

A Narrative Policy Framework Analysis of Wildfire Policy Discussions in Two Colorado Communities

DESERAI A. CROW

University of Colorado, Denver

LYDIA A. LAWHON

University of Colorado, Boulder

JOHN BERGGREN

University of Colorado, Boulder

JUHI HUDA

University of Colorado, Boulder

ELIZABETH KOEBELE

University of Nevada, Reno

ADRIANNE KROEPSCH

Colorado School of Mines

Whether due to climate change, human development in risk-prone areas, or other factors contributing to vulnerability, communities globally face risk from hazards that can lead to disasters that impact human livelihoods. Some disasters become focusing events that can catalyze a search for solutions to the policy problems uncovered by disaster. The Narrative Policy Framework (NPF) was developed to provide policy scholars with the tools to analyze the role of narratives in such policy debates. The NPF, however, has not been systematically applied to narratives surrounding hazards and disasters. This study examines media coverage from two cases of catastrophic wildfire in Colorado, the United States, to understand the evolving policy narratives over time, with specific attention to three key NPF variables: policy problems, solutions, and characters. Findings indicate that narratives concerning disasters are different than other policy issues in ways that are vital to understand as scholars apply and refine the NPF.

Keywords: Narrative Policy Framework, Wildfire Policy Analysis, Colorado, United States, Policy Process, Climate Change, Natural Hazards and

Disasters, Risk and Disaster Management, Strategic Policy Actors, Differences in Policy Responses, Media, Policy Change, Policy Narratives.

Related Articles:

- Shanahan, Elizabeth A., Mark K. McBeth, and Paul L. Hathaway. 2011. "Narrative Policy Framework: The Influence of Media Policy Narrative on Public Opinion." *Politics & Policy* 39 (3): 373-400. <http://onlinelibrary.wiley.com/doi/10.1111/j.1747-1346.2011.00295.x/abstract>
- Smith-Walter, Aaron, Holly L. Peterson, Michael D. Jones, and Ashley Nicole Reynolds Marshall. 2016. "Gun Stories: How Evidence Shapes Firearm Policy in the United States." *Politics & Policy* 44: 1053-1088. <http://onlinelibrary.wiley.com/doi/10.1111/polp.12187/full>
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Ya sea que se deba al cambio climático, el establecimiento de comunidades en zonas de riesgo, u otros factores que contribuyen a la vulnerabilidad, comunidades alrededor del mundo se enfrentan a riesgos que pueden provocar desastres que impacten el modo de vida. Algunos desastres se convierten en eventos focales que catalizan la búsqueda de soluciones a problemas legislativos descubiertos a raíz del desastre. El Marco de Política Narrativa (NPF por sus siglas en inglés) fue desarrollado para proveer a académicos e investigadores legislativos las herramientas necesarias para analizar la narrativa en debates legislativos de este tipo. Sin embargo, el NPF no ha sido aplicado de forma sistemática a narrativas centradas en riesgos y desastres. Este estudio analiza la cobertura de los medios a dos casos de incendios silvestres en Colorado, U.S., para comprender la evolución de la narrativa legislativa y especial atención a tres variables fundamentales del NPF: problemas por políticas, soluciones, y personajes. Los resultados indican que la narrativa sobre desastres es diferente a otros problemas de política en formas vitales de entender a medida que la literatura del NPF se aplica y refina.

Palabras Clave: Marco Teórico de Narrativa Política, Analisis de Politicas de Incendios Silvestres, Comunidades de Colorado Communities, Cambio Climático, Riesgos y Desastres Naturales, Cambio de Politicas.

不论是由于气候变化、风险多发地区的人类发展，还是造成弱点的其他因素，全球社区都面临着危害风险—这些危害会导致灾害，影响人类生计。一些危害成为了焦点事件，它们能促使相关研究寻求解决措施，对付灾害带来的政策问题。叙述性政策框架（The Narrative Policy Framework，简称NPF）曾为政策学者提供工具分析叙述在政策辩论中充当的角色。然而，NPF 还未被系统性地应用到描述危害和灾害的叙述中。本文检测了美国科罗拉多州发生的两起灾难性野火的媒体报道—用以理解随时间变迁而不断发展的政策叙述，同时特别留意了三大重要NPF变量：政策问题、解决措施和特征。研究结果表明：正确理解灾害叙述与其他政策问题所存在的不同点对于学者应用和改进NPF 十分重要。

关键词：叙述性政策框架，野火政策分析，科罗拉多州社区，气候变化，自然危害和灾害，政策变化。

Whether due to climate change, human development in risk-prone areas, or other sources contributing to vulnerability, many communities face risk from hazards such as floods, wildfires, and hurricanes that can lead to disasters that impact human livelihoods. Some disasters may become focusing events that can catalyze a search for solutions to the policy problems uncovered by the disaster (Birkland 1997, 2006). Decisions to respond to these problems by government bodies, however, are dependent on several factors, including the policy narratives told within communities. Policy narratives are stories told by policy actors that help define policy problems or advocate for policy solutions (Jones and McBeth 2010; Jones, Shanahan, and McBeth 2014; Shanahan, Jones, and McBeth 2011).

The Narrative Policy Framework (NPF) was developed to provide policy scholars with the theoretical and empirical tools to analyze the role of narratives in the policy process (Jones and McBeth 2010; McBeth, Shanahan, and Jones 2005). The NPF, however, has not been systematically applied to narratives surrounding hazard and disaster policy issues, a topical area that is increasingly gaining traction in policy studies research globally. Policy scholars have demonstrated differences between policy responses to disasters and those to other societal problems (Birkland 1997, 2004, 2006); however, more research is required to fully understand the reasons underlying these differences, an area that could be illuminated in part through applications of the NPF to disaster policy issues.

The following study examines media coverage from two cases of catastrophic wildfires in Colorado in 2012 to understand the evolving policy narratives surrounding wildfire disasters. The analysis focuses on several elements that are often contained within a policy narrative and considered to be important for measuring and studying policy narratives: (1) problem definitions, (2) the moral of a story, or policy solution, and (3) characters (Jones, Shanahan, and McBeth 2014). The goal of this study is to gauge the utility of the NPF in analyzing hazard and disaster policy issues by applying it to media coverage of wildfire, and, furthermore, to determine if and how the NPF needs to be refined for these policy contexts. Therefore, this article contributes to broader policy process scholarship both by expanding NPF theory and empirical analyses and by tackling questions relevant to scholarship on strategic policy actors and the role they play in defining problems and solutions. Simultaneously, this study contributes to media studies scholarship by connecting media analysis to policy-relevant questions, which we hope brings these two bodies of scholarship into more explicit conversation to answer questions about the role of media in the policy process and also the usefulness of media content as a data source for policy scholarship.

The findings of this study indicate that narratives concerning disasters are different than narratives concerning other policy issues in two important ways. First, the type of policy narratives used by policy actors and the narrative

elements contained therein may be related to the phases of the disaster cycle. As a result, we suggest that disaster policy narrative analyses must consider the element of timing when assessing the emergence of such narratives and the ways in which policy problems are subsequently defined through them. Second, regarding the types of characters present in narratives, the disaster narratives we analyzed contained a greater number of heroes and nonhuman actors as compared to policy narratives in other issue areas (see e.g., Crow and Berggren 2014; Jones 2010; Shanahan *et al.* 2013). The effects that these different types and frequency of characters may have on constraining or promoting policy dialog in disaster-affected communities is therefore also important for NPF scholars to consider when analyzing disaster policy narratives. These findings indicate that the NPF is indeed a useful tool for understanding policy making in a disaster context, but also that scholars should consider the differences presented in this article when undertaking such applications of the framework.

