

2015

Roots Versus Wells: Grassroots Activism Against Fracking in New York and California

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Recommended Citation

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Roots Versus Wells:
Grassroots Activism Against Fracking
in New York and California

Shannon J. Leap

Submitted to Pitzer College in partial fulfillment of the degree of Bachelor
of Arts in Environmental Analysis

Readers: Professor Melinda Herrold-Menzies and Professor Char Miller

Submitted April 28th, 2015

Abstract

The reliance upon and depletion of fossil fuels as an energy source puts pressure on individuals, communities, energy companies, and policy-makers. Hydraulic fracturing – known colloquially as fracking – as a method of drilling for oil and natural gas temporarily alleviates this pressure since it allows for the extraction previously inaccessible fossil fuels in shale rock deposits deep beneath the Earth’s surface. This has resulted in a nationwide “fracking boom,” which has come with its share of economic benefits. However, the process of fracking can be detrimental to human and environmental health. In reaction to the increasing development of this practice, many communities across the country are mobilizing against fracking. This thesis will focus on the grassroots activism against fracking in New York, where fracking was banned in December 2014, and in California, which is largely slated as the next frontier for the expansion of fracking and thus battleground for the fight against fracking. Using grassroots academic literature, media coverage of fracking and activism in each state, and interviews from organizers working in each state, this thesis will examine the motivations, frameworks, strategies, and tactics used in each grassroots campaign in order to offer lessons in successes and opportunities for improvement within these anti-fracking efforts and others across the country.

Acknowledgements

This thesis would not be possible without the support, encouragement, love from my parents, both of whom work for social justice within their own lives and have instilled that passion in my own upbringing, education, and worldview.

My education at Pitzer College has also granted me the great privilege of learning from incomparable professors and peers, the ideas articulated with whom form the backbone of this thesis. This is especially true for the support, encouragement, and challenges I have been given from my readers, Professor Melinda Herrold-Menzies and Professor Char Miller, both of whom have a commitment to learning and questioning that is as contagious as it is challenging.

Finally, I would like to thank the four interview participants who all gave me their time and knowledge. We all benefit from their work and commitment in the anti-fracking movements in New York, California, and beyond.

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Introduction

On December 18, 2014, New York Governor Andrew Cuomo announced a statewide ban on high volume hydraulic fracturing. Though New York is not the first state in the union to ban hydraulic fracturing – a method of drilling for oil or natural gas that is more commonly referred to as “fracking” – it is the first with significant shale deposits of natural gas to do so. Governor Cuomo has thus set a precedent and example for leaders of drilled states across the country. With the Governor’s announcement came a series of waves: a wave of celebrations from “fractivists,” a wave of praises from the environmental community, a wave of support from health professionals, a wave of criticisms from industry representatives, a wave of secession threats from some border towns in the Southern Tier of Upstate New York, and, of course, a wave of questions. What is fracking? Where does fracking occur? How did Governor Cuomo ban fracking? Why ban it? What does this mean for the future of fracking in The United States? Though it may not be obvious, each of these questions has a common answer threading them together. This thesis will focus on that common thread, which is but one of the several factors that led to Governor Cuomo’s ban on fracking: the anti-fracking grassroots organizing efforts that bloomed from local community groups and spread statewide. Similar efforts have sprouted across the country in the last decade, following (or preventing) the sprouting fracking wells. In recent years, California’s anti-fracking grassroots movement has started growing as a result of the state’s premature and now contested projection as the next frontier for fracking and thus the next battleground for the fight against fracking. California’s maturing movement has gained a role model in New York’s anti-fracking movement. This thesis will thus explore the motivations, frameworks, strategies, and tactics used in the New York grassroots movement against fracking in comparison to those currently in use in California’s movement. Comparing

the organization of the movements in each state illuminates the aspects of each campaign that did or will result in a successful ban against fracking.

