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Conflict and Collaboration in Wildfire Management: The Role of Mission Alignment

Abstract: *Responding to large wildfires requires actors from multiple jurisdictions and multiple levels of government to work collaboratively. The missions and objectives of federal agencies often differ from those of state land management agencies as well as local wildfire response agencies regarding land use and wildfire management. As wildfire size and intensity increase over time and associated annual suppression costs range between $2 billion and $3 billion, learning more about the existence and management of perceived agency differences becomes imperative within the academic and practitioner communities. This article examines the extent to which perceived mission misalignment exists among federal, state, and local actors and how well those differences are managed. Findings provide quantitative evidence that mission misalignment is greater within intergovernmental relationships than within intragovernmental relationships. Additionally, findings speak to the larger conversation around intergovernmental relationships within the federal structure and perceptions of the presence and management of potential interagency conflict.*

Practitioner Points

- Potential conflict between the missions of federal and state land agencies presents a challenge for disaster management, and differing governmental levels and land-use mandates may highlight relationships where tensions are likely greater.
- Wildfire managers may need to more proactively address relationships among federal agencies and state and local partners rather than relationships among multiple federal agencies.
- Wildfire management may benefit from increased awareness of—and discussion around—partner agencies' stated land management philosophies and legal mandates, as structural frameworks, such as the Incident Command Structure, may not alone lead to conflict-free collaboration.

Large-scale wildfires do not respect jurisdictional boundaries. Wildfires, like most disasters, require the collaboration of multiple agencies and organizations in a networked response (Drabek and McEntire 2002, 2003; Kapucu, Arslan, and Collins 2010; Steelman et al. 2014; Waugh and Streib 2006). While working toward a commonly identified goal—successfully managing a disaster—this interdependent collaboration can lead to conflict (O'Leary and Bingham 2009). The potential for conflict arises when different agencies and organizations work together under conditions that create tensions between the need to serve an individual organization's interests and the desire to serve the collective whole.

A critical task of managing complex collaborative structures is to identify and manage conflict (Milward and Provan 2000). Scholarship on disasters largely focuses on the efficacy of interactions among diverse intergovernmental blends of local, state, and federal participants that respond to disasters (Choi and Brower 2006; Comfort and Kapucu 2006; Kapucu 2005, 2006; Moynihan 2010). However, understanding the conditions under which conflict can arise and how it can be managed is essential to understanding the opportunities and limitations of collaboration. Greater insight into these dynamics presents opportunities for improved disaster management and has important theoretical implications.

One area that is ripe for investigation is how the mission alignment of different agencies and organizations responding to a disaster influences the capacity for collaboration and conflict. Mission misalignment may reflect the strategic decisions of agencies to serve divergent yet meaningful purposes. Therefore, misalignment is not inherently harmful or undesirable; however, it may create tensions

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in interagency relationships that require effective management. Little is known empirically or theoretically about whether perceived differences in mission alignment exist among the federal, state, and local levels and how well those differences are managed. Using survey data of 490 U.S. Forest Service personnel, this article examines perceptions of misalignment among and between government actors and perceptions of how well mission misalignment is managed. This article aims to contribute quantitative evidence to the literatures related to federalism and intergovernmental relationships, specifically as they apply to indicators of potential conflict within multigovernmental, multijurisdictional disaster response.

Federalism and Disasters

The scholarship on federalism and disasters focuses significantly on characterizing the nature of relationships among federal, state, and local actors (Conlan 2006; McGuire 2006; O'Toole 2007; Wright 2007). This literature is primarily descriptive, becoming prescriptive when relationships are examined in specific contexts of management. Within this literature subset, there is a normative thrust that collaborative relationships are desirable because they potentially drive effective responses (Conlan 2006). While collaboration may lead to more effective response and conflict to less effective response, we seek only to identify where perceptions of conflict and its effective management exist. Tensions are identified in intergovernmental relationships, particularly in terms of the locus of control and how these relationships are and should be structured and managed. This speaks to the issue of mission alignment, the potential for conflict or collaboration, and the efficacy of wildfire response.

While disagreement persists within the literature regarding the differences among the meanings of collaboration, coordination, and cooperation (O'Leary and Vij 2012), this article examines collaboration within the structure of federalism. We use the collaboration literature to ground our understanding of this process as one involving multigovernmental, multijurisdictional arrangements used to solve difficult public problems that extend beyond any one agency's scope or ability to respond alone (Agranoff and McGuire 2003; Bardach 1998; Gray 1989; Mullin and Daley 2010).

Following September 11, 2001, the role of federalism in disaster management and federal, state, and local relationships reemerged as a topic of interest (Birkland and Waterman 2008; Kweit and Kweit 2005; Roberts 2008; Tierney 2005). Three key threads exist within this broader research: defining relationships within the structure of federalism and how they change over time (O'Toole 2007); the emphasis on top-down, federal heavy response following the attacks on September 11, 2001, and how this approach has been unsuccessful (Lester and Krejci 2007; Scavo, Kearney, and Kilroy 2008); and the need for more collaborative state- and local-driven planning and response (Caruson and MacManus 2011; McGuire 2006).