This article first presents the literature relevant to understand the NPF and its role in expanding our understanding of policy processes, followed by a discussion of the hazard and disaster policy-making context. Research methods will then be described in detail, followed by the literature and findings relevant to each narrative element assessed here.

The Narrative Policy Framework and Policy Scholarship

The NPF was developed from the perspective that narratives are important but seldom empirically tested in policy scholarship, and that they hold potential for illuminating dynamics, beliefs, and actor behavior within the policy process (Jones 2010, 2013; Jones and Jenkins-Smith 2009; Jones and McBeth 2010; McBeth and Shanahan 2004; McBeth *et al.* 2007; Shanahan, Jones, and McBeth 2011; Shanahan, McBeth, and Hathaway 2011; Shanahan *et al.* 2013). Narratives are considered an essential part of human communication, particularly regarding how we attempt to persuade one another or to influence processes, such as those in policy decision making (Crow and Lawlor 2016; Jones and McBeth 2010; Jones, Shanahan, and McBeth 2014).

The NPF focuses on three levels of analysis: micro, meso, and macro. Typically, micro-level analyses focus on the influence of narratives on public opinion and employ experimental survey methodologies, often experimental, to gauge how an audience is swayed by various policy narratives (Shanahan *et al.* 2013). In the case of hazards and disasters, micro-level studies may focus on individual-level risk mitigation behavior¹ and whether narratives related to such risks influence it. Meso-level NPF scholarship is typically characterized by studies using content analysis to assess the nature and impact of narratives that

¹ For example, in the case of wildfire, this behavior may include wildfire mitigation on private property such as clearing brush and trees or replacing shingles on homes with fire-resistant materials.

are strategically employed by coalitions of actors advocating for particular policy outcomes. This latter level of application of the NPF has been the most frequently explored to date (Jones, Shanahan, and McBeth 2014; Shanahan *et al.* 2013). In natural hazards and disaster studies, meso-level analyses may assess the narratives surrounding community-level policy decisions in the wake or in advance of disaster. Finally, the macro-level of NPF analysis focuses on how narratives at the institutional or societal scale shape policy outcomes and processes. This scale has yet to be extensively explored (Jones, Shanahan, and McBeth 2014), but within disaster issues, it may focus on the broader understandings that communities and society have regarding humans' relationship to hazard risk and mitigation. The study presented here focuses on the meso-level to understand how wildfire disaster narratives presented in the media may contribute to community policy debates surrounding hazards and disasters.

Elements of a Policy Narrative

The NPF literature outlines several potentially important elements of a policy narrative. First, the setting is the situation where the policy conflict takes place and may include evidence (e.g., number of acres burned in Colorado by wildfires in a given year) or descriptions of the context (Jones, Shanahan, and McBeth 2014). The narrative elements which are the focus of this study and are considered central to NPF analyses (Jones and McBeth 2010), include: (1) a plot, which we define as the recognition or definition of a *policy problem*; (2) the *policy solution*, or "moral of the story;" and (3) *characters*, categorized as heroes, victims, and villains (Jones, Shanahan, and McBeth 2014, 5). A policy narrative may or may not include all of these elements, but at a minimum should have a defined character and a mention of a policy issue or problem, which may also be called a policy referent (Jones, Shanahan, and McBeth 2014; Shanahan *et al.* 2013).

Although a narrative may include several or all of these elements, note that "many narratives are not constructed or disseminated with policy-relevant intent, while others are explicitly created for strategic purposes by policy actors to persuade or affect change" (Crow and Berggren 2014, 133), and therefore may appear more or less "complete" (i.e., imperfectly constructed) when analyzed by NPF scholars. In the case of narratives that appear in media sources, which are used in this study, both policy and nonpolicy purposes of narrative construction are important to consider. For example, a local newspaper at the time of a disaster will focus on immediate impacts and response, as well as provide information of immediate importance to the community, such as evacuation protocol. Once the community has transitioned from disaster response to recovery, however, the media may act as conduits for advocacy coalition messages or may curate messages from multiple sources or provide their own editorial stances as contributors to policy dialogue (Shanahan *et al.* 2008). During this latter phase of narrative construction, media may be more likely to cover

policy responses or solutions and to use characters to advance specific issues in a way that aligns with their editorial agenda. While media coverage in the wake of a disaster may therefore seem more relevant to assessing policy narratives surrounding a disaster, the way in which initial information is presented about a disaster may affect how policy solutions are eventually presented.

Applying the Narrative Policy Framework in Disaster Policy Contexts

Existing NPF research has frequently focused on environment—or energy-related—policy issues (Pierce, Smith-Walter, and Peterson 2014). Pierce, Smith-Walter, and Peterson (2014) found 19 peer-reviewed articles and book chapters that applied the NPF, with 17 primarily focused on environmental topics, such as climate change, hydraulic fracturing, restoration in the Florida everglades, land management, recycling, and wind energy (see also Jones 2014; Jones and Song 2014). More recent publications have applied the NPF to an increasing diversity of topics and geographic contexts, including city planning in Korea (Park 2014),² the translation of conservation science into policy in the United Kingdom (Lawton and Rudd 2014), and education policy in Thailand (Nakyam 2014). Despite the growing scholarship on the theory and practice of the NPF, it has been used only minimally to analyze the narratives around hazards and disasters (Crow *et al.* 2016). Applying the NPF to hazard and disaster policy will help scholars test its applicability in this growing field of policy research and aid scholars who seek to understand the narrative dimensions of disaster policy making.

Hazards and disaster scholarship indicates that we should see somewhat different patterns of policy narratives in disaster policy subsystems, particularly in terms of when and how the coalitions that shape these narratives mobilize (Birkland 2006). Disasters that attract attention of policy elites and the public are referred to as *focusing events*, which have the potential to function as catalysts leading to policy learning and policy change (Birkland 1998). Focusing events can “lead interest groups, government leaders, policy entrepreneurs, the news media, or members of the public to identify new problems, or to pay greater attention to existing but dormant problems, potentially leading to a search for solutions in the wake of apparent policy failure” (Birkland 1998, 55). Since focusing events may increase attention to policy problems, coalitions of actors seeking change may use them as an opportunity to actively mobilize in support of their preferred policy solution. As such, these groups may advocate for their preferred solutions to reduce vulnerability to hazards and, by extension, the impacts of future disasters.

² This journal article is published in Korean, and therefore the English-language abstract was used as reference for this literature review.

However, such coalitions do not typically form immediately following a disaster but rather much later in the policy debate (Birkland 1998, 2006). This delay in the emergence of advocacy coalitions in a disaster policy debate is likely due to the critical emergency response phase that immediately follows disasters (Petak 1985). Due to sensitivities toward victims of disasters as well as more immediate concerns of life and safety, policy processes and conflicts are muted as political actors delay their policy advocacy strategies (Birkland 2004, 2006). However, as communities progress through the “disaster cycle,” which may include subsequent phases such as recovery, preparedness, and mitigation (Petak 1985), patterns in coalition activity may change (Birkland 2004, 2006). Additionally, Birkland (2006) argues that many disaster policy issues are dealt with in a technocratic manner, meaning that there may not be active coalitions of advocates working toward policy change; instead, decisions are made by experts and specialists in emergency management.

Similarly, policy entrepreneurs, as conceptualized by Kingdon (2003), may also seek to influence the nature of a disaster policy debate through narrative construction. These actors devote effort, resources, and expertise to promoting policy change in their preferred direction, often by attempting to link ready-made policy solutions with emergent policy problems. Policy entrepreneurs may do this by strategically defining a focusing event, the disaster, as a problem with a specific cause. Because the definition of a policy problem is powerfully related to the solutions chosen to address the problem (Kingdon 2003), policy entrepreneurs with convincing narratives may be more successful in promoting their preferred solutions to a problem. However, these actors may be subject to some of the same constraints faced by coalitions in their attempts to influence the disaster policy process, such as the desire to be—or appear—sensitive toward victims in the immediate aftermath of a disaster.