This thesis will focus on the grassroots movements in New York and California for several reasons. Fundamentally, grassroots organizing is a unique way to make change because its strength is derived from the number of people participating in the movement, rather than the amount of money involved in the movement. Grassroots organizing as a method for creating change can therefore confront the status-quo power dynamics within the political process and make the movement inclusive to all, regardless of socio-economic status, race, age, citizenship, and education levels (Reed et al., 2011). Anyone can become part of the movement. Through this participation in the movement, individuals are often empowered to create change in their communities even after the initial campaign ends, reclaiming their rights to a representative political process. Grassroots activism can therefore address not only the immediate issue of the campaign, but the disparities in political power that exist in disenfranchised communities throughout America as well. Indeed, according to Wittig, grassroots activists work to address the issue and the root cause of the issue simultaneously (1996). That being said, the degrees to which a campaign addresses the root cause of an issue and the intentionality with which it may be addressed will vary according to the goals of that movement and its participants. This points to the flexibility of grassroots organizing, which comes with its people-derived power as well as its focus in local politics. Many grassroots movements are born in neighborhoods, towns, and municipalities, and work to make change in these local regions (Towers, 2000). Often, these local movements are working in conjunction with similarly regionalized efforts in neighboring or similar communities (Bettencourt, 1996). When successful, this creates a patchwork of grassroots movements that work

collectively to effect change on larger geographic and political scales. Overall, individual and community participation, issue, scale, and levels politicization within the grassroots campaign help make grassroots organizing a dynamic method to affect social and political change. This is true for the anti-fracking grassroots movements in New York and in California.

These movements grew on opposite coasts and within different political, social, cultural, economic, and environmental landscapes, yet are united by the common goal of banning fracking. Fracking is a method of drilling for oil or natural gas that is encased in shale rock deposits deep beneath the Earth's surface. It involves drilling a vertical well and then flushing that well with highly pressurized "fracking fluid," which is composed of water, sand, and a cocktail of chemicals. The pressure with which this fluid is flushed is so great that it fractures the shale rock and releases the natural gas or oil up through the well. Despite the fact that fracking has occurred throughout the country since the 1940's, the development of new and arguably more invasive fracking technologies in the new millennium has increased attention around the drilling practice (Guzik, 2014). These technologies involve drilling a well vertically and then horizontally, which increases access to more pockets of this fuel and increases the amount of fracking fluid used. The development of this new fracking technology has allowed America to compete on the international fossil fuel market. This, combined with increased job opportunities, landowners' ability to lease their mineral rights to oil companies in return for monetary compensation, and tax revenue from oil companies compose the major economic benefits of fracking, which range from the individual to the international scale. For these reasons, fracking has been touted as the route for American energy independence. As President Obama states in his 2013 State of the Union Address:

After years of talking about it, we are finally poised to control our own energy future. We produce more oil at home than in 15 years... We produce more natural gas than ever before – and nearly everyone’s energy bill is lower because of it. (Office of the Press Secretary, 2013).

However, this same technology has led to many concerns regarding the health and environmental implications of fracking including: water use, water contamination, air pollution, land use, and the perpetuation of reliance on fossil fuels as an energy source. This tension between economic growth and concerns for public and environmental health that characterizes many environmental grassroots movements explains the mobilization against fracking in communities across the country and in states like New York and California.

Governor Cuomo’s ban on fracking followed nearly a decade of statewide moratoriums, a building patchwork of countywide bans, and the release of the state’s Department of Environmental Conservation’s 2011 General Environmental Impact Statement and the Department of Health’s 2014 Report on the Public Health Impacts of Fracking that were both conducted in response to resident’s growing ambivalence towards the drilling practice that is so widespread across their border in neighboring Pennsylvania. Perhaps as a result of this type of controversy that surrounds fracking, Governor Cuomo insisted that any decision on fracking would be void of his political or personal interest, and instead emphasized throughout his tenure in office that he would listen to and act according to the advice of “the experts” (Kaplan, 2014). At the press conference announcing the history-making ban (which could have been a strategic political opportunity for the Governor) Cuomo consistently guided questions to Department of Health Commissioner, Dr. Howard Zucker and Department of

Environmental Conservation Commissioner, Joseph Martens (Gerken, 2014). In spite of this, the media has speculated about potential political motives behind Cuomo's announcement, especially since it is predicted that the Governor is set to announce plans to run for the 2016 Democratic Presidential Candidacy. This would pit Governor Cuomo against former Secretary of State Hillary Clinton, who – like President Obama – has historically championed fracking (Blake, 2014). Governor Cuomo's decision to ban fracking therefore has political implications beyond the ban itself. In setting a precedent in banning fracking and in banning fracking before the procedure even started in his state, Governor Cuomo took a political risk. Thus, there must have been strong internal motivation or external pressure for him to do so. The grassroots activism against fracking in New York is therefore partially responsible for maintaining this pressure on Governor Cuomo to ensure that he ban fracking statewide.