Exploring the nature of change in relationships between levels of government is another major theme within federalism scholarship. Most literature recognizes that although federalism is defined by the Constitution as only including the relationship between the federal and state governments (Landy 2008), natural disaster response folds in all levels of government. This multilevel relationship in federalism is typically labeled "intergovernmental" (Buntz and Radin 1983; Cline 2008; Davis 2001; Gormley 2006; Landy 2008; McDowell 2003; McGuire 2006; Schermerhorn 1975).

Scholars offer models and create distinctions in and around the changing nature of intergovernmental relationships. Wright (2007) offers three such conceptual models, including two opposing models. The *inclusive authority* model follows a hierarchy in which federal entities control state and local relationships, whereas the *coordinate authority* model draws distinct boundaries between national and state governments, folds local government under the state, and is marked by independence and autonomous decision making of both state and national governments. The third model, the *overlapping authority* model, depicts national, state, and local levels as interdependent, with bargaining characterizing interactions between governmental levels. Overlapping federalism also includes limited and dispersed power, modest and uncertain autonomy, competition and collaboration, bargain and exchange relationships, and negotiation of strategy (Wright 2007). Some authors suggest that most federal relationships have moved away from pure coordinate or inclusive authority models (Conlan 2006; Wright 2007). However, research continues to explore nuances within these models (Agranoff and Radin 2014) and the degree to which actors collaborate, compete, or coerce each other to reach certain goals (Conlan 2006; Kincaid 1990; McGuire 2006).

The literature on conflict sheds some light on the mechanisms leading to opportunistic or coercive relationships instead of cooperative ones. Conflict between organizations or levels of government may occur because of competition for scarce resources, the drive for autonomy, or divergent subunit goals (Pondy 1967). Conflict is not an inherently unfavorable condition. It may in fact signal the presence of healthy interactions (Pondy 1992). However, conflict between parties may also lead to counterproductive outcomes, such as irrational decision making (Buntz and Radin 1983; Schmidt and Kochan 1972; Selbst 1978). Previous research suggests that mandates, grants, and competition for resources on various governmental levels are impediments to fully realizing the overlapping authority model in federal relationships related to disasters (Caruson and MacManus 2011; Gormley 2006; Scavo, Kearney, and Kilroy 2008). Similarly, differing legal missions and mandates may contribute to divergent subunit goals, which shape organizational objectives and actions (Meier 1997; Pondy 1966) and may lead to conflict during an incident.

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This article builds on this literature by investigating the intergovernmental relationships among federal, state, and local entities engaged in one area of disaster response—wildfire. In addition to quantitatively characterizing the nature of these relationships, we focus on potential conflict by exploring the role of mission misalignment and the efficacy of its management. This article seeks to answer four related research questions:

1. Do intergovernmental relationships surrounding wildfire response follow a more inclusive (hierarchical) or overlapping (collaborative) authority model of federalism?

2. Among federal agencies, which are most likely to have the least amount of perceived mission misalignment with the U.S. Forest Service?
3. Among federal, state, and local agencies, which are most likely to have the least amount of perceived mission misalignment with the U.S. Forest Service?
4. Among federal, state and local agencies, which are most likely to have greater perceived efficacy of the management of mission misalignment?

Where Do We Expect Conflict and Collaboration in Wildfire Management?

Federal–Federal Agency Relationships

Conflict and collaboration exist within the federalism literature, especially as it pertains to environmental and natural resource management relationships (Scheberle 1997; Thomas 2003). Prior to the 1990s, collaboration among federal resource management agencies was not prevalent, and evidence suggests that conflict permeated relationships because of competition for budgetary resources (Clarke and McCool 1996; Thomas 2003). Culhane (1981) specifically identifies conflict and competition between the U.S. Forest Service (USFS) and the Bureau of Land Management (BLM).

However, beginning in the 1990s, interagency collaboration became more widespread (Thomas 2003; Wondolleck and Yaffee 2000) as a result of the complex natural resource management problems faced by agencies. Around this time, the size and intensity of wildfires increased. Climate change, bark beetle–infested forests, and the growth of the wildland urban interface—the place where forests and people meet—led to larger, more expensive, and more intense wildfires that affected people across multiple jurisdictions (Dombeck, Williams, and Wood 2004; Steelman and Burke 2007; Stephens and Ruth 2005). Although the shift to more intensive wildfires presents an opportunity for agencies to work collaboratively across jurisdictional boundaries, the history of different land-use missions among the agencies suggests that mission differences influence collaboration markedly.