Based on the discussion presented above, dissemination of policy narratives is not guaranteed within a disaster policy context. Due to the unique attributes of disaster policy processes discussed, we cannot assume that advocates will promote their own policy narratives, nor can we pinpoint when they are most likely to emerge. Yet prior literature suggests that these types of policy actors may be important in certain disaster contexts and that various strategies such as narrative construction may be similarly effective as in other policy domains. To better understand these relationships, we use local media coverage to capture narratives present within local communities surrounding wildfire disasters to determine if policy narratives emerge in these disaster cases and when they are most likely to be present. We then analyze the narratives to understand their possible use by policy actors. Next, the research methods used in this study will be presented, followed by a presentation of the literature, findings, and discussion for each of the three policy narrative elements analyzed: problems, solutions, and characters.

Research Methods

This study analyzed local news media coverage focused on two of Colorado's most catastrophic wildfires, both of which began in June 2012 in the foothills outside of major municipalities: (1) the High Park Fire near the city of Fort Collins; and (2) the Waldo Canyon Fire, which burned into the city limits of Colorado Springs. The High Park Fire burned 87,284 acres, destroyed 259 homes, killed one person, and cost an estimated \$113.7 million in insurance claims. The Waldo Canyon fire began less than three weeks later, killing two people, burning 18,247 acres, destroying 347 homes, and costing more than \$450 million in insurance claims. Each fire was considered the most destructive fire in Colorado's history when it burned.³ Using media coverage of two fires as the selection criteria for this study allows us to incorporate narratives that apply to multiple events within the same time frame and media landscape. Moreover, when two catastrophic fires are burning within a single state in the same summer, we anticipate the potential for more policy discussion, potentially accelerating the emergence of policy narratives.

To account for absent or delayed action by policy actors in the immediate aftermath of a disaster, and to allow for an analysis of narratives through multiple phases of the disaster cycle, we use newspaper media analysis for this study. We acknowledge that using media as a data source can be only partially successful in analyzing policy narratives generated by groups of policy advocates due to journalists' and editors' mediating effects. We argue, however, that for disasters, using media is essential to understand how policy narratives emerge and evolve over time. In fact, media may be the only source for studying disaster policy narratives as they emerge because advocacy coalitions or policy entrepreneurs may not yet be issuing press releases or white papers with their positions—the sources typically used by NPF scholars to analyze policy narratives. We therefore refer to our data as “articles” rather than the more common “policy narratives” when describing each piece of written communication, because we cannot assume that they all are, in fact, fully fledged policy narratives. Details concerning the presence of policy narratives in the broader dataset are provided below.

Newspaper articles were collected from the local newspapers in Colorado Springs (*The Gazette*) and Fort Collins (*The Coloradoan*), and from Colorado's statewide newspaper (*The Denver Post*). The sampling time frame was constructed to capture news coverage before, during, and after the June 2012 fires to account for possible changes in narrative content that result from different

³ Both fires were surpassed in June 2013 when the Black Forest Fire killed two and destroyed nearly 500 homes northeast of Colorado Springs.

time periods of disaster coverage.⁴ Articles were selected from January 1, 2012, through one-year postfire. In Fort Collins this was June 8, 2013, and in Colorado Springs it was June 22, 2013, from the aforementioned three newspapers in Colorado. The search terms, newspapers, and article counts are included in Table 1. A total of 1,847 stories fitting the search terms were downloaded using ProQuest (*Denver Post*) and directly from online newspaper archives (*The Gazette* and *The Coloradoan*). Articles that did not focus primarily on wildfire and those that were not written in a narrative format (i.e., lists, bulletins, and so forth) were removed from the dataset. A total of 876 articles were analyzed for this study, accounting for both state and local coverage and a daily circulation of over 500,000 readers.

While using newspapers as data sources cannot measure the full variation of narrative content across the diversity of media sources, reliability of archived data by newspapers is far higher than digital media and television, and far less expensive than television where stations can charge hundreds of dollars per hour of newscast to provide archived content. Additionally, research on inter-media agenda setting suggests that newspapers are a reliable source for studying the content of local media due to the tendency for television to “follow” newspaper coverage within the same market (McCombs 2004, 2005).

Six researchers coded the news articles using a codebook adapted from one that was developed using the structure of the NPF (Heikkila *et al.* 2014). The codebook measured the three major narrative elements described above: presence and definition of a policy problem, proposed solutions to the problem, together with presence and type of characters. Coders followed a standard set of instructions to foster intracoder and intercoder reliability (Krippendorff 2004). The coding team established intercoder reliability using a random subset of articles (10.3 percent of total articles) wherein agreement reached 66 percent ($\alpha = .44$)⁵ for proposed policy solutions to 100 percent ($\alpha = 1.0$) for presence of a policy problem. The coded data were then analyzed using SPSS statistical software as appropriate (IBM Corp., New York, NY). Qualitative data related

⁴ Wildfires may be distinct from other disasters due to the predictable nature of wildfire season in much of the western United States. Wildfire risk is also increasing beyond the western United States, so these issues are not unique to a single region, but rather speak to the difference between predictable and unpredictable disasters. To account for this difference, conducting similar analyses in other topical contexts would be a next logical step.

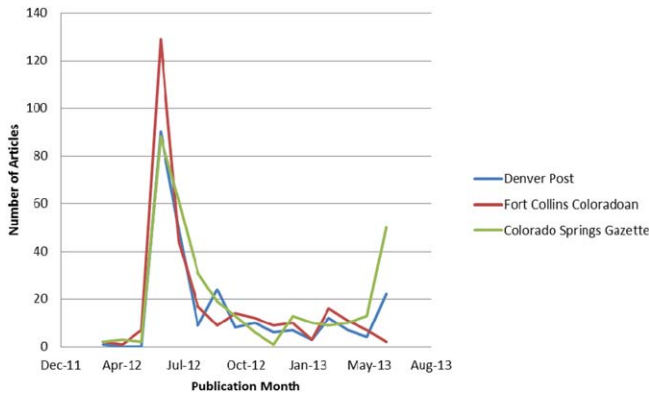
⁵ While there is only a moderate level of agreement for our “solutions” variable, this level of agreement is acceptable to explore the coarse similarities and differences between disaster/hazards policy issues and broader policy issues analyzed using the NPF. We caution against using our solutions measure to compare within the solutions category since “type of solution” is the area most in need of improvement under our coding scheme. Krippendorff (2004) suggests that studies of emergent concepts and ideas can use such measures with caution, but that scholars should continually work to refine codes, definitions, and procedures to increase intercoder reliability. The Krippendorff’s α measure is one such mechanism to increase rigor because it is a much more difficult level of reliability to attain than percentage agreement or Scott’s pi, two other common approaches to measuring intercoder reliability.

Table 1. Newspaper Article Dataset and Search Criteria

Newspaper	Circulation	Keyword Search Criteria	Article Counts			
			Nonfire Season	Borderline Fire Season	Fire Season	Total ^a
<i>Colorado Springs Gazette</i>	64,394 daily	Prefire: fire mitigation, fire prevention, fire management, fire risk Postfire: Waldo Canyon, Waldo Wildfire, Colorado Springs Wildfire	43	39	249	331
<i>Fort Collins Coloradoan</i>	28,501 daily	Prefire: fire mitigation, fire prevention, fire management, fire risk Postfire: High Park Fire, Fort Collins Wildfire	48	44	201	293
<i>Denver Post</i>	416,676 daily	Inclusive of above terms	34	24	194	252
	509,571 daily	Total	125	107	644	876

Note: Search dates: January 1, 2012 to June 8, 2013 (High Park fire = Fort Collins Coloradoan and Denver Post) and January 1, 2012 to June 22, 2013 (Waldo Canyon Fire = Colorado Springs Gazette and Denver Post).