California Governor Jerry Brown is finding himself in a similar situation to his New York comrade. However, unlike the Empire State, fracking is not a new practice in California. Oil companies have been fracking in the state since the 1940s (Guzik, 2014). Since then, California, known as a “green powerhouse,” has become the nation's leader in progressive and environmental politics, and has grown to the 8th largest economy in the world (Hayden, 2015). Governor Brown is a self-proclaimed “climate champion” and accompanied President Obama in China in the U.S. China Climate Negotiations (Peterson, 2014). In much the same way, Governor Brown has championed fracking, saying in 2013 that it, “could be a fabulous economic opportunity,” though did not ignore the “engineering concerns” that could lead to leaks in fracking wells and contamination of California's groundwater sources (LA Times, 2013). However, the Governor's stance on fracking has since become more conservative – and more silent – as statewide

concerns over the expansion of the practice grow. These concerns followed a 2011 report conducted by a private firm, INTEK, who was under contract with the U.S. Energy Information Administration. INTEK projected California's recoverable oil in the state's Monterey Shale deposit could produce up to two-thirds of the country's oil supply – which meant a dramatic upswing in fracking speculation and activity statewide (INTEK, 2011). These projections were later retracted by the USEIA and reduced INTEK's original numbers by 96% (Sahagun, 2014). Despite these lower numbers, fracking still occurs throughout California, which many residents and activists feel is in conflict with their own and their Governor's commitment to addressing climate change. This is especially true in the context of California's historic current drought, which caused Governor Brown declared a state of emergency in January 2014 (Office of the Governor, 2014). These concerns have cause residents in California to begin organizing against fracking in their state.

This thesis will compare these two movements in an effort to offer insight into the inner-workings and successes of these campaigns. I will first contextualize the anti-fracking grassroots movements in New York and California within the scholarly literature on grassroots organizing in Chapter 1. Understanding the theoretical framework that both informs and is informed by grassroots movements like New York and California's campaigns against fracking is essential to understanding the movements themselves. Chapter 2 will then provide a background on the mechanics of fracking, the public health and environmental costs and benefits of fracking, and the resulting public reactions to fracking, which will demonstrate the motivations behind the mobilization against the drilling practice among individuals and communities. After providing the scholarly and technical context necessary in order to understand movements against

fracking, the remainder of this thesis will focus on the case studies of New York and California's anti-fracking grassroots movements. Chapter 3 will focus on the case study of New York and the statewide grassroots organizing against fracking, highlighting the motivation, framework, strategy, and tactics used in these efforts. Chapter 4 will similarly focus on the case study of California, highlighting the same four factors that form the anti-fracking campaign in the Golden State. In Chapter 5, I will compare these two movements and argue that because they have each grown from the unique political, environmental, economic, and social conditions that exist in their respective states, the only aspects of New York's campaign that can and should be applied to California's in order to help California organizers succeed have already been applied. Chapter 6 will be the concluding chapter of this thesis and provide areas for further research within this field of study.

Writing this thesis required extensive research in the areas of grassroots organizing theory and practice; fracking as a mechanical, social, political, economic, and environmental issue; the political environment relating to fracking in both New York and California; and the motivations, frameworks, strategies, and tactics used in each of the anti-fracking movements within these states. In order to conduct this research effectively, I used online databases provided by the Claremont College's Library to find academic writings in many fields ranging from grassroots organizing theory to the environmental costs and benefits of fracking. Because fracking and movements against fracking are both contemporary issues, I was also able to use various media outlets as sources that provided important insight to the dominant rhetoric and narrative used in the public discourse on fracking. Additionally, these media sources examined the current state or new developments of fracking in both New York and California. However, these sources

could only illuminate limited aspects of the grassroots movements against fracking in each state. In an effort to more completely understand the motivations, frameworks, strategies, and tactics used in the New York anti-fracking movement and the California anti-fracking movement, I conducted four phone interviews with organizers working on the campaign in each state – two in New York and two in California. These interviews provided invaluable information about each state’s grassroots movements and “on the ground” actions taking place as part of these movements. This thesis would not have been possible without this information and the willingness of these organizers.