Harmonizing land-use missions associated with the different agencies involved in wildfire management has been challenging (Dombeck, Williams, and Wood 2004). Land management agencies, including the USFS and the BLM, follow multiple-use mandates. However, agencies such as the National Park Service (NPS) and the U.S. Fish and Wildlife Service (USFWS) have more singularly oriented missions. These mission orientations translate into different wildfire management approaches to meet their differing land management goals. Notably, a suppression-oriented approach prioritizing the extinguishing of all wildfires was preeminent among most agencies until the 1960s. Beginning at that time, agencies such as the NPS and the USFWS began to emphasize using wildfires as a tool, allowing them to burn more naturally in order to play their ecological role in a fire-adapted ecosystem (Aplet 2006). In the mid-1990s and throughout the 2000s, the USFS shifted to a more flexible fire management strategy that included a wider array of management strategies beyond a suppression-only mission (Steelman and McCaffrey 2011), but change has been slow.

The USFS has a multiple-use mandate that is inherently contradictory, simultaneously calling for the preservation, conservation, and use of natural resources under its management. Established in 1905, it operated under a commodity-oriented mission, focusing on harvesting timber until the 1960s and 1970s (Hays 1987; Kaufman 1960; Robinson 1975). This translated into a suppression-only policy to protect valuable timber resources. However, a more environmentally aware public called on Congress to expand the scope of land agencies' work (Steelman 1999, 2001). The Multiple-Use Sustained-Yield Act of 1960, along with the Wilderness Act of 1960, created legislative focuses for the USFS to consider other values, such as watershed and wildlife management, mineral extraction, grazing, and outdoor recreation. Additionally, the National Environmental Policy Act of 1969 gave greater voice to public demands beyond the timber industry and commodity interests. Similarly, the National Forest Management Act of 1976 mandated that land-use planning efforts involve the public and take into account the multiple land uses the USFS served (Steelman 1999, 2001).

The BLM emerged in response to congressional efforts to address the controversy over the poor shape of public lands as a result of livestock grazing. At this time, remaining public lands were divested to the states, and the Taylor Grazing Act of 1934 established the BLM at the federal level to manage rangeland resources (Brunson and Kennedy 1995; Culhane 1981). Like the USFS, the BLM once held a more singular-use mandate to protect federal public lands, of which it manages more than any other agency. It also faced demands to diversify its land-use management philosophy and now holds a multiple-use mandate. In 1976, Congress passed the Federal Land Policy and Management Act, emphasizing a multiple-use mandate that included mineral extraction, wildlife conservation, wilderness protection, and recreation (Brunson and Kennedy 1995). The BLM utilized a wildfire suppression-oriented policy for most of the twentieth century as a justification to protect rangeland resources for livestock owners.

The NPS was formed in 1916 with a mandate to preserve and protect historic and natural heritage sites and the wildlife associated with these areas for the enjoyment of the public in perpetuity (Clarke and McCool 1996). Until the 1960s, wildfire policy within the NPS mirrored the more suppression-oriented policy of the USFS. However, with the passage of the 1964 Wilderness Act, the NPS shifted its focus to allow wildfire to play a more natural ecological role in the landscape. In 1968, the NPS formally changed its wildfire policy to use wildfire and prescribed burns as ecological resources, which is more consistent with its overall mission and land management objectives (Aplet 2006).

The USFWS was created in 1940 to conserve and protect wildlife resources (Clarke and McCool 1996). The 1973 Endangered Species Act gave the agency greater authority to pursue its mission related to threatened and endangered species and habitat protection. These actions led the USFWS to pursue a more flexible wildfire policy, much like that of the NPS (Aplet 2006).

Finally, the Bureau of Indian Affairs (BIA), created in 1824, serves the 566 federally recognized tribes in the United States. Its role has changed over time as the tone of federal policy regarding American Indians and Alaska Natives has shifted from subjugation and assimilation to promotion (BIA 2014). Its fire policies reflect the tribes' priorities.

The question remains whether federal agencies have aligned their missions on wildfires or whether they have competing objectives. Nonalignment may reflect intentional decisions of different agencies to represent varied interests and priorities needed to maintain appropriate federal capacity to respond to wildfires. Previous research suggests that all federal agencies could be in conflict over competition for resources (Clarke and McCool 1996; Culhane 1981). However, other research suggests that scarcity of resources among agencies could instead create greater collaboration (Koontz et al. 2004; Thomas 2003; Wondolleck 1988; Wondolleck and Yaffee 2000). Based on the histories of the agencies and their varying and dynamic views of land use, we expect that federal agencies with multiple-use missions (i.e., USFS and BLM) may be more closely aligned in their fire management strategies than those having single-use missions (e.g., NPS and USFWS). We suggest that the multiple-use land mission of the USFS shapes its personnel's perceptions of interagency mission misalignment.

Nonalignment may reflect intentional decisions of different agencies to represent varied interests and priorities needed to maintain appropriate federal capacity to respond to wildfires.