Figure 1.
Coverage over Time by Newspaper



to the “problem definition” variable and character types were analyzed by hand and focused on the topic of policy problems presented in the articles as well as the names and categories of characters.

In the analysis presented below, we investigate the timing of each of these narrative elements and have therefore broken the annual wildfire cycle into three “seasons:” borderline fire season, March to May; fire season, June to September; and nonfire season, October to February. Figure 1 depicts the timing of wildfire coverage broken down by the three newspapers included in this analysis. As Figure 1 illustrates, no single newspaper source dwarfs the others, therefore allowing us to combine the data from multiple sources into a single dataset without compromising the integrity of any single data source. The policy narrative analysis presented below analyzes this entire dataset, frequently breaking down the data by fire season.

The fire “seasons” used in our study map roughly onto the disaster cycle mentioned above: borderline fire season equates roughly to the *preparedness* phase of the disaster cycle, fire season is the season within which the two case study fires burned and emergency *response* was conducted, and nonfire season is the disaster *recovery and mitigation* phases of the cycle (Petak 1985). The limitation of using the wildfire seasonality, as described here, is that the recovery/mitigation phase of the disaster cycle is shortened as communities prepare for the next wildfire season. Ideally, scholars would assess recovery over a period of multiple years following a disaster to fully capture recovery from a single wildfire.

Findings: Policy Narratives in Wildfire Disasters

Drawing from prior NPF studies in other topical policy areas, this study analyzes policy narratives surrounding the two wildfires described above,

focused on the use and definition of policy problems, solutions, and characters. The relevant NPF literature, research findings, and discussion of each narrative element are presented next.

Policy Problems

Central to a policy narrative is the discussion or acknowledgement of a policy issue or problem (Shanahan *et al.* 2013). The identification of this policy issue or problem is essential for establishing the plot and setting of the narrative and is an important element for beginning to analyze and understand the narrative (Kingdon 2003). Crucially, the definition of a policy problem can narrow the scope of proposed policy alternatives or solutions. Recognition of a policy problem is also vital for simply acknowledging that a problem may be solved through human endeavor, including policy making. Because of their central importance to structuring the narrative, the policy issue or problem definition is what we use below to determine the primary narratives told in the media dataset analyzed here.

Policy problem definitions often call for some policy change or transformation (Stone 2011). These definitions, per Stone (2011), are shaped and measured by various symbols, numbers, causes, interests, and decisions. Symbols can include stories to help understand the problem⁶ whereas numbers can include specific measurements of the impacts of the policy problem.⁷ The cause of a policy problem can range from intended and guided actions, such as arson, to unintended and unguided actions including lightning strikes, and is important for shaping how the problem is explicitly defined. In the context of hazards and disasters, we would expect that myriad problems may exist, not all of which may be policy relevant. Furthermore, which policy problems are most salient may vary based on the time since the disaster struck.

An important consideration when examining a policy problem within a policy narrative is who is defining that problem and for what reasons. As will be discussed in more detail below, characters are essential elements in a narrative, and the actors working to strategically construct narratives often portray themselves as heroes within narratives (McBeth *et al.* 2010; Shanahan *et al.* 2013). Often, the characters defining the problem do so with a particular policy solution in mind, something we would expect from policy entrepreneurs as discussed above, and they therefore may be creating a narrative to advocate for a specific policy goal (McBeth, Shanahan, and Jones 2005; Stone 2011). As Stone (2011, 247) notes, “In confronting any definition of a policy problem, the astute analyst needs to ask how that definition defines interested parties and stakes, how it allocates the roles of bully and underdog, and how a different definition would change power relations.” As such, how a problem is defined, who is

⁶ For example, a story of increasing wildfire risk in the western United States.

⁷ For example, the number of homes burned from wildfires in the western United States.

defining the problem, and the timing of the problem definition are all important elements of a policy narrative.

Presence and Definition. Our analysis found that just under half of the articles in the dataset defined a policy problem (N = 386, 44 percent).⁸ Policy problem definitions in this dataset ranged from short-term problems such as inadequate air tankers to suppress or control a wildfire, to medium-term problems such as homeowners' insurance payouts being insufficient for victims to rebuild their homes, and to long-term problems such as addressing an increasing risk of wildfire throughout the state. As Lybecker and others (2015) successfully articulate in their work, we used the problem topic/definition code to articulate the most frequently presented narratives from the dataset. The three dominant wildfire policy narratives were: (1) *lack of adequate resources to fight wildfires on the part of government agencies, putting homes and people at risk*, (2) *problems with wildfire insurance and the difficulties of homeowners in rebuilding and filing claims*, and (3) *an overall increased wildfire risk associated with either human causes such as climate change and development or natural causes such as prolonged drought*. Beyond these dominant narratives, there were important nuances within each category that will be discussed below.

Problems related to the lack of firefighting resources specifically included issues related to the inadequate size of the state's air tanker fleet, a reduction in the amount of money allocated toward wildfire fighting, and an insufficient number of personnel on the ground fighting wildfires. Problems with insurance specifically included insufficient insurance payouts for homeowners to rebuild, a lack of homeowners' understanding of their insurance policies before and after a wildfire, and a complex claim submission process that was difficult for homeowners to complete. Finally, problems related to increased wildfire risk most commonly included climate change and increased residential growth in the Wildland Urban Interface (WUI; where human development and fire-prone landscapes intermix). Many articles that defined the policy problem as climate change noted that its subsequent impacts are going to increase the number and severity of wildfires, and emphasized that an increasing number of people living in the WUI further exacerbates wildfire risk.

With regard to the actors defining policy problems, we coded for the presence of a problem as well as the actor name/category of the person or organization defining the problem. Across all fire seasons, actors categorized as heroes were the most common character to define a problem, as illustrated in Table 2, and most of these heroes were elected officials. When actors characterized as victims defined a problem, these were primarily citizens or homeowners (84.4

⁸ More than this number may have had a simple "policy referent" as required by the NPF, which will be discussed below, but we coded for clearly defined policy problems.

Table 2. Actors Presenting Problems across Fire Seasons

Character	Example	Problems Defined by Characters		
		Nonfire Season	Borderline Fire Season	Fire Season
<i>Hero</i>	Senator Mark Udall, Larimer County Sheriff	25% (17)	34.5% (20)	18% (47)
<i>Villain</i>	Insurance companies, elected officials	2.9% (2)	0% (0)	1.1% (3)
<i>Victim</i>	Residents, homeowners, emergency responders	11.8% (8)	13.8% (8)	11.1% (29)
<i>Other</i>	Academics, health officials	14.7% (10)	10.3% (6)	14.9% (39)
<i>N/A</i>	Editorial board, academics, unidentified ^a	45.6% (31)	41.4% (24)	54.8% (143)
	Total	100% (68)	100% (58)	100% (261)