Chapter 1: Grassroots Movements Theory Literature Review

The anti-fracking grassroots movement in New York was a major factor in Governor Cuomo's December 2014 announcement banning the drilling method statewide. The campaign was well organized and strategically used certain tactics order to carry out the campaign goal of banning fracking in a coordinated manner. This is also true for California's current anti-fracking movement, though it is still growing. Both campaigns employ the same long-term strategy of building grassroots mobilization in order to wield political influence. Organizers carry out this strategy through the employment of certain grassroots tactics – public outreach, education, and coalition building – in order to maximize the number of people involved in the movement to employ political tactics that involve direct interaction with the target politician of the campaign. Though later sections of this thesis will provide further description and analysis of the organization of these campaigns, this chapter will contextualize the levels of and reasons for participation in grassroots movements, the benefits and risks of coalition building, and media use by organizers of these campaigns within the theoretical background of grassroots movements and organizing. Grounding the New York and California grassroots movements against fracking within their scholarly roots is important because it provides academic legitimacy to the campaigns and practical legitimacy to the theory. These movements inform and are informed by the theories presented in this chapter. Additionally, due to the highly contemporary nature of this subject, the specifics of the grassroots movements against fracking in both New York and California has yet to be acknowledged in the academic community. This thesis is therefore filling a gap in the academic literature on grassroots movements.

It is first necessary to define grassroots organizing. According to social psychologist, Michele A. Wittig, grassroots organizing is “a local form of collective

action by community members employing various techniques, primarily as strategies for addressing the root causes of social problems” (1996, p.4). Scholars largely agree that organizing to change the powers that be and address “the root causes of social problems” is an inherently difficult task (Perkins et al. 1996; Pratkanis et al, Woliver, 1996; Wittig, 1996; De Chiro, 2008; Mix, 2011; Mihaylov et al., 2015). This is in part because, in order to successfully organize, American communities have to reconcile the rugged individualism that permeates American culture with America’s historical conception as a place of collective action as well as the inherent human desire to be part of something larger than oneself (Perkins et al., 1996). Additionally, the American public is constantly being told “that its role is minor, largely passive, and at most reactive,” (Edelman, 1988, p. 97 in Woliver, 1996, p. 140). Grassroots organizing requires individuals and communities to overcome these engrained cultural and political barriers. However, as Tocqueville argues, it is this emphasis on individualism that actually fosters participation in community because it nurtures the individual’s sense of “self efficacy,” (Tocqueville in Perkins et al., 1996). The reasons individuals become involved in grassroots organizing efforts are therefore multi-dimensional and necessary to understand for the purposes of this thesis.

Several scholars offer explanations. Perkins et al. (1996) analyze the motivations behind individual participation in grassroots movements through Kahn’s (1991) three types of grassroots organizing: labor organizing; issue, or advocacy organizing; and community organizing. The issue-based model of organizing, like the campaigns in New York and California, do not necessarily have large amounts of participation. Instead, as Perkins et al. argue, they rely on lawyers and lobbyists to effect change, using their membership base as votes of support from community members and as leverage in

meetings with policy makers (1996). Nevertheless, Perkins et al. identified two consistent patterns in their study on individual motivations for participation in grassroots activism: informal associations with neighbors and previous involvement in a community or religious organization. The authors argue that this snowballing of community engagement and participation often happens organically, as individuals learn more about their community through participation in their community. As a result, the individuals become more engrained with that community (Perkins et al., 1996). Additionally, participation in a community – which is what a grassroots movement can often become – helps people form identities. Pratkanis et al. argue that individuals form social identities in a group setting through “participating in its activities, identifying with its behaviors, and adopting its symbols and attitudes” (1996, p. 193). This identification with a group also helps maintain individual membership and participation in that group’s movement (Pratkanis et al., 1996). Mihaylov et al. expands the idea of community to include place, arguing that the places in which people live, work, and play are as important to constructing personal identity as the human components of that community (2015). This concept of “place-based attachment” is especially relevant in the field of environmental grassroots organizing because individuals organize in pursuit of the protection of their place and themselves as part of that place (Mihaylov et al., 2015). Thus, the identification with a community and with the place in which that community is a part can often be another motivating factor for individual participation in a grassroots movement.

