this work group offers the following broad recommendations for consideration by the many agencies, organizations, prescribed fire groups, and stakeholders involved in prescribed fire in the Southeast. While survey participants offered extensive feedback, not all suggestions and potential solutions stated were feasible to address as they were very specific in context to individual locations and work units. The following recommendations are stated to provide the most benefit to overcome the identified training barriers to enable achieving desired training courses and experience needed to apply prescribed fire for both NWCG and non-NWCG program participants across the Southeast. These recommendations can best be resolved and implemented at all levels with adequate funding and resources using collaborative partnerships working together for the common good to develop solutions and to implement the change needed to address the prescribed fire training needs of the region

NWCG Recommendations

- 1 Improve and streamline the process for achieving NWCG qualifications for prescribed fire professionals, particularly those individuals working in agencies or organizations that do not have wildfire suppression responsibilities, potentially including:
 - Work to alleviate or minimize "W" task requirements for those people who only do prescribed burning and have no intent of suppression, including encouraging the substitution of "O", "I", or "W/RX" options in task books that would allow like or similar tasks to be performed on prescribed burns rather than wildfires
 - Develop a specific prescribed fire track for NWCG qualifications, ideally one that does not include or minimizes "W" tasks
- 2 Incorporate information into relevant NWCG courses related specifically to prescribed fire including topics such as ecosystem restoration and maintenance, ecological benefits of fire, fire effects, wildlife habitat, and endangered species management.
- 3 Expand opportunities for non-suppression agency personnel to participate in wildfire suppression and achieve "W" tasks, potentially including:
 - Developing partnerships with agencies that have wildfire suppression responsibilities
 - Establishing MOUs that allow for cross-training opportunities
- 4 Work with higher education institutions, including universities, community colleges and historically Black colleges and universities, to offer more NWCG courses and certifications, and hands-on training, potentially including:
 - Offering NWCG equivalency for offered courses
 - Developing MOUs
 - Encouraging and supporting student clubs and organizations

Non-NWCG Recommendations

- 1 Encourage the formation and continuation of Prescribed Burn Associations (PBA's) to provide mentorship and experience to groups including landowners, contractors, students, and other beginning burners.
- 2 Expand involvement of Cooperative Extension and other outreach programs in prescribed fire education and training, potentially including:
 - Partnering with Extension professionals to offer programs such as "Learn and Burn" workshops
 - Craft a "Master Burner Program" modeled after Master Naturalist Programs that is designed to bring more information topics including fire implementation, burn plan writing, Fire Adapted Communities, and FireScaping
 - Connecting with landowners and others interested in prescribed fire through existing Extension channels such as Master Gardener programs
- 3 Increase and improve collaboration and communication to allow burners to locate mentors, possibly including working through Prescribed Burn Associations and Prescribed Fire Councils
- 4 Create prescribed fire training programs that are targeted to private landowners, including adjusting or supplementing state-specific Certified Burn Manager Courses with course content from NWCG courses to increase knowledge level, but not provide NWCG certification.

All Respondent Recommendations

- 1 Secure and provide adequate, consistent, dedicated funding at levels sufficient to address prescribed fire training needs.
- 2 Examine ways that liability presents a barrier to prescribed fire training, and support efforts to address those issues at the local level
- 3 Improve advertising for training opportunities possibly including:
 - Have a single website or clearinghouse that lists all upcoming and available training in the Southeast versus having to check multiple websites.
- 4 Increase available training opportunities, particularly Certified Prescribed Burn Manager Courses and those that offer hands-on training experience, possibly including:
 - Offering courses multiple times throughout the year
 - Scheduling courses to consider wildfire suppression schedules and prescribed fire seasons
 - Developing prescribed fire training "hubs" with on-site prescribed fire opportunities to host both NWCG and non-NWCG courses, potentially including land and lodging
 - Offering virtual and hybrid course options when possible to reach a broader audience
- 5 Foster cross agency working relationships, including opening opportunities for non-NWCG entities to work with NWCG agencies, including recognizing and accepting their non-NWCG partner qualification standards when applicable. Improve coordination/communication/partnership between agencies with differing qualifications, possibly including:
 - Share MOU and Cooperative Agreement language and encourage drafting language that allows agencies to accept other agencies qualifications for prescribed burners.
 - Encourage state land management agencies, including non-forestry agencies, to include prescribed fire and wildfire assistance language in Federal and State Annual Operating Plans