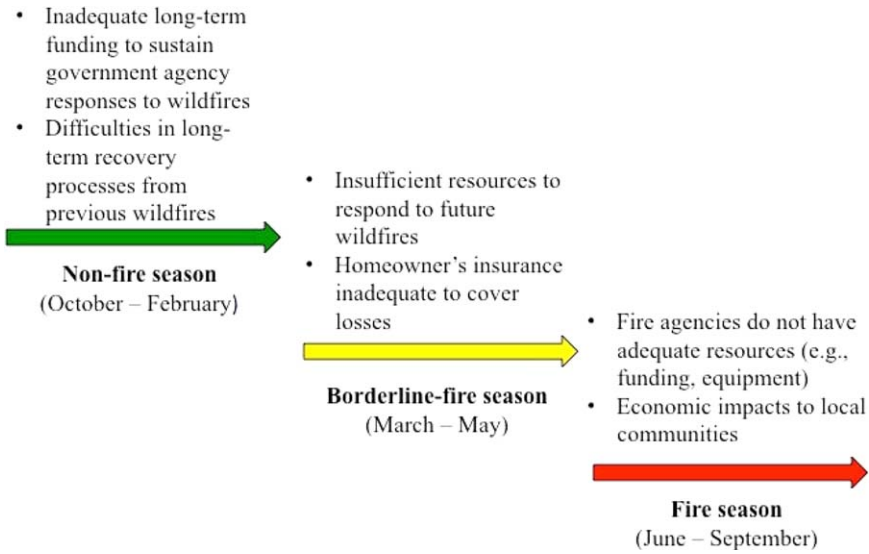
Note: ^aN/A was used as a category when the person defining the problem was not used as a character within an article, but rather solely as a source of information in the article.

percent of victims who defined problems). These dynamics will be further examined in the discussion of characters below.

Problem definition presence and type also varied depending on the publication timing of the article, specifically whether it was during non-wildfire season (October to February), 53.6 percent of articles define a problem (N = 67); borderline wildfire season (June to September), 40.5 percent of articles define a problem (N = 261). As a previously published analysis reported (Crow *et al.* 2016), correlation results demonstrate a relationship between fire seasonality, 1 = nonfire season, 2 = borderline fire season, 3 = fire season, and the presence of a policy problem, $-.110$, $p < .01$. Policy narratives, as expected, are more likely to focus on response and recovery during fire season, but are less likely to include a defined policy problem.

Not surprisingly, the most common policy problem definition during the wildfire season was *the lack of adequate resources available to agencies* to fight wildfires. Another common problem definition during the wildfire season was an overall increased wildfire risk from climate change and increased development in the WUI. It is important to note, however, that despite the occurrence of this problem definition (overall increased wildfire risk) during the wildfire season, the majority of these narrative problem definitions that were published after the 2012 wildfires had already been controlled or extinguished. In other words, once the initial response period ended, the context of policy problems that began to emerge in narratives was situated more broadly. One type of problem that was only found during the wildfire season was that of negative

Figure 2.
Problem Definitions across Disaster Timeline



economic impacts from wildfire for the impacted communities. This was often expressed as an impact to local businesses from reduced tourism, as well as declines in property values and tax revenue. Figure 2 depicts the major categories of problem definitions over the wildfire seasons as defined above.

During the borderline wildfire season, *the problem of inadequate government agency resources to fight wildfire* was also common and typically associated with the perception that the size of Colorado’s air tanker fleet is too small to handle wildfires. Almost as common during this time period were problem definitions associated with homeowners’ wildfire insurance, a majority of which described insurance as inadequate to cover homeowners’ losses. Two other common problem definitions include inadequate mitigation before a wildfire and negative impacts to watersheds following wildfires, mainly in terms of water quality and supply.

During the non-wildfire season, *inadequate government agency resources* was again the most common problem definition, but with a focus on more systemic and long-term resource problems such as specific funding legislation and sustaining government funding of the management agencies that deal with wildfires. A common problem definition that was present in non-wildfire season was difficulty related to long-term recovery processes from previous wildfires. This included problems with funding, infrastructure, and municipal services.

Discussion: Problems in Disaster Narratives. The depiction of policy problems related to these wildfires varied according to the timing of the article, as articles published during the fire season were less likely to present problems than those articles published in borderline and nonfire seasons. The differences in problem type are also important to consider in terms of potential policy responses and solutions. During the wildfire season, the majority of problem definitions identified a lack of government agency resources, for fighting wildfires, as the major hurdle. However, there was also some discussion during the wildfire season of broader policy problems associated with increased wildfire risk, climate change, building homes in risk-prone areas, and similar long-term problems, although this typically occurred once wildfires were extinguished. Depending on the methods used to study disaster narratives, and particularly the time frame of the dataset constructed, scholars may miss some of these longer-term problems that are important to evolving policy narratives but are vastly outnumbered by more acute emergency response problems.

Certain problem definitions that are otherwise important to policy debates may also get lost in nonfire season due to lower levels of media attention to wildfires overall. As noted above, many of the problem definitions identified during the nonfire season included long-term issues, such as difficulties in long-term recovery processes and inadequate sustained funding. If these systemic problems are most often discussed after a wildfire season has passed, scholars need to examine long-term datasets that draw from sources such as media to pinpoint the emergence of advocates and their narratives. To apply the NPF in disaster policy-making contexts, long-term analysis may be necessary to fully understand the evolution of disaster policy narratives.

The moral of the story in a policy narrative provides a policy solution and was considered an essential part of a policy narrative in early NPF research (Jones and McBeth 2010; Shanahan, McBeth, and Hathaway 2011; Shanahan *et al.* 2013; Stone 2011). A policy solution is “a prescription to the identified policy problem being addressed by the narrative” (Shanahan *et al.* 2013, 467). Solutions act as guides within stories and “offer direction for the purpose of mobilization” (McBeth *et al.* 2012, 177). According to Jones (2013, 8), “for a policy narrative to officially move beyond critique or argument, it must culminate in a solution that seeks to somehow control the policy outcome.” In cases where a policy narrative does not include a solution, the goal of the policy narrative may differ—it could focus on “the uncertainty of a piece of evidence” or it could specify a problem for which a solution is needed (Jones, Shanahan, and McBeth 2014, 7). Because solutions are frequently missing from narratives, they are no longer considered essential to defining a policy narrative. Based on their importance as articulated here and in the literature above, however, they are included in our analysis.

Policy solutions are often offered by coalitions of policy actors or by policy entrepreneurs working toward a policy goal and can therefore guide scholars to

understand the advocacy positions interested actors may hold. However, these actors rarely provide empirical or scientific evidence to support their solutions (Shanahan *et al.* 2008, 2013). Previous NPF research demonstrates that “evidence-based decisions are not reflected in how policy realities are constructed” (Shanahan *et al.* 2013, 468). McBeth, Lybecker, and Husmann (2014, 45) suggest that environmental policy solutions, similar to other policy issues, go beyond their “scientific essence.” These issues and their solutions lead to conflict not because of the scientific validity of the issue itself but because these issues and their solutions pose a threat to “cultural, political, and social hierarchies” (McBeth, Lybecker, and Husmann 2014, 49). This provides space for policy entrepreneurs and advocacy coalitions to use emergent problems to advocate for their preferred policy solutions, routinely capitalizing on focusing events to promote policy changes that are consistent with their values and policy goals.

Policy solutions within a narrative are also relevant in the context of issue expansion and issue containment (Pralle 2006; Schattschneider 1960; Shanahan, Jones, and McBeth 2011). Advantaged or dominant groups attempt to contain issues by restricting participation in policy discussions and limiting the scope of conflict, while disadvantaged groups work to expand issues by widening participation to involve a greater number of actors who may help influence policy outcomes in favor of their policy goals. In the case of a policy narrative, the storyteller would seek to “contain or expand through the distribution of costs and benefits to the opposed policy solution” (Shanahan, Jones, and McBeth 2011, 544). According to Shanahan and others (2011), winning narratives tend to diffuse the benefits and concentrate the costs of a particular policy solution while losing narratives tend to concentrate the benefits and diffuse the costs of a particular policy solution. The presence of few policy solutions within a narrative tends to correspond with a stronger preference for the use of victims and villains as characters rather than heroes (McBeth *et al.* 2012). Typically, it is the hero who offers a solution to prevent harm to the victim (Jones 2013).