In the case studies of the New York and California grassroots movements against fracking, developing sustained participation in the movement was and is fundamental to the successes of the campaigns. This is because, as Saul Alinsky, one of the first professional community organizers argues, “power has always derived from two main

sources, money and people,” (1971, p. 127). Thus, because most grassroots organizing involves populations that are “excluded from the mainstream of organized power,” these movements gain their power from people (Pilisuk et al., 1996, p. 112). However, gaining initial and then sustained involvement in a movement is often challenging for organizers and participants alike. Pilisiuk et al. argue that the challenge of gaining and maintaining participation in movements actually comes from the goal of social action itself, which is to shift the “power, status, or resources of individuals or communities” (Pilisuk et al., 1996, p. 16). This is often a daunting task. However, Pilisuk et al. continue, arguing that leading organizers have the responsibility to help movement participants to confront this challenge through maintaining focus within the campaign (1996). This idea comes from Saul Alinsky’s models and manuals for community and grassroots organizing, which emphasize the organizer’s responsibility to maintain confidence in the success of the movement (1971). According to Alinsky, the organizer’s clear articulation of an adversary, target, and winnable goal help sustain focus and trust in the success of the campaign and thus participation in the campaign (1971). Apart from keeping the campaign organized, identifying an adversary is important because it allows the organizer – who is not necessarily from the community in which he or she is organizing – to relate with other campaign participants (Alinsky, 1971). The organizer represents the campaign, and thus participant confidence in both is necessary for his or her sustained participation. This confidence can result from the use of dialogue between organizers and participants, which can be instrumental in creating spaces that foster a community in which people can organize around an issue (Pilisuk et al., 1996).

Once an organization of participants is formed, coalitions are often built between organizations working against the same “adversary” – to borrow Alinsky’s term – with

the same target and goal. This is related to Alinsky's assertion that a grassroots movement's power comes from the people involved in the campaign, and thus expanding the campaign to incorporate and organize more people around the issue would strengthen the movement. Additionally, the increased number of people involved in the campaign, resulting from coalition building, provides an "enhanced constituency for direct action activities, the opportunity to share knowledge and expertise, and the ability to share monetary resources," increasing the political influence of the coalition and the movement of which it is a part (Mix, 2011, p. 175). Coalitions most commonly form between similar types of organizations with similar membership bases because this can usually ensure consistency in movement goals among the different organizations (Mix, 2011). However, many contemporary movements are interdisciplinary in nature, and thus require cross-discipline coalitions. For example, coalitions within the Environmental Justice Movement – which can take on various frameworks, though at its core, combines efforts to protect human health and civil rights with efforts to protect environmental health – are often cross-disciplinary and derive strength from this diversity (De Chiro, 2008).

However, various levels of difference between groups within a coalition can sometimes threaten the strength of that coalition. Mix found that it is not necessarily difference in disciplines that inhibits a coalition's success, but rather instances of inequality between groups that can raise concerns over leadership and allocations of resources within the coalition (2008). This is especially true with economic inequality in a coalition. Groups with more financial security and larger financial flexibility can often wield more influence within the coalition due to the power that comes with this financial strength (Walker et al. 2014; O'Sullivan, 1977). However, by their nature, grassroots groups must overcome these types of "traditional group barriers of status and power," in

most aspects of their existence and are therefore ideologically equipped to reduce the effects of inequality on the organization of the movement (Bettencourt, 1996, p. 211). The most common threat to a coalition, regardless of whether or not the coalition crosses disciplinary boundaries, is loss of autonomy in the movement among the individual groups within the coalition (O'Sullivan, 1977; Bettencourt, 1996; De Chiro, 2008; Mix, 2011). This occurs as a result of the potential compromising of individual group goals and missions to accommodate or meld with the goals and missions of other groups within the coalition. Nevertheless, it is generally agreed upon by these scholars that coalitions – despite the potential for challenges – are a fundamental characteristic of and often necessary to the success of grassroots movements.

Balancing the potential risk with the potential strength that comes with coalition building is a common theme throughout grassroots organizing. This balancing act is also visible in the relationship between the media and grassroots organizations. Media is a powerful tool for the organizer, but can also pose a threat to the campaign through negative coverage of the movement. The organizer must therefore use the media strategically in order to ensure positive public perception and political reception of the movement. Pilisuk et al. pose the idea that that one of the greatest challenges facing grassroots movements is the disempowerment of the public by the media (1996). The authors argue that the media's control over the type of stories presented and the manner in which those stories are presented – bombarding the masses with stories of catastrophes next to the weather – numbs and depoliticizes the public, which threatens democratic participation (1996). Corbett challenges this notion, arguing instead that the associations between public knowledge, attitude, behavior and media coverage are not quite so strong (2006). Though, Corbett does acknowledge the potential for negative long-term cultural