- Offer cross-training opportunities across different agencies to allow burners to gain perspective and experience in burning different areas and with different people.
- 6 Increase the number of prescribed fire instructors, trainers, and mentors, possibly including:
 - Creating training teams to travel and provide one to two weeks of on-site training and mentoring.
 - Encouraging large private contractors, federal, and state agencies to have internship programs to help train more students and burn managers.
- 7 Develop and support more hybrid and virtual training options in order to decrease costs and increase the number of courses, availability of participants, and overall accessibility, possibly including:
 - Use existing learning management systems such as the Wildland Fire Learning Portal to provide virtual and hybrid training, and explore options for purchasing other systems that could serve as a virtual training “hub”
 - Combine with local ‘field days’ to take the majority of the training burden off of the local employees but still allow them to drive the hands-on portion that is specific to their needs
 - Create a diverse network of coaches available to support blended training in order to share the instructing load while providing a broader spectrum of voices in the fire management community
 - Develop targeted training materials in a modular format for specific underrepresented populations that can be added to existing curriculum to improve learning outcomes for specific groups (e.g. fire ecology, fire weather, hazards on military lands, etc).
- 8 Strengthen outreach to and relationship building with underrepresented groups including Tribes, Department of Defense, non-English speakers, and universities with natural resource curriculums in order to better understand and address their prescribed fire training needs.
- 9 Work to educate agency administrators / agency leadership about how to facilitate and increase more prescribed fire.
 - Educate on funding needs for more firefighters and seasonal burn crews and the importance of building a workforce with mid-level fire leadership and qualified burn bosses.
 - Encourage employers to include fire training on annual work plans or performance management plans and to offer incentives for employees pursuing advanced fire training.
- 10 Use data from this survey and other available sources to further investigate topics related to prescribed fire training needs, possibly including:
 - More detailed investigation of course and task book needs and bottlenecks, including a study of NWCG positions, such as ICT4 (Incident Commander Type 4), are most impacted.
 - How information from NWCG courses could be incorporated into non-NWCG trainings.
 - Further investigate prescribed fire training needs for specific states and groups such as private landowners and NGO’s.

“...if we keep chipping away at the problem by creating a stronger and bigger network, we'll retain more quality people by growing their resumes and experience. If we just maintain the status quo and only allow people to stay at a certain level - they're bound to move on. Either to other fire programs where they can move up, or out of fire completely to make better money.”

Conclusion



The overwhelming number of survey participants is a testament to the importance of prescribed fire in the Southeast and the desire by the many practitioners who conduct prescribed burns to be as well-trained and skilled as possible to apply fire to the landscape. This comprehensive report of findings and recommendations, if implemented, will play a pivotal role in increasing the knowledge and skill needed to substantially increase the pace and scale of prescribed fire use. Just as conducting this survey, compiling observations, developing recommendations, and producing a report of findings was a collaborative effort, successfully developing solutions to the issues identified and implementing the recommendations will best be achieved when approached from a collaborative process. A few questions for consideration while determining solutions for how to implement the report findings are:

- How can we share this information and who can benefit from it?
- Is additional information needed?
- How can we build relationships in order to better engage stakeholders that did not participate in this survey?
- What resources, information, collaboration, etc. is needed to successfully remove barriers and make the necessary changes to implement the recommendations?
- How can we use this data to further inform prescribed fire training in the future?

“Wildland Firefighting over the last century has become more complex, dangerous, and costly than at any point in history due to our attempts to extinguish all wildfires. The most significant suggestion we can offer in this document for Agency Administrators and Policy Makers is to fight wildfires by reintroducing and maintaining prescribed fire under predetermined and precise conditions into our lands across the Southeast with a professional and supported workforce.”

Thomas Crate
Fire Management Officer
North Carolina State Parks