We expect, based on the disaster literature presented above, that policy solutions presented in narratives may not be as prevalent during wildfire season when emergency response may take precedence. Rather, solutions may emerge in the months after emergency response has concluded, during the disaster recovery phase of the disaster cycle when coalitions of advocates and policy entrepreneurs are also more likely to emerge. We also investigate whether the types of solutions presented—regulatory, information based, market based, and so forth—vary over time as sensitivities to emergency response and victims of disaster may fade and problems potentially begin to focus on longer-term issues. Finally, we assess whether the same character-solution connections are present in the wildfire case as in prior NPF studies where hero narratives are more likely to present policy solutions.

Policy Solutions

Of the articles that identified a problem (N = 386), the majority also included a proposed solution (N = 303, 78.5 percent). We coded articles for policy solutions that corresponded with a wide range of potential beliefs concerning the appropriate government intervention to solve policy problems—increased regulation, less regulation, *status quo*, and so forth; see Table 3 for complete list. However, there were no dominant categories of solutions presented in the dataset used in our analysis. When a solution was present, the most common solutions proposed included: (1) a call for new or additional regulation or action by a government agency (18.1 percent), (2) a call for other solutions⁹ (11.4 percent), (3) a call for increase in funding (10.6 percent), (4) a call for additional legislation (9.8 percent), and (5) a call for providing residents and homeowners with more information (9.1 percent).

Table 3 illustrates the policy solutions attached to the policy problem presented in a given article. Fire season articles contained the highest number of both problems (261 articles with problems identified) and solutions (201 articles with solutions presented), which is associated with higher levels of media coverage during fire season. As referenced in the section above, however, the problems identified during wildfire season are less likely to focus on policy problems beyond emergency response issues. While the presence of solutions does vary by wildfire season, we find that type of solution does not vary over time, with increased government regulation presented most commonly across all fire seasons, as indicated by the shaded cells in Table 3.

With regard to the characters proposing policy solutions, we find that articles containing solutions did not employ the hero character any more frequently than other characters.¹⁰ In the articles that present solutions (N = 303), 49.5 percent included a hero character, while villains were present in 51.8 percent (N = 157) and victims in 52.4 percent (N = 159). To statistically compare these character types, we analyzed whether the three character portrayals were differently associated with the presence of a solution in the article. Chi-square results indicate that the difference is significant for both heroes [$\chi^2(df = 1) = 16.51, p < .000$; Cramer's $V = .137$] and the villain characters [$\chi^2(df = 1) = 55.01, p < .000$; Cramer's $V = .250$], but not significant for the victim characters [$\chi^2(df = 1) = .394, ns$; Cramer's $V = .021$]. The hero and victim findings are consistent with prior scholarship that suggests heroes are more likely—and victims less likely—to be associated with solutions. The villain finding is not consistent with prior studies and suggests an area for further exploration in disaster narratives.

⁹“Other” solutions included such things as: personal actions—stay indoors, avoid exertion, curtail outdoor activity, stay out of the area; provide visitors with information; video surveillance; better media coverage; private company should coordinate cleanup; and so forth.

¹⁰This analysis does not focus on which character explicitly presented a solution, but rather whether the narrative contains different character types overall.

Table 3. Policy Solutions

Policy Solution Offered	Borderline Fire Season	Fire Season	Nonfire Season	Across All Fire Seasons
1 New or additional regulation or action by a government agency is needed	22.4% (13)	17.2% (45)	17.9% (12)	18.1% (70)
2 Legislation is needed to solve problem	15.5%	6.9% (18)	16.4% (11)	9.8% (38)
3 Less regulation is needed by government bodies	.0%	.4% (1)	1.5% (1)	.5% (2)
4 Implementation or enforcement of the existing laws needs to be improved	1.7% (1)	3.8% (10)	.0% (0)	2.8% (11)
5 Need more research or information	5.2% (3)	5.7% (15)	1.5% (1)	4.9% (19)
6 <i>Status quo</i> —existing rules, regulations, or administration are OK	12.1% (7)	6.1% (16)	4.5% (3)	6.7% (26)
7 Market solution is needed (e.g., insurance rates, and so forth)	.0% (0)	2.3% (6)	4.5% (3)	2.3% (9)
8 Action by a lower authority to a higher authority for a solution (such as CO lobbying the federal government)	1.7% (1)	2.3% (6)	1.5% (1)	2.1% (8)
9 Provide residents/homeowners, and so forth with more information (education/outreach)	5.2% (3)	10.3% (27)	7.5% (5)	9.1% (35)
10 Funding increases needed	12.1% (7)	9.6% (25)	13.4% (9)	10.6% (41)
11 Other: explain	10.3% (6)	12.3% (32)	9.0% (6)	11.4% (44)
12 No solution offered	13.8% (8)	23.0% (60)	22.4% (15)	21.5% (83)
Total	58	261	67	386

Discussion: Policy Solutions in Disaster Narratives. Our findings indicate that more than three-fourths of the total articles that identified a problem also offered some sort of solution, although the type of solution varied. The percentage of solutions has varied across prior NPF studies (McBeth *et al.* 2012; Shanahan *et al.* 2013). However, given that solutions are no longer considered an essential part of policy narratives, the higher number of policy solutions found here indicates that they may be an important narrative element in disaster policy narratives and this may be another area for further exploration. A higher number of solutions were also found during fire season itself, despite the fact that the most common focus during this season was primarily related to problems of emergency response. The articles we analyzed, then, do move from what Jones (2013) calls “critique” into an argument for a policy solution. Similarly, our analysis suggests that in the context of disasters, media may play the role of policy marketer (Shanahan *et al.* 2008) to the extent that media may in other policy domains. As a policy marketer, even if coalitions are absent during early phases of disaster response and recovery, media may serve the role of advancing policy problem definitions and solutions. The findings above also suggest that the use of media articles as a data source for disaster policy narratives can be fruitful in exploring the solutions proposed to disaster policy problems, even in the immediate aftermath of a disaster, including how solutions are connected to character types.

Characters

Characters are the third central element of policy narratives discussed in this article and are categorized as heroes, villains, and victims as outlined above. Essentially, “policy narrative battlegrounds are populated with rival heroes and villains, all of which are strategically positioned in plots designed to illustrate the harm done to one or more victims” (Shanahan *et al.* 2013, 462). Characters are one of the central components of narratives that can serve to persuade audiences. If an individual identifies with or is sympathetic to a character in a narrative, then the recipient (audience) is likely to find that narrative more persuasive (Jones, Shanahan, and McBeth 2014). In “wicked” or intractable policy issues, this structure may be especially prevalent, wherein policy actors attempt to depict themselves as heroes and their opponents as villains through the use of characters in policy narratives in an effort to garner support for their preferred policy outcome.

One character—the hero—appears most likely to persuade or influence opinions about policy issues. In a study of characters in climate change policy narratives, “the more respondents liked the hero, the more likely they were to believe climate change was real, that it poses a problem. . . the more likely they were to support the policy preference advocated for in the cultural narrative, and they reported being more willing to act upon those preferences” (Jones 2014, 649-50). Heroes may be particularly persuasive if they are local actors

within a local media context (McBeth *et al.* 2012). Other studies have found the presence of a “devil shift” in policy strategies (Sabatier, Hunter, and McLaughlin 1987), wherein coalitions frame their opponents as more evil and more powerful than themselves. In policy narratives that strategically use the devil shift, we see more villains and victims (McBeth *et al.* 2012) rather than the hero focus described above that is purported to exert more influence on the audience’s opinions.