consequences of media coverage, like Pilisuk et al.'s threats of numbness and depoliticization of the masses (2006). However, it is for precisely the reasons that Pilisuk et al. present that grassroots organizing exists – to dismantle “the traditional group barriers of status and power” that, in this case, the media is presenting (Bettencourt, 1996, p. 211). But, the media's ability to influence public thought does have implications for the success of grassroots movements. It can affect public perception of an issue and therefore the participation of the public in a movement for or against that issue. For the same reason, it is necessary for organizers to effectively use media coverage of their issue and movement to their advantage. According to Ryan, organizers need to use media to carry out two goals: making media coverage a place for debate to present what may be “the other side of the story,” and to use the media a “vehicle for mobilizing support” (p. 4, 1991). It is true that the media has immense power over the information that people receive, but Ryan also argues that people process this information within the context of their own life experiences (1991). In other words, the ways in which the media presents an issue influences, but does not define the ways in which individuals perceive those issues. Thus, it is in the organizer's interest to maintain a good relationship with and use mass media, but they should not rely on mass media as their only route to engaging with a larger audience. Instead, organizers should use the mainstream media as a platform to present the issue and movement to the general public, though focus on the grassroots tactics of building community through dialogue and expanding that community through coalition building in order to maintain strength and efficacy within the movement (Ryan, 1991; Pilisuk, 1996, Mix, 2011).

Indeed, the strength of a grassroots movement must come from multiple sources, since it is a phenomenon predicated on the involvement of people and their non-monetary

resources (Alinsky, 1971). Grassroots activism is therefore a tool available to anyone. For this reason, grassroots activism is a method of social change that is growing globally.

According to Pilisuk et al., the use of grassroots organizing is becoming more and more widespread as people around the world seek increasing community connection and thus increasing awareness, need, and ability to create change within that community (1996).

This is also indicative of the flexibility inherent in the “people as power” model of grassroots organizing, which allows it to be used as a tool for change for nearly any issue and in nearly any discipline (Pilisuk et al., 1996; De Chiro, 2008; Mix, 2011; Mihaylov et al., 2015). Therefore, the case studies of this thesis will provide examples to which these theoretical models of grassroots organizing can be applied and enhanced from a contemporary grassroots campaign.

Chapter 2

Hydraulic Fracturing: Mechanics and Controversies

Hydraulic fracturing is a process of drilling for oil and natural gas that has occurred throughout America since the 1940s (Guzik, 2014). Hydraulic fracturing – or “fracking” as it is referred to colloquially and as I will refer to it throughout this chapter – developed as a drilling method for oil companies to access oil and natural gas deposits deep beneath the Earth’s surface in shale rock. Accessing this “tight” oil or gas became necessary as global consumption of fossil fuels increased throughout the 20th century and easy-to-access deposits of oil and natural gas became scarcer. Fracking involves digging a well vertically (and then sometimes horizontally) into the shale rock and flushing that well with what is called “fracking fluid,” composed of water, sand, and chemicals at a pressure high enough to fracture the shale rock. This pressure releases the oil or natural gas that was previously encased in the shale rock and brings it up through the well. The ability for oil companies to access these pockets of fossil fuels through fracking has allowed America to compete in the international energy industry. The economic benefits that can result from fracking extend through the national, state, and individual levels as well. Fracking activity often brings new jobs to communities, individual landowners are able to lease their mineral rights to oil companies for monetary compensation, states generate tax revenue from oil companies, and the federal government generates tax revenue from oil companies fracking on federal lands (Paredes et al., 2015). The economic gains that have resulted from fracking and the increasing depletion of easy to access oil or natural gas deposits have increased the use of the method, and in 2013, President Obama hailed the practice as an answer to “controlling our energy future,” in his inaugural address (Obama in Klein, 2013). In addition to its impact on the American economy, fracking has had impacts on water quality, air quality, and energy use around

the country. The tension between economic gains and the protection of human and environmental health has created much controversy around fracking and therefore many reasons many are organizing against it. This chapter of this thesis will examine the mechanics of fracking; the negative and positive consequences of fracking as they relate to water use, chemical use, air quality, energy security, and land use; and how these consequences of fracking are informing movements against the development of the practice on local and national levels, as visible in the cases of New York and California.

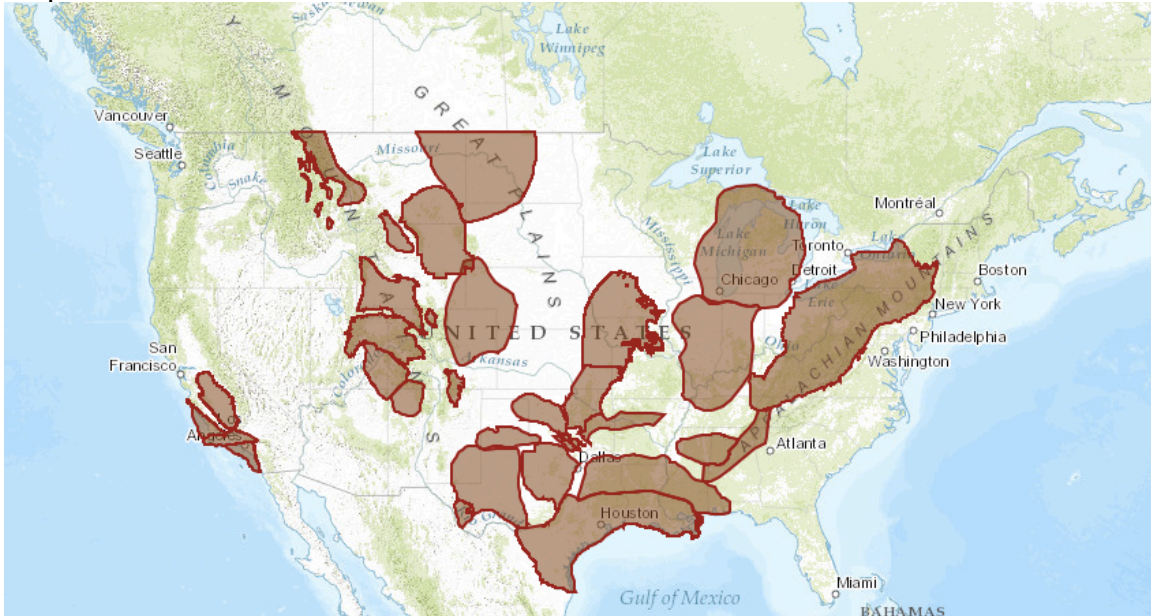
What is Fracking?

There are two types of oil and natural gas: conventional and unconventional. Conventional oil or natural gas is easy to access petroleum from geologic reservoirs. As a result of this accessibility, they are largely depleted. The increasing demand for fossil fuels drained these supplies by the 1980s (Kunnas, 2013). Unconventional oil or natural gas is now our predominate source of fossil fuels. These unconventional – or “tight” – reserves are named as such due to their location in low-permeable rock, remote Arctic locations, or in deep water. As a result, unconventional oil and natural gas is not as easily accessible as its conventional counterpart. However, the development and advancement of fracking since the 1940s and exponentially so in the last decade has made these reserves increasingly available to oil companies for extraction (Jackson et al., 2014).

Today, approximately 11% of the US’s domestic oil production comes from hydraulic fracturing and the majority of that production comes from two shale deposits: the Bakken Formation in North Dakota and the Eagle Ford Shale in Southwest Texas (Kunnas, 2013). However, there are shale deposits across the country, in urban and rural spaces alike. Below, three maps display the locations of shale deposits, fracking wells, and projected fracking wells in the United States. Map 2.1 shows the locations of shale

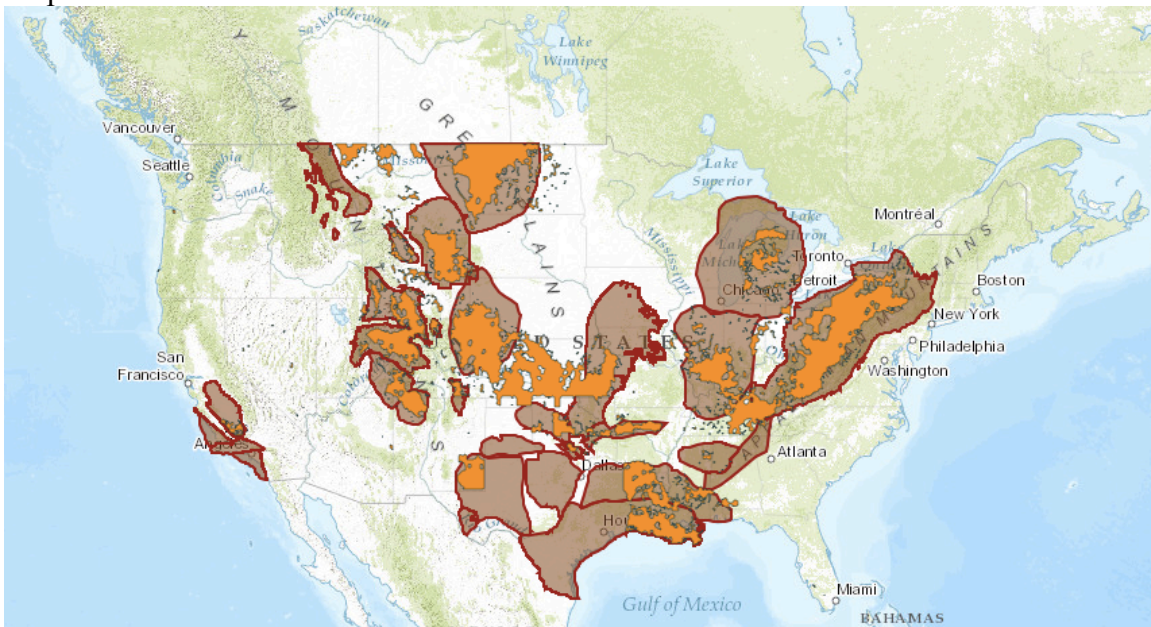
deposits across the country, Map 2.2 shows the locations of fracking wells in relation to these deposits, and Map 2.3 shows the locations of projected wells in relation to the current well locations.

Map 2.1



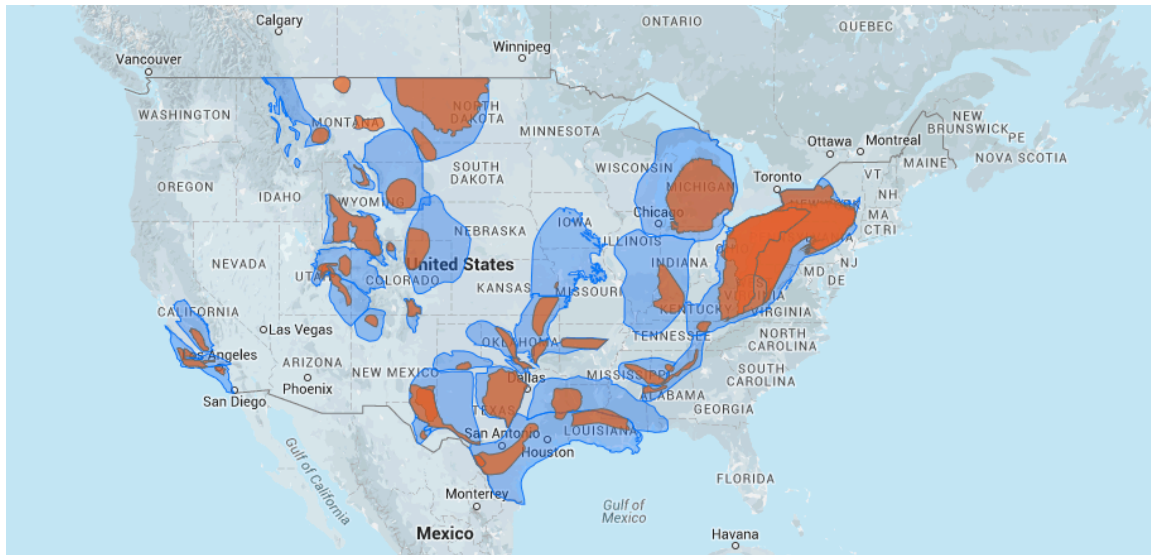
Shale Basins in the U.S. February 2014. Provided by FracTracker Alliance at FracTracker.org

Map 2.2



Map of Shale Basins (Red) and Locations of Fracking Wells (Orange). February 2014. Provided by FrackTracker Alliance at FracTracker.org

Map 2.3



Earth Justice. “Fracking Across the United States.” February 2011.

Mechanics of Fracking

Fracking is used to access natural gas or oil reserves that are beneath the water table and encased in shale rock. After locating the locations of these pockets of oil or gas through small seismic explosions, oil companies are able to establish the fracking infrastructure necessary to begin new fracking operations (Holloway, 2013). Though fracking can occur in urban settings, the majority of fracking takes place in more remote or rural locations and necessitates tree clearing and road building in order to establish a field of fracking wells (Goho, 2012). With this initial infrastructure developed, the oil company can drill the well up to 2 km beneath the Earth’s surface, until it reaches the shale rock and is then encased in cement (Jackson et al., 2014). It is crucial for a well to be solidly constructed because it has to withstand the very high pressure of the fracking

fluid that will be flushed through the well in the process of fracking. If it does not withstand this pressure, as 6% of fracking wells do not, it will leak liquