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From Grassroots to National Alliance: The Emerging Trajectory for Landowner Prescribed Burn Associations

By John R. Weir, Dirac Twidwell, and Carissa L. Wonkka

On the Ground

- Due to woody plant encroachment and seeing the need for fire on their lands, private landowners throughout the southern Great Plains have started forming prescribed burn associations (PBA) to assist each other with conducting prescribed fires.
- Members of PBAs work together by pooling equipment and other resources, organizing training opportunities, and assisting with prescribed burns on each other's properties, while teaching upcoming generations and inexperienced members the value of fire in grassland conservation and how to safely use it.
- There are over 50 PBAs working in the southern Great Plains. As the number of PBAs has grown so has the need for bringing these groups together. Oklahoma, Texas, and Kansas have formed statewide PBAs to assist and promote the local PBAs.
- As PBAs have grown in number, there is now a clear opportunity to develop an organized network of PBAs at the local, state, and national levels that can address cross-scale ecological and jurisdictional challenges limiting their effectiveness.

Keywords: cross-scale dynamics, fire risk, landowner cooperative, landowner survey, prescribed fire.

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Since the mid-1990s, a grassroots movement has been occurring where landowners have formed localized cooperative associations to restore fire across rangeland ecosystems of the United States. The movement was started by small groups of landowners operating independently across several states to address the woody plant encroachment problem threatening the productivity and diversity of Great Plains rangelands.[1,2] Almost simultaneously, the first prescribed burn associations (PBAs; also referred to as prescribed burn cooperatives) were formed in Nebraska (ca. 1995), Texas (ca. 1997), and shortly thereafter in Oklahoma (ca. 2001) with a solitary objective—to overcome the traditional constraints limiting the application of prescribed fire on rangelands.[3]

The success of the PBA concept has allowed it to spread and become adopted by landowners in new areas (a 2012 county-level map is presented in Figure 1; summary information on PBA activities are given in Tables 1 and 2). Fifty PBAs are now active in the Great Plains and the number is growing. PBAs have now expanded into Illinois, Missouri, Louisiana, and Mississippi. Additional states are also considering if the PBA concept can help landowners to better meet natural resource objectives. We have been contacted by, and spoken with, interested stakeholders in Florida, Mississippi, Alabama, South Carolina, North Carolina, Iowa and Montana.

As PBAs have grown in number, there is now a clear opportunity to develop an organized network of PBAs at local, state, and national levels that can address cross-scale ecological and jurisdictional challenges. In this paper, we discuss how an organizational framework operating across spatial scales can benefit PBAs. We include current scales of impact, as well as opportunities for PBAs to have an impact at larger scales (Fig. 2). We include: 1) specific case examples highlighting current PBA organizational strengths and weaknesses, 2) insights from our years of experience working directly with PBA members across multiple states, and 3) results from a recently completed survey of PBAs across the Great Plains.

A Cross-Scale Framework for PBAs

Mounting evidence indicates that cross-scale considerations are needed to strategically address dynamics and issues relevant to an individual landowner, a group of landowners, privatized alliances or even resource management agencies. Cash et al.[4] define cross-scale as "interactions across different

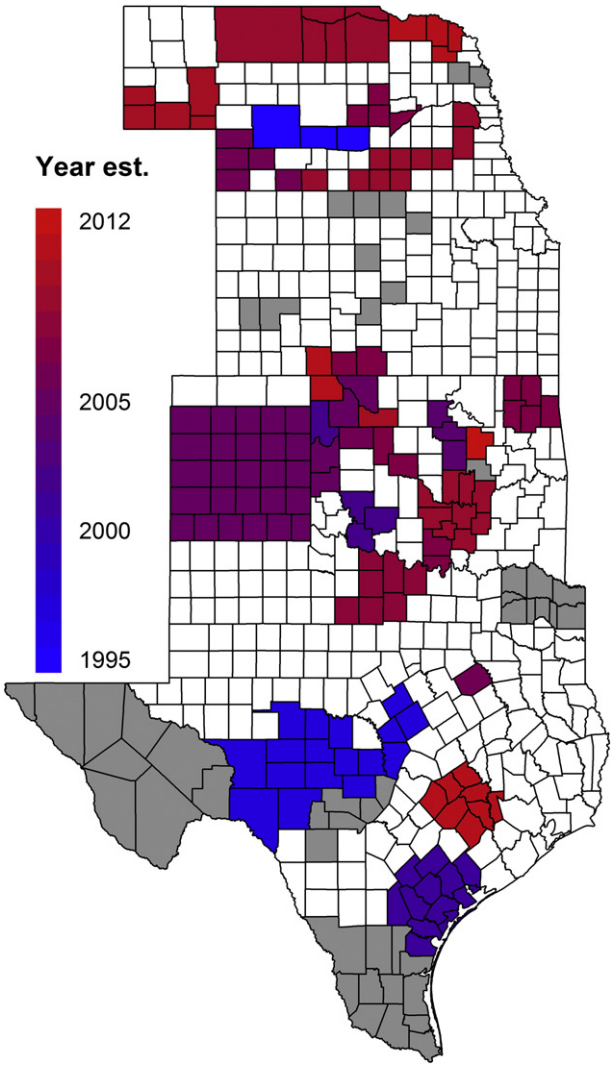

Figure 1. County-level map and year of establishment for the 50 PBAs located from Nebraska to Texas in 2012 (year of establishment was not be determined for gray colored counties).

scales, for example, between spatial domains and jurisdictions." Those considering cross-scale interactions in today's complex social-ecological systems are more successful at problem assessment and identifying political and ecological solutions to those problems.[4] If PBAs are to successfully address the myriad of sociopolitical and biophysical challenges operating across a range of scales (from local to national) that restrict landowner use of prescribed fire, then PBAs need to grow from formal networks at local scales to also include state, regional, and national alliances and linkages. Some states have already started moving in this direction and there is growing potential for a national network of PBAs. In this section, we discuss this emerging cross-scale structure and how it has the potential to benefit PBA activities and goals. Our emphasis here is for readers to see the cross-scale issues and interactions that occur at various scales, and to therefore demonstrate the importance of moving toward an organizational framework that can account for cross-scale interactions relevant to landowner use of fire.

PBAs at the Local Level

Local PBAs provide an important network among individuals within a community that are having difficulty conducting prescribed burns by themselves. Members of the local PBA pool equipment and other resources, organize training opportunities, and help conduct prescribed burns on each other's properties.[1] The local PBA also creates opportunities to teach future generations and inexperienced members the value of fire in grassland conservation and how to control it.[2] The success or failure of these PBAs begin at the community level and are dependent on several elements. We provide some examples here.

For a PBA to be effective within the community, it needs good local leadership. Leadership can come from the landowners, the local agency personnel providing technical assistance to the PBA, or both. In the absence of good leadership, or in the event of the sudden loss of leadership, PBAs can go from being very active to having minimal participation. This reveals a major weakness in the long-term sustainability of prescribed fire under the current local-PBA approach and shows where support from a state or regional level group can possibly help the local PBA avoid this problem. As a prime example, leadership in one PBA included two local ranchers and a USDA-National Resource Conservation Service (NRCS) employee with a lot of burn experience who provided the group with much needed technical assistance. This PBA was very active conducting burns and promoting prescribed fire in the area. Their success was so well perceived that people from other areas asked them for assistance to form new PBAs. Their accomplishments were also documented in several regional and national popular press publications. Then, the NRCS employee took another position, and a short time later one of the ranchers passed away. This left a void in leadership and coordination that certain people bring to a group, and the PBA has yet to recover from this change. Because no one stepped up to fill these positions the membership has dwindled, the number of burns conducted has dropped off drastically, and the PBA's sphere of influence has gone from five to two counties. Due to issues like this the statewide burn association has hired regional coordinators to work with local PBAs that are new or lacking in leadership to keep them active and functional.

In the presence of strong leadership and member support PBAs have been able to overcome negative circumstances or events at local levels. For example, the Edwards Plateau Prescribed Burn Association (EPPBA) in Texas, which was formed in 1997 with 30 members, now works in 14 counties with over 350 members. As of 2012, the EPPBA has conducted over 300 burns on over 150,000 acres (60,703 ha). They have received numerous grants and donations, as well as the Texas Environmental Excellence Award, given to the state's most outstanding environmental projects. Yet, early on, the EPPBA was confronted with a claim from a local business that the EPPBA had conducted a fire that had escaped and burned some of the businessman's property. After several PBA members and other individuals looked at the prescribed fire and the weather conditions of the day, along with the

Table 1. Total estimated activity of PBA survey respondents and projected activity of all 50 PBAs throughout the Great Plains

General statistic	Total across the Great Plains	Estimated projection for Great Plains in 2012
	(*n* = 26 of 50)	
Number of burns	1,082	2,080
Area burned (ha)	190,298	365,958
Area enrolled (ha)	1,615,990	3,107,673
Number people helping burn	10,743	20,660
Number of spotfires	223	429
Number of fire escapes	16	31
Largest escape (ha)	2000	NA
Number of times fire dept. was called to help extinguish fire escape	14	NA
Number of lawsuits or insurance claims	1	NA
Number of injuries	1	NA
Number of fatalities	0	NA
% requiring burn plan	100	NA
Number of PBAs with exemptions to burn during burn bans for restoration purposes	5	NA
Area burned during burn bans (ha)	33,334	NA

The 2012 survey provides the first estimate of the total prescribed burning footprint of PBAs in this region.[5] The survey was used to estimate total burning activity, total land area enrolled, amount of people helping, and to establish an aggregate safety record for all 50 PBAs (Table 1), based on simple extrapolation from survey respondents.

*** Almost all exemptions have been granted at the county level. We know of only an isolated case where a PBA received an exemption during a state-mandated burn ban.**

location of escape and the associated damages, they determined that there was no possibility for the PBA burn to have been the source. Leadership of the PBA approached the business, informed with knowledge of the circumstances surrounding the claim, and requested a retraction of the newspaper article, threatening to cut business relations. The next day there was an apology in the local paper. It was later found that a welder had started the fire that caused the damages. This is just one example that shows the potential impact of strong leaders and members in the face of confrontation or negative press; yet, it is unclear whether strong leadership or membership at the local level can overcome negative events that influence state politics or the general public at large.

A single lawsuit was brought up against another local PBA, as a result of a member acting outside the guidelines of the PBA's code for prescribed burning, as well as state and local laws. This incident has reduced the number of burns conducted and acres burned by the PBA in the last couple years. The lawsuit has put this PBA's core leadership to the test. Adapting PBA operating procedures and reorganizing PBA guidelines, to safeguard the PBA in the event of a member acting outside of institutional policies, provides opportunities for learning and moving forward. Yet, without a cross-scale organizational network, other PBAs have limited opportunity to learn from this local PBA's experience in order to build adaptive capacity in other areas. A lack of learning means that other PBAs are susceptible to similar conflicts, which can weaken their ability to adapt to future external stressors. Due to the presence of a state alliance in Texas, information has been passed along to numerous PBAs and they have changed their by-laws and operation policies to keep this event from happening within their PBA. This example provides one illustration of the benefits of, and additional needs for, broader linkages among local PBAs.

Cross-scale partnerships between local PBAs and state or federal agencies or non-governmental organizations (NGOs) are also important for PBA success. In Nebraska, the NRCS and Pheasants Forever (PF) have provided considerable support for PBAs. Our 2012 survey showed the vast majority of PBA members used the NRCS to write their burn plans or to provide technical assistance when developing burn plans.[5] However, due to growing concerns in the Nebraska NRCS about the safety and well-being of employees implementing prescribed burns, the NRCS is no longer permitting employees to conduct prescribed burns in Nebraska and will minimize involvement in the review and writing of burn plans (based on written communication with Nebraska NRCS).

Table 2. Summary information at the state-level from a 2012 survey distributed to the 50 PBAs throughout the Great Plains

		NE	OK	TX	KS
	Number of PBAs responding	**10**	**11**	**3**	**2**
Burning activities	Number of burns (per PBA per yr)	10.2	4.8	10.8	2.1
	Area burned (ha per PBA per yr)	658.3	886.0	1815.4	970.0
	Number of landowners per burn (per PBA)	9.5	6.6	11.0	11.0
	PBAs requiring burn plan@(%)	100	100	100	100
Safety record	Rate of spotfire occurrence (number of spotfires per PBA per burn)	0.104	0.215	0.199	0.286
	Rate of fire escapes (number of escapes per PBA per burn)	0.048	0.014	0.061	0.003
	Rate fire department was called to help put out escaped fire (number of calls per PBA per burn)	0.004	0.030	0.001	0
	Rate of lawsuits or insurance claims number of lawsuits per PBA per burn)	0	0	0.001	0
	Injury rate (number of injuries per PBA per burn)	0.008	0	0	0
	Fatality rate (number of fatalities per PBA per burn)	0	0	0	0

*** The safety record was established using PBAs with 10 prescribed burns to avoid PBAs with no or low activity from lowering reported rates of active PBAs (due to the high amount of 0s reported by inactive or less active PBAs).**

Our recent survey showed Nebraska PBA members wrote fewer burn plans themselves than PBA members in any other state.[5] Even though PBA members could write more of their own burn plans, individuals have voiced concerns that the loss of this support will greatly reduce their ability to conduct prescribed burns, given other responsibilities. Other organizations, like PF, could potentially provide additional assistance to the PBAs or even assume the role previously held by the NRCS. PF has started and maintained over a half dozen PBAs in Nebraska, and was the second leading provider of fire information and assistance for writing burn plans for PBA members in Nebraska.[5] Local PF biologists also provide technical assistance and expertise, along with startup equipment and training for PBA members. Such functional redundancy in the system can increase the adaptability of local PBAs to national or state changes in policy, and provides a foundation to keep the group sustainable and active into the future.

PBA Alliances at State and Regional Levels

Creating functional linkages among PBAs at state and regional levels is a positive step toward addressing challenges that cannot be solved by an individual local PBA. Recently, burn association members and PBA proponents have formed statewide burn associations to connect activities among their respective PBAs. In 2011, two statewide associations were formed, the Prescribed Burn Alliance of Texas (PBAT) and the Oklahoma Prescribed Burn Association (OKPBA). Then in 2012 the Kansas Prescribed Fire Council (KPFC) was organized to support burn associations in that state. Currently, Nebraska is forming the Nebraska Prescribed Fire Council (NPFC), a statewide organization linking PBAs and individual prescribed fire practitioners. In this section, we discuss how banding together at broader levels has empowered local PBAs to make an even larger impact than local PBAs acting in isolation.

In addition, state PBA alliances have helped local PBA members secure additional resources. As an example, since the formation of OKPBA, the state organization has secured funding for training workshops, developed a basic online prescribed fire-training course, and developed a website, which is used to increase information flow between OKPBA and the local PBAs, as well as communication links between local PBAs. The OKPBA has also acquired an FCC license for a statewide radio frequency and purchased radios for local PBAs to use. In 2013, the OKPBA received its 501(c)3 not-for-profit status and through an affiliation agreement is extending this benefit to local PBAs. OKPBA's future plans include hiring an executive director to oversee operations and

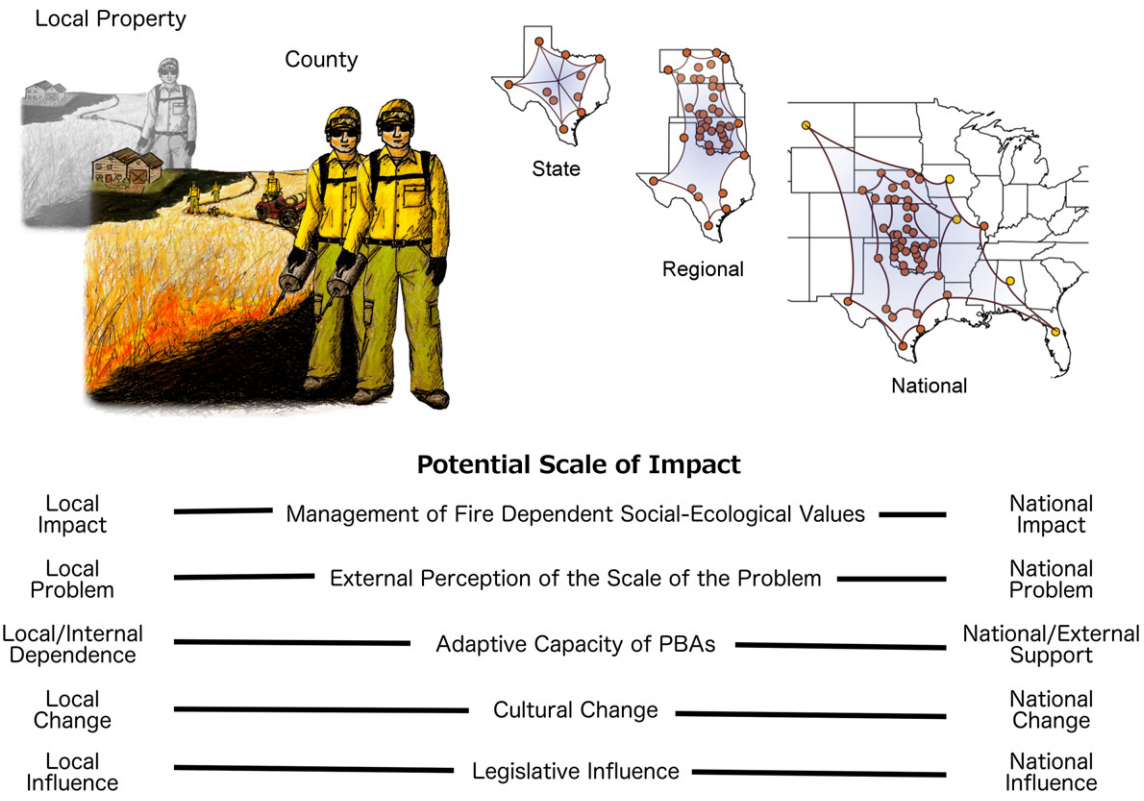

Figure 2. The expected cross-scale trajectory of Prescribed Burn Associations (PBAs).

hiring four area coordinators within the state. These coordinators will be charged with increasing the activity and membership of existing PBAs and identifying areas where new PBAs can be developed. As local associations are brought together in this statewide setting, it becomes easier to overcome problems and avoid issues through shared learning across PBAs. It also simplifies the formation of new PBAs. Landowners respond well to peer-learning opportunities.[6] As such, new PBAs are more likely to form when members from established PBAs provide assistance with a startup.

State PBAs also provide a consistent voice at the state legislature and with other state regulatory organizations to confront long-held regulatory constraints that limit local PBA burning operations. Many times the local PBA can overcome the impacts that local agencies and regulations have on prescribed burning in their area. But many of the constraints that landowners and the local PBA are confronted with are promulgated through state legislation, which is difficult to influence at local levels. For instance, burners in southeastern states, together with state natural resource agencies and non-governmental organizations, developed statewide-prescribed fire coalitions or prescribed fire councils largely to influence prescribed burning legislative reform. These Coalitions or prescribed fire councils representing federal, state, and private prescribed burners across the state were the driving force behind the passage of "Right-to-burn Acts" in Georgia, Florida, North Carolina, South Carolina, Alabama, and Tennessee. These acts include language that establishes prescribed fire as an essential process for restoring and maintaining ecological integrity. In addition, they clearly state the level of liability a burner will be subject to in the event of an escape and the regulations required for prescribed burning in the state. In some cases they offer limited liability for certified prescribed burners. For instance, in cases where gross negligence is the liability standard applied, the claimant must show that a burner acted recklessly or willfully in order to recover damages in suits brought against burners for property damage resulting from escaped prescribed burns.[7] This provides protection for burners against liability, which has been recognized as a major constraint to prescribed burning by private land managers.[8–11] Therefore, limited liability (e.g., gross negligence) increases the amount of burning on private land relative to neighboring states with less protection against liability for prescribed burners.[12] These legislative reforms were not achieved, however, until statewide prescribed fire councils/coalitions were developed in southeastern states to promote the interests of burners across the state. By providing a unified stakeholder voice, state and regional PBAs can provide more impetus for elected legislators to work toward prescribed burn-friendly laws.

Toward a National PBA Network

While local and state PBAs are having success, a number of different concerns remain that cannot be answered without national representation. Liability issues have and will continue to be a major concern across the country. Our survey, along with other surveys, show that liability is one of the main

reasons most landowners do not burn.[8–11] Liability concerns stem from landowner uncertainty on how to burn safely.[13] Liability can be alleviated locally (e.g., by gaining insurance), but for these burn associations and fire to be allowed to function at broader spatial scales and with greater frequency, state and national regulation that limits the actions of prescribed burners needs to be addressed. Local and state associations will be limited in political influence, while a nationally-united voice would possess far greater political clout. Along with liability, misunderstandings of prescribed fire and negative perceptions inhibit its use.[11] In some regions the public does understand the need for fire; for example in Oklahoma 74% of the general residents believe that fire is necessary to manage the land, but despite this understanding they don't want it in their backyard.[10]

Another issue limiting burning on private lands across the United States is a lack of a consistent fire policy and assistance from federal agencies. From our survey the NRCS was identified by PBAs as the main provider of technical assistance for fire information and fire plans, with over 50% of PBA members getting assistance from NRCS across the Great Plains.[5] NRCS national fire policy states "NRCS supports and encourages the use of prescribed burning on rangeland, pastureland, forest land, hayland, Conservation Reserve Program (CRP) land, and wildlife land to meet specific resource management objectives".[14] Even though this is national policy, it is left up to each state to dictate state level policy. As a result, the amount of assistance NRCS personnel are able to provide for prescribed fire varies greatly among states. Personnel in some states actively promote and cost share prescribed fire activities, with others writing fire plans and even assisting landowners with burns, and yet in neighboring states NRCS personnel are not allowed to provide technical advice or cost-share support.

From all the local PBA concerns, such as liability, technical assistance, equipment, and training needs have led to the development of a regional alliance among state and local PBAs in the Great Plains. Near the end of 2012, burn association members, agency professionals and university personnel from Oklahoma, Texas, Kansas, and Nebraska met and formed the Alliance of Prescribed Burn Associations (APBA). The APBA adopted the following mission statement: Promote the safe responsible use of prescribed fire as a natural process through the support of prescribed burn associations.

This regional PBA alliance has already had a trickle-down effect on local and state associations. One of the first items APBA addressed came from the results of our recent survey of PBAs in the Great Plains, which showed that 41% of local PBA members always received information about conducting burns from the NRCS, and 50% got their fire plans from the NRCS.[5] This clearly revealed that PBAs in this region used the NRCS as the primary source of technical assistance and burn plans for local PBA members throughout the Great Plains. The APBA wrote and submitted a position paper to the state conservationist in each of the four states encouraging them to promote prescribed fire, dedicate or re-focus a statewide position to work with PBAs, train their personnel, and focus funds to assist with achieving more prescribed fire on the landscape. One positive response has already resulted from this letter. The state conservationist in Oklahoma has redirected a state position to work with local PBAs and OKPBA, and has additionally provided funding for training and other activities through OKPBA.

From the 2012 PBA survey, training was also identified as the most important need of PBAs across the Great Plains.[5] Given that universities emphasize state and regional impacts, this survey response helped justify the creation of an online basic prescribed fire-training course.[i] The course was set up for regional use by showing the application of prescribed fire is fairly standard with regard to weather, smoke management, firebreaks and equipment, but the course is localized by incorporating separate sections for each state's fire law. The APBA is also working on developing prescribed fire informational and education videos and fact sheets that will be applicable to cross-state issues. There has also been work on finding funding to develop a regional PBA meeting so local members can share information at a regional scale.

Looking to the Future: A National PBA Alliance

The effort to create a regional Alliance of PBAs has brought over 50 local PBAs across four states under a single umbrella, and has the potential to serve as the basis for a National Alliance of PBAs. State, regional, and national alliances demonstrate prescribed burning is not a local issue, but a consistent need of constituents across an entire state, region, or nation. This has the potential to remove scale mismatches between individual producers/fire practitioners (prioritizing interests at local/personal scales) and agencies or NGOs (prioritizing interests at state, regional, or national scales). Greater institutional interplay has been shown to occur in cases where groups incorporate this type of cross-scale organizational network.[4] We suggest there is greater potential for prescribed burners to influence the policies and regulations imposed on landowners by external groups, as a result of building a cross-scale network, which is an important point to consider given consistent pressure by external groups to pursue activities that more directly support suppression over activities supporting prescribed fire.

It is already evident that the PBA framework extends beyond the Great Plains.[2] Local PBAs have recently formed in Mississippi, Missouri, and Illinois, with landowners in Iowa, Florida, Alabama, Montana, North Carolina, and South Carolina showing interest in potentially adopting the local PBA framework. We foresee a future where individual prescribed burners become organized into local PBAs, from coast to coast, and from Canada to Mexico. And with a national alliance PBAs will, for the first time, bring prescribed burning to the forefront of private lands management under a nationally organized landowner movement (similar to how

[i] The online basic prescribed fire training course developed by Weir at Oklahoma State University can be found at http://campus.extension.org.

organizations like the Joint Fire Science Program has provided a nationally organized network among academics and resource professionals). This will provide opportunities, unavailable currently to local PBAs constrained by higher-level policies and practices, for PBAs to impact policies and cultures at the national scale.

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