Based on previous studies we, therefore, expect that characters may be central to elevating the importance of a discussion on policy responses to disasters, and that the presence of a hero may serve to persuade audiences to prefer policy solutions advocated by—or potentially just connected with—that character in a narrative. NPF scholars have debated the need for all character types to be *human actors* with agency—“agency” strictly referring to the character-type classification of heroes and villains—to cause or solve problems (Crow and Berggren 2014; Heikkila *et al.* 2014; Jones 2013; Shanahan *et al.* 2013), and some scholars have expanded the character typology beyond just the three primary characters to account for this agency attribute of characters (Weible *et al.* 2016). This debate may be important in the context of disaster policy narratives due to the potential of the disaster itself to be used as a character, which is explored below.

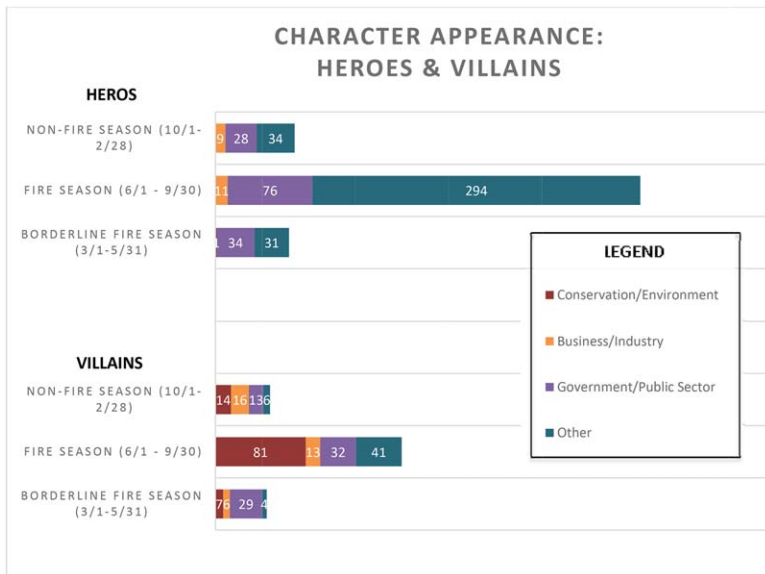
Heroes, Villains, and Victims. In line with previous NPF studies (Shanahan *et al.* 2013), heroes and villains identified in the database of articles have been subdivided into the following categories: business/industry, conservationist/environment, government/public sector, cultural/historical, and other. In this study, characters were present in 65 percent of the articles, meaning that many of the articles would not constitute a policy narrative under the definition employed by Jones, Shanahan, and McBeth (2014) wherein policy narratives require a problem referent and at least one character. A grouping of the various character types is included in Table 4.

Unsurprisingly for disaster narratives, wherein disaster response is the focus of much of the narrative activity (see Table 1 which indicates the majority of the articles were published during wildfire season), wildfire season articles contained the greatest number of all three character types, with heroes dominating character counts. This result is true, however, beyond just the wildfire season (Table 4 and Figure 3), with heroes dominating all of the articles analyzed here (67 percent of all characters). These heroes were largely first responders, such as firefighters or other emergency personnel. Moreover, the disaster itself (and sometimes, more broadly, Mother Nature) appeared as a frequent character. The disaster was always portrayed as a villain, even eclipsing arsonists and other human villains in the number of character portrayals. This indicates that in disaster narratives, it may be important to include the disaster itself as a character despite the fact that disasters do not possess agency as defined in human terms. Policy actors and the broader public may attribute power or agency to

Table 4. Grouping of Characters in Wildfire Policy Narratives

Grouping of Characters	Examples of Key Words	Victims	Hero	Villain
Anthropocentric	Homeowners, residents, fire victims, recreationalists, vulnerable populations, firefighters, pets/livestock, Governor, President, Mayor, firefighters	501	513	149
Economic	Business, economy, tourism, budgets, insurance	44	20	35
Environmental	Watersheds, wildlife, fish, forests, wildfire, blaze	26	5	102
Anthropocentric group identity	Colorado, community, U.S. Forest Service, city council, rescue crews, fire crews, hotshots, insurance companies	34	138	74

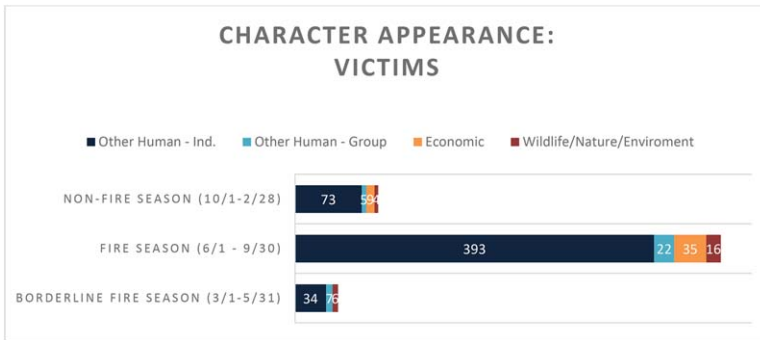
Figure 3. Heroes and Villains across Fire Seasons



the disaster, which has meaning in a policy process context with regard to how powerful policies are perceived to be in preventing future disasters. If fires or Mother Nature are conceptualized as all-powerful forces, this may inhibit the agency of policy actors in addressing the wildfire problem.

There are not clear coalition portrayals of characters concerning the practice of characterizing individuals as villains or themselves as heroes, as in the devil or angel shift, within any of the wildfire seasons analyzed here. While

Figure 4.
Victims across Fire Seasons



government actors are included as heroes (e.g., for coming to disaster scenes, comforting victims, sponsoring disaster relief legislation), they are limited to those elected officials who were in office at the time of the disaster, not those who are blamed or praised by coalitions or other policy actors. For example, the right-leaning *Colorado Springs Gazette* did not contain more critique of President Obama or Senator Udall—Democrats—than the other two newspaper outlets that are more moderate in their political leaning.

Victims were present in 65 percent (572) of the articles in our dataset, with most articles identifying only one primary victim. A second victim was included in the analysis if it was presented in tandem with the first victim and nearly equal weight was appropriated to both in the narrative. Victim inclusion occurred primarily during wildfire season (Figure 4). Victims were coded into the following categories, adapted from Shanahan and others (2013): nature/environmental, economic, and anthropocentric (here divided into individual humans and groups). Shanahan and others also included categories for biocentric and historical/cultural victims; however, these latter categories were not present in our dataset.

While other case study research on the NPF's character element has found that the environment is often cast as a victim, particularly in cases where human actions may potentially harm an environmental resource (Crow and Berggren 2014), human victims dominated the policy articles analyzed here. Media coverage focused almost exclusively on presenting an anthropocentric view of the impacts of fires, although economic and environmental victims were present as well. This is somewhat surprising given that in the cases examined here, there are severe impacts of wildfire on watersheds (which, by extension, could also have problematic implications for the water supply of nearby towns and cities), forests, wildlife, fisheries, and other environmental considerations.

Discussion: Characters in Disaster Narratives. Characters can be particularly persuasive narrative elements. In the articles analyzed in our dataset, emergency responders were the most prominent individuals, portrayed as heroes throughout. When this type of policy narrative is constructed, it may narrow the policy discussion to more operational problem definitions and solutions that directly affect these heroes (i.e., lack of firefighting resources) rather than the underlying wildfire hazard or disaster problems.

In some cases, the environment in the form of the disaster itself was cast as villain, which may be unique to the natural disaster narrative. As a result of this character portrayal, humans may be depicted as powerless and victimized by an uncontrollable and powerful environment. When this message is communicated through a policy narrative, it may be difficult to articulate a policy problem regarding residents' decisions to live in risk-prone environments or to advocate for policy solutions that involve investment in resource-intensive mitigation activities. It may be equally difficult to cast residents as both villain and victim for putting themselves at risk of a disaster that eventually harmed them, either by choice or unknowingly. This may constrain the policy debate and proposed policy solutions within wildfire-affected communities.

When analyzing the victim characters, the focus mostly on homeowners and other individual local victims may lead the audience to relate to these characters more, consistent with McBeth and others (2012) findings, and may make their narratives more compelling in policy debates. This may also serve to constrain the policy discussion around policies that help homeowners rebuild or recover, rather than on the more abstract and long-term problems related to wildfire or other hazards that communities face.

Based on the analysis presented here, if NPF scholars use the hero, villain, and victim categories as depicted in prior studies (Heikkilä *et al.* 2014; Shanahan *et al.* 2013), they may poorly categorize emergency responders and nonhuman nature such as the fire itself, and ignore residents, homeowners, and homeowner associations who all have agency in reducing the wildfire risk to themselves and their communities. In disaster narratives, therefore, it would be beneficial to add specificity to these character categories and to allow for multiple characterizations of the same actors. Specifying disaster characters may also help scholars understand if there are different connections between character portrayals and the presentation of policy solutions—akin to the hero-solution connection found by Jones (2013) and discussed above.

Agency of Characters. Because the idea of actor agency is important to determining who is considered a character in a policy narrative, a specific discussion is warranted here. The agency of actors is important to discussions of policy change in the aftermath of disaster events or in preparation for future possible disaster events. Depicting wildfire as a villain, as many of the articles analyzed here do, may remove agency from individuals, homeowners, and policy makers

to either solve or cause the problem. For example, if communities narrate disaster effects or risks from hazards as overwhelming and impossible to mitigate, then both individuals and governments may be less likely to undertake policy actions to reduce vulnerability. If the victims—whether they be individual people or communities—do not have agency to “fight” the powerful disaster/risk, or villain, then they may be less likely to attempt such solutions. This agency of characters should be explored further in micro-level studies of the NPF with a focus on individual responses to various character portrayals and corollary likelihood of individual risk mitigation from hazards or individual policy support for such actions, alongside meso-level studies that examine coalition and community-level responses in the form of policy action.

Further, Crow and Berggren (2014) found, in instances where there were clear “policy winners” and “policy losers,” that characters played a significant role in policy narratives, with heroes used by both sides to a high degree, and victims slightly less so. Furthermore, policy winners also employed the use of villains, most frequently industry actors. Because the villain here is often the fire itself, usual policy tools that may be leveraged to combat policy villains (e.g., litigation, regulation, and so forth) are not applicable. The portrayal of the disaster as a villain may therefore constrain policy discussions and may circumscribe solutions only to the categories of emergency response and physical risk mitigation. Furthermore, categorizing the wildfire as villainous creates a defenseless entity where heroes and victims may be further elevated in their character status. Further research may reveal evidence of the “angel shift” in disaster narratives, where actors, such as homeowners or governmental bodies, present themselves as the problem solvers facing the villain/problem to garner additional support for their preferred policy outcome (Shanahan *et al.* 2013).

Implications for Narrative Policy Framework and Natural Hazards Scholarship

The goal of this study is to apply the NPF to a disaster policy context and determine whether it is a useful framework for analysis, and if so, whether it needs to be modified to accurately analyze these important policy debates. Broadly, we find that the NPF can be useful in helping scholars understand how policy problems related to disasters are defined, if and when policy solutions are presented, and potentially what connections exist between various characters and the problems or solutions presented. The NPF may also be one way for scholars to determine how policy advocates may or may not emerge in disaster contexts.

Relevant to all of the narrative elements analyzed here—problem definitions, proposed solutions, and characters—the timing of narrative construction is crucial to consider when analyzing disaster policy narratives, as the NPF is difficult to apply to disaster contexts if we do not incorporate a temporal analysis. The different types of problems, solutions, and characters, as seen in the NPF literature, are evident in the wildfire data analyzed here. Yet we do not

typically see these narrative elements emerge immediately after the disaster, unless they are related to emergency response policy problems. However, if drawn out over longer time horizons, it is possible that we could see a clear emergence of coalitions or policy entrepreneurs that advocate for specific solutions to the long-term problems defined in the articles. We may also see such trends if we scale our analysis up and look at aggregated policy narrative data across time in a single state like Colorado, rather than at the local-level where policy debates may be focused on single events. Disentangling the temporal and scalar nature of disaster policy is particularly difficult in the wildfire context in the western United States, where disaster cycles frequently overlap—such as when a new wildfire begins while recovery from a previous fire is still ongoing—and policy responses are connected due to combined firefighting efforts at the federal level and multiscale jurisdictions during the emergency response phase of the disaster.

Conclusions

Hazards and disasters are important considerations for policy subsystems at all scales of governance. This is increasingly true as populations expand into risk-prone areas such as the WUI and floodplains, and as climate change and other factors increase the magnitude and frequency of future extreme events. Understanding the policy process in the hazard and disaster domains is important to assess the likelihood of policy change and adaptation to the risks posed by natural and man-made hazards. The findings presented here suggest that the NPF can be a useful lens through which scholars can analyze hazard and disaster policy processes, particularly if the differences from other policy contexts articulated herein are considered. More specifically, timing of disasters and character typology are important when conducting policy narrative analyses in these contexts. Including a nuanced understanding of disaster timing in disaster narrative analysis may help scholars better understand the role of advocates and strategies in disaster policy processes which, as articulated by Birkland (1997, 1998, 2004, 2006), is different from other policy domains. Similarly, using a character coding typology that accounts for the potential effects of the various heroes, villains, and victims on eventual disaster policy outcomes will be useful for scholars to incorporate as they attempt to apply the NPF to disaster policy.

In future studies, scholars should attempt to apply these findings to other hazards and disaster contexts, including natural, technological, intentional, and accidental, to understand if these findings are relevant to multiple hazard/disaster issues or if they are unique to the wildfire context. Moreover, the importance of timing in the findings indicates a dataset of policy narratives—even if some are not fully formed—that are drawn from the entire disaster cycle would be most useful in understanding policy narratives throughout the cycle and within each phase of the cycle. This would help to investigate the emergence of

coalitions of strategic-minded actors, including the timing of such policy-advocacy and the nature of the strategies employed. It would also help scholars determine if there is a separate policy narrative cycle that can be mapped onto the existing disaster cycle.

About the Authors

Deserai A. Crow is an associate professor in the School of Public Affairs at the University of Colorado, Denver. Her research interests include the role of stakeholders, information, and science in local and state-level environmental policy and disaster mitigation and recovery, particularly in the American West.

Lydia A. Lawhon is an instructor in the Masters of Environment Program at the University of Colorado, Boulder. Her interests include natural resources policy conflict in the American West, particularly related to the use of local knowledge in the policy process.

John Berggren is a PhD candidate in the Environmental Studies Program at the University of Colorado, Boulder. His research interests include institutional adaptation, decision-making processes, and sustainable and equitable water governance in the western United States.

Juhi Huda is a PhD candidate in the Environmental Studies Program at the University of Colorado, Boulder. Her research interests include Narrative Policy Framework and environmental policy, with a particular focus on stakeholder narratives in agricultural biotechnology policy.

Elizabeth Koebele is an assistant professor in the Department of Political Science at the University of Nevada, Reno. Her research focuses on issues of conflict and collaboration in environmental policy making and natural resource governance.

Adrienne Kroepsch is an assistant professor in the Division of Humanities, Arts, and Social Sciences at the Colorado School of Mines. She studies environmental and natural resources governance in the American West.

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