Hypothesis 1: Perceived mission misalignment will be lower between the USFS and partner agencies with multiple-use land management missions (i.e., BLM) than between the USFS and partner agencies with single-use missions (e.g., NPS, USFWS)

Federal–State Agency Relationships

Historically, wildfire management followed a hierarchical structure with power and considerable resources entrusted to the USFS because of its reputation for professionalism and expertise in forest management (Davis 2001). However, over time, federal policies transferred responsibility for wildfire response to regional entities, significantly increasing states' and localities' involvement in and authority over wildfire management while changing the hierarchical structure of wildfire management (Pyne 1997). In this way, the structure shifted from Wright's inclusive model to a more overlapping model, with collaboration occurring between levels. However, the extent to which conflict or collaboration occurs in the context of wildfires among federal agencies, states, and localities is unclear. Different hypotheses are plausible.

The relationship between the USFS and the states regarding wildfire has evolved. For decades, the USFS engaged in collaborative activities with the states, including private landowners. The Weeks Act of 1911 established interstate compacts to support firefighting and created a grant program to support fire patrol and suppression activities on private lands by state forestry agencies. In 1924, the Clarke-McNary Act supplied federal funds for federal–state cooperative activities, such as tree planting, firefighting, and forest planning; dedicated funding to build administrative infrastructure of state forestry departments; and disseminated federal standards for fire protection to the states (Davis 2001). A federal excess equipment program channeled military surplus equipment from World Wars I and II, as well as Korea, to state fire cooperators, further expanding state capacities (Pyne 1997). Over the last 100 years, the USFS has worked to strengthen the federal–state wildfire fighting partnership, reflecting a transition from Wright's inclusive authority model to relationships more closely reflecting an overlapping authority model.

Another factor influencing state land management is the "public trust" mandate that governs a great deal of states' public lands, ranging in our four-state sample from roughly 1.4 million acres in Oregon to 5.1 million acres in Montana (Souder and Fairfax 1996). In transitioning from territories to states, states received land under a trust to generate revenue for public education and other public services. State land management agencies became the trustees charged with acting on behalf of citizens—the beneficiaries of the land trust. Typically, the responsibility of state land agencies is to steward the land in a way that remits revenue in perpetuity. State land agencies must balance conservation with financial obligations to achieve sustainable revenue generation (Koontz 2002; Souder and Fairfax 1996).

In many ways, the state trust mandates of state land agencies conflict with the management objectives of their federal land management counterparts. With a primary mission focus on economic performance, states must protect resources that remit revenues for their educational coffers. This focus suggests the need to prioritize a suppression-only policy that would suppress fires quickly, thereby protecting timber resources without consideration of other land-use management objectives (Koontz 2002).

Koontz (1997) finds evidence for these dynamics in his analysis of four state–federal land management relationships. Koontz identifies differing goals and responsibilities of state and federal agencies. States often emphasize economic outcomes (e.g., timber production), while federal agencies prefer an agency-specific agenda (e.g., conservation) or must balance multiple interests. Federal agencies such as the USFS must answer to more players than state agencies, including lower levels of government and the public, because of their multiple-use missions and public involvement directives. More recently, McDowell (2003) has noted that multiple conflicting mission objectives among federal, state, and local agencies suggest that wildfire management continues to be a challenge. McDowell cites environmental and endangered species protection as "some of the thorniest issues in wildland fire programs" (2003, 59) because some agencies are charged with protection of these resources, while others profit maximization, thereby setting the stage for conflict.

This literature suggests that mandates and missions driving state land-use management may be significantly different from federal mandates and missions. If so, we should see this in our data in the form of greater misalignment between federal and regional (i.e., state and local) agencies (intergovernmental) than among federal agencies only (intragovernmental). This does not preclude the opportunity to effectively manage these relationships. We also argue there is greater likelihood that relationships will be more effectively managed among the federal agencies (intragovernmental) than between federal agencies and regional partners (intergovernmental).

Hypothesis 2a: Perceived mission misalignment will be lower between the USFS and other federal land agencies than between the USFS and both state and local partner agencies.

Hypothesis 2b: Perceived effectiveness of the management of mission misalignment will be higher between the USFS and other federal agencies than between the USFS and both state and local partner agencies.

Study Context, Sample, and Procedure

The sample consists of USFS fire staff and administrators working in 31 national forest headquarters and 137 district offices across three USFS regions (R1, R4, and R6) and four states (Idaho, Montana, Oregon, and Washington). The forests and offices, and thus the respondents, were selected for inclusion in the study if they had a significant population center (municipality or census-designated place) at risk of a wildland–urban interface fire within 12 miles of their district boundary.

The USFS participants were asked to provide information regarding organizational relationships with local partner agencies (rural fire protection districts, volunteer and county fire departments), state land agencies (Idaho Department of Lands, Oregon Department of Forestry, Montana Department of Natural Resources and Conservation, and Washington Department of Natural Resources), and federal agencies (BIA, BLM, NPS, USFWS, and "all other" federal agencies, including the Bureau of Reclamation, Department of Energy, Department of Defense, and U.S. Army Corps of Engineers).

The data were collected through respondent-specific Web and mail surveys. Surveys were administered in three waves between March and May 2013 to a total of 753 USFS personnel, with a total response rate of 65 percent. A total of 3,026 ratings of perceived interagency mission alignment and its management were provided by 490 respondents, an average of roughly six relationship ratings per respondent.

A series of one-way analysis of variance (ANOVA) models were performed to determine whether there were differences among group means—of perceived mission misalignment and the effective management thereof—across federal, state, and local governmental levels of referent partner agencies and between referent federal land agencies. USFS personnel perceptions of interagency mission misalignment were measured with a single survey item: "To what extent are there differences in fire management philosophy and goals between your agency and the following list of agencies in your area that you feel could create problems during a cross-jurisdictional incident?" The six-point Likert-type scale responses ranged from 0 ("no differences") to 5 ("large differences"). The perceived effectiveness of the management of mission misalignment was also measured by a single survey item: "If you think differences [in fire management philosophy and goals] exist, how well do you feel these differences have been effectively managed in the past in order to avoid conflicts?" The five-point Likert-type scale responses ranged from 1 ("poor") to 5 ("excellent").

Findings

As stated in hypothesis 1, we expect perceived mission misalignment to be lower between the USFS and the BLM, a fellow multiple-use land management mission agency, than between the USFS and partner agencies with single-use missions. The average scores of USFS personnel's perceived interagency mission misalignment were found to be different across ratings of relationships with other federal agencies, $F(6, 3019) = 91.73$, $p = .000$, as shown later in table 5. Post hoc Tukey multiple comparisons ($p \leq .05$) found that the mean mission misalignment score for the relationship between the USFS and the BLM (M = 1.31, SD = 1.13, $N = 773$) was significantly lower than the scores of relationships with *all* other federal agencies, including the BIA (M = 2.40, SD = 1.31, $N = 215$), NPS (M = 2.20, SD = 1.54, $N = 206$), USFWS (M = 2.09, SD = 1.39, $N = 182$), and all other federal agency referents (M = 2.74, SD = 1.58, $N = 209$) (see table 1). This finding supports hypothesis 1 and provides initial evidence for our argument that a shared stated mission (i.e., multiple-use versus single-use mandate) may translate into perceptions of greater mission alignment, even in settings characterized by tremendous interagency competition for common federal resources.

Table 1 Tukey Multiple Comparisons Test (Dependent variable = Perceived mission alignment score)

(I) Referent Agency/ Gov't Level	(J) Referent Agency/ Gov't Level	Mean Difference (I – J)	SE	*p*
Local	State	–.091	.077	.900
	BIA	.248	.102	.184
	BLM	1.338	.065	.000
	NPS	.440	.104	.000
	USFWS	.556	.109	.000
	Other federal	–.098	.103	.964
State	Local	.091	.077	.900
	BIA	.339	.112	.040
	BLM	1.429	.080	.000
	NPS	.531	.114	.000
	USFWS	.647	.119	.000
	Other federal	–.007	.113	1.000
BIA	Local	–.248	.102	.184
	State	–.339	.112	.040
	BLM	1.090	.104	.000
	NPS	.191	.132	.774
	USFWS	.307	.136	.267
	Other federal	–.346	.132	.117
BLM	Local	–1.338	.065	.000
	State	–1.429	.080	.000
	BIA	–1.090	.104	.000
	NPS	–.899	.106	.000
	USFWS	–.783	.112	.000
	Other federal	–1.436	.106	.000
NPS	Local	–.440	.104	.000
	State	–.531	.114	.000
	BIA	–.191	.132	.774
	BLM	.899	.106	.000
	USFWS	.116	.138	.981
	Other federal	–.538	.133	.001
USFWS	Local	–.556	.109	.000
	State	–.647	.119	.000
	BIA	–.307	.136	.267
	BLM	.783	.112	.000
	NPS	–.116	.138	.981
	Other federal	–.654	.137	.000
Other federal	Local	.098	.103	.964
	State	.007	.113	1.000
	BIA	.346	.132	.117
	BLM	1.436	.106	.000
	NPS	.538	.133	.001
	USFWS	.654	.137	.000

The average scores of USFS perceived mission misalignment were found to be different across the three governmental levels of the referent agencies, $F(2, 3023) = 128.79$, $p = .000$, as shown in table 6. Post hoc Tukey multiple comparisons ($p \leq .05$) found that the mean mission misalignment score related to other federal agencies (M = 1.85, SD = 1.43, $N = 1,585$) was significantly lower than

scores related to both state (M = 2.73, SD = 1.40, N = 456) and local agencies (M = 2.64, SD = 1.40, N = 985) (see table 2). Mean scores for state and local referent agencies were not found to be significantly different from each other. These results support hypothesis 2a, as perceived mission misalignment is significantly lower for USFS relationships with federal agencies than with both state and local government partners.

Consistent with hypothesis 2b, the average scores of USFS perceived effectiveness of the management of mission misalignment were found to be significantly different across the three governmental levels of referent agencies, $F(2, 2639) = 25.91$, $p = .000$, as shown later in table 7. Post hoc Tukey multiple comparisons ($p \leq .05$) found that the mean management effectiveness score of relationships with other federal agencies (M = 3.64, SD = 0.99, N = 1,342) was significantly higher than scores of relationships with both state (M = 3.36, SD = 1.04, N = 422) and local partner agencies (M = 3.37, SD = 0.92, N = 878). Table 3 illustrates this finding. Mean scores for the state and local agency referents were not found to be significantly different from each other. These findings related to hypotheses 2a and 2b indicate that USFS personnel in our sample perceive greater congruence with other federal land agencies—in terms of both mission alignment and the effective management of interagency differences around fire management—than with partner agencies at both the state and local levels. Interestingly, no significant mean score differences of either measure were found between USFS–state and USFS–local relationships, perhaps suggesting that these USFS personnel may not make distinctions between state and local actors.

We also conducted a pair of exploratory ANOVA calculations focusing on potential differences in these perceptions across USFS administrative regions (R1, R4, and R6) and states (Idaho, Montana, Oregon, and Washington). We offer no formal hypotheses here, but these analyses were motivated by descriptive data indicating state differences in legal and statutory state land management mandates, as well as possible USFS regional differences in philosophy and recentness of applicable land management plans. The average USFS ratings of effectiveness of the management of mission misalignment with local partner agencies were different across the three USFS regions, $F(2, 875) = 8.33$, $p = .000$, as shown later in table 8. Post hoc Tukey multiple comparisons ($p \leq .05$) found that the mean management effectiveness score of relationships with local agencies in region 6 (M = 3.51, SD = 0.93, N = 345) was significantly higher than the corresponding mean score of region 1 (M = 3.22, SD = 0.93, N = 339). Albeit a statistically nonsignificant difference, the mean management effectiveness rating of region 6 was also higher than that of region 4 (M = 3.37, SD = .86, N = 194). On its face, this suggests that USFS region 6 may be experiencing better outcomes in managing intergovernmental agency conflicts with its local partners.

However, our investigation suggests that these USFS regional differences in the perceived effectiveness of management may be the result of underlying state differences. The results of our analysis indicate the average management effectiveness scores related to relationships with local partner agencies were also significantly different across the four states, $F(3, 874) = 10.09$, $p = .000$, as shown in table 9. The post hoc Tukey multiple comparisons ($p \leq .05$) reveal that the mean management effectiveness score of relationships with local agencies in Washington (M = 3.74, SD = 0.92, N = 119) was significantly higher than the corresponding mean scores of Idaho (M = 3.37, SD = 0.85, N = 243), Montana (M = 3.20, SD = 0.94, N = 290), and Oregon (M = 3.39, SD = 0.92, N = 226), as illustrated in table 4. Thus, Washington, a state entirely enveloped by USFS region 6, may be driving the regional differences in management effectiveness with local partner agencies.

Discussion

This study aimed to empirically investigate the perceptions of mission misalignment—and the effectiveness of the management of conflict around fire management goals and philosophies—between the U.S. Forest Service and state land agencies, local partner agencies, and other federal land agencies while speaking to the broader context of intergovernmental relations. We conducted analyses testing for significant differences in these perceptions across intergovernmental levels as well as across three USFS administrative regions and four states. Generally, we asked, which federal partner agencies are most likely to have the least amount of perceived mission misalignment with the USFS? Is mission alignment—and effective management of differences—perceived in greater levels within intragovernmental than within intergovernmental relationships? And, are there regional or state differences in these perceptions?

Table 2 Tukey Multiple Comparisons Test (Dependent variable = Perceived mission misalignment score)

(I) Referent Agency Gov't Level	(J) Referent Agency Gov't Level	Mean Difference (I – J)	SE	*p*
Local	State	–.091	.080	.491
	Federal	.794	.057	.000
State	Local	.091	.080	.491
	Federal	.885	.075	.000
Federal	Local	–.794	.057	.000
	State	–.885	.075	.000

Table 3 Tukey Multiple Comparisons Test (Dependent variable = Perceived management efficacy score)

(I) Referent Agency Gov't Level	(J) Referent Agency Gov't Level	Mean Difference (I – J)	SE	*p*
Local	State	.003	.058	.999
	Federal	–.274	.043	.000
State	Local	–.003	.058	.999
	Federal	–.277	.055	.000
Federal	Local	.274	.043	.000
	State	–.277	.055	.000

Table 4 Tukey Multiple Comparisons Test (Dependent variable = Perceived management efficacy score)

Referent Agency Gov't Level	(I) Respondent State	(J) Respondent State	Mean Difference (I – J)	SE	*p*
Local	Idaho	Montana	.174	.079	.125
		Oregon	–.019	.084	.996
		Washington	–.369	.102	.002
	Montana	Idaho	–.174	.079	.125
		Oregon	–.193	.081	.080
		Washington	–.543	.099	.000
	Oregon	Idaho	.019	.084	.996
		Montana	.193	.081	.080
		Washington	–.350	.103	.004
	Washington	Idaho	.369	.102	.002
		Montana	.543	.099	.000
		Oregon	.350	.103	.004

Overall, the findings align with our hypotheses. First, the results support our hypothesis that USFS personnel perceive *lower* mission misalignment with federal land agencies with multiple-use land management missions than with federal land agencies with single-use missions. The BLM and the USFS both have multiple-use mandates that require balancing of multiple priorities of various participants. This contrasts with the more singular-use agencies, such as the NPS and USFWS, which often place primacy on environmental concerns. The results strongly indicate that these USFS personnel perceive significantly less misalignment with the BLM, suggesting that formally stated missions appear to influence perceptions of interagency differences.

Additionally, we find that USFS personnel perceive *lower* mission misalignment with other federal land agencies than with both state and local partner agencies. This suggests that missions "on paper" seem to transfer to perceived interagency differences in mission. Further, the findings indicate the USFS may not make great distinctions between state and local actors. The management of misalignments was also perceived to be better within intragovernmental (i.e., federal–federal) relationships than within intergovernmental (i.e., federal–state, federal–local) relationships with partner agencies. This suggests that the management of misalignment is not perceived to be consistent across governmental levels, indicating that although an overlapping model of federalism may be present, some relationships are managed better than others. This echoes McGuire's (2006) warning that context matters in intergovernmental relationships.

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During wildfire response, the use of an Incident Command Structure (ICS) requires actors from all levels of government to assume set positions in a prespecified, practiced, hierarchical response team to achieve a unified mission—manage the fire. This focus on a singular goal may blur the lines of interagency mission alignment. Nonetheless, our findings indicate that perceived differences in management are present. This is problematic only in that the policies that encourage collaboration through structural frameworks (e.g., ICS) and unity of purpose (i.e., focus on a common mission) may not be creating the type of conflict-free collaboration intended. Alternatively, recognizing these differences creates an opportunity to more explicitly "agree to disagree" about how a wildfire is managed given the differing missions and mandates.

As seen with perceived mission misalignment, mean scores of USFS ratings of management effectiveness with state and local agencies were not significantly different, signaling again that USFS personnel perhaps do not make substantial distinctions between state and local partners. This secondary finding of a lack of distinction among regional actors is reminiscent of Wright's model of coordinate authority, in which localities are products of the state. However, this model is marked by autonomy of state and federal actors, which may or may not be present. We only know that perceived misalignment and poorer management of misalignment occurs within federal–state and federal–local relationships compared with federal–federal relationships.

We suggest that perceived misalignments are possibly attributable to differing and conflicting mandates and priorities related to land management. Historically, state land agencies predominantly prioritized economic outcomes, especially around timber production (Koontz 1997), while federal land agencies have increasingly adopted more flexible approaches and fire management strategies beyond full suppression (Davis 2001; Steelman and McCaffrey 2011). If the primary goals of state land agencies focus on economic values, resultant policies are likely to heavily, if not exclusively, emphasize full-suppression approaches over strategies for managing wildfire for resource benefit. Subsequently, our findings are consistent with those of Davis (2001) and Koontz (1997), who suggest that federal land agencies must deal with more statutory and regulatory constraints, public involvement, and bureaucratic mandates than state land agencies, particularly as a result of legislation. Thus, our results provide quantitative evidence supporting the widely held position that mission misalignments will be greater within intergovernmental than within intragovernmental relationships.

Finally, the findings indicate significant differences across USFS administrative regions in perceptions of the effectiveness of the management of mission misalignments in preventing agency conflicts with local wildfire management partners. However, our data suggest that regional differences might instead be driven by differences across states. Specifically, USFS personnel working with local partner agencies in Washington reported significantly better management of interagency misalignments than did those USFS personnel working with local partners in Idaho, Montana, and Oregon.

These findings suggest that further investigations of the policy environment and management practices present within Washington may provide important lessons for improving strategies aimed at reducing interagency conflicts inherent to multigovernmental, multijurisdictional wildfire incidents. These data suggest generally that efforts to better manage these misalignments with both state and local partners are less effective than those involving federal partners. Thus, if proficient management of such conflicts is a high priority and assumed to be critical for future wildfire seasons, Washington may be fruitful ground for investigating best practices.

Conclusion

Wildfires cross federal, state, and local jurisdictions, creating conditions under which we can explore federal relationships. This article has investigated the nature of intergovernmental relationships associated with wildfire response, as well as perceptions of mission misalignment and how those misalignments are managed. We use misalignment and its management as a way to understand the potential for conflict within the complex arrangement of relationships that characterize wildfire response.

The potential for mission misalignment during large-scale wildfire response seems likely given the probability of interdependency among federal and state land management agencies, which is cited

as a precondition for collaboration in federal relationships (Thomas 2003). Our data suggest there are areas where we can expect greater mission incongruence and perhaps conflict. This pattern may also be present for other disasters where interdependency among federal, state, and local responders is essential. With this in mind, our findings contribute to the broader literature on federalism and disasters (Birkland and Waterman 2008; Scavo, Kearney, and Kilroy 2008; Tierney 2005).

The federalism literature aims to describe changing intergovernmental relationships in an effort to assess how much conflict or collaboration occurs and the degree to which these relationships are hierarchical or overlapping (Conlan 2006; McGuire 2006; Wright 2007). Our data suggest that relationships between federal agencies and the states related to wildfire appear to be evolving from Wright's (2007) inclusive authority model to the overlapping authority model. We also see nuances within this larger trend. Perhaps in line with the historically hierarchical intergovernmental relationships within wildfire management, remnants of perceived differences related to missions and management of differences among actors still exist. Further, these federal respondents did not draw substantial distinctions between state and local actors. Ultimately, these results indicate that an overlapping authority model of intergovernmental relationships is not yet fully realized.

Conflict in complex collaborations is an important dynamic that must be managed (Milward and Provan 2000). Conflict can be healthy or not (Buntz and Radin 1983; Pondy 1992; Schmidt and Kochan 1972; Selbst 1978), and simply identifying misalignment does not alone determine whether discordant relationships are present. However, divergent missions *can* drive conflict (Meier 1997; Pondy 1967); therefore, further examination of the role of discrepant missions in creating conflict is needed. We identify mission misalignment and its management as antecedents of potential conflict. By understanding where differences can arise and whether they are managed well, we provide insight into dynamics of relationships that will need to be examined and addressed.

If we accept mission misalignment as a precondition of conflict, our data suggest that we might need to look harder at relationships between federal agencies and both state and local partners rather than relationships among multiple federal agencies. Misalignment can be managed. We find evidence that some relationships are managed better than others, suggesting the need for a better understanding of theoretical and practical drivers associated with managing these relationships as they evolve in the overlapping authority model.

The federalism literature on environmental and natural resource management relationships is divided on where and the reasons why we should expect greater conflict or collaboration among agencies (Clarke and McCool 1996; Culhane 1981; Scheberle 1997; Thomas 2003). These findings contribute to this literature by suggesting federal agencies experience less misalignment and better manage differences among fellow federal agencies than with their state and local partners. These findings are consistent with the trend toward less conflict among federal agencies involved in resource management since the 1990s (Thomas 2003; Wondolleck and Yaffee 2000).

Table 5 ANOVA (Dependent variable = Perceived mission misalignment score)

	Sum of Squares	*df*	Mean Square	*F*	*p*
Between groups	1009.656	6	168.276	91.730	.000
Within groups	5538.237	3019	1.834		
Total	6537.893	3025			

Table 6 ANOVA (Dependent variable = Perceived mission misalignment score)

	Sum of Squares	*df*	Mean Square	*F*	*p*
Between groups	514.116	2	257.058	128.789	.000
Within groups	6033.777	3023	1.996		
Total	6547.893	3025			

Table 7 ANOVA (Dependent variable = Perceived management efficacy score)

	Sum of Squares	*df*	Mean Square	*F*	*p*
Between groups	49.816	2	24.908	25.914	.000
Within groups	2536.575	2639	.961		
Total	2586.391	2641			

Table 8 ANOVA (Dependent variable = Perceived management efficacy score)

	Sum of Squares	*df*	Mean Square	*F*	*p*
Between groups	13.983	2	6.991	8.332	.000
Within groups	734.192	875	.839		
Total	748.174	877			

Table 9 ANOVA (Dependent variable = Perceived management efficacy score)

	Sum of Squares	*df*	Mean Square	*F*	Sig.
Between Groups	25.052	3	8.351	10.093	.000
Within Groups	723.122	874	.827		
Total	748.174	877			

This article brings to bear quantitative data to test hypotheses reflective of theoretical concepts found within the federalism and disaster literatures, particularly notions that perceived mission alignment will be higher within intragovernmental relationships than within intergovernmental relationships; that these patterns will similarly exist for perceptions of effective management of any interagency misalignments; and that differences in policy environments—in the forms of stated agency missions (i.e., single-use or multiple-use land management philosophies) or legal mandates (e.g., state land agencies' prioritization of timber production)—actually translate into varying perceptions of interagency mission alignment.

Limitations of our study include its geographic specificity of four states and three USFS regions in the Pacific Northwest, as other patterns may be prevalent in other areas. Also, the cross-sectional design precludes detection of different patterns that may be present over time. Further, our sole reliance on the federal perspective—and a single agency, the U.S. Forest Service—limits the data to one side of these dyadic relationships and presents a risk of bias in the findings. Finally, the study is limited in that we are using mission alignment as a proxy for conflict or collaboration. Moving forward, we hope to tie these measures of mission alignment to experiences during—and outcomes following—disaster response.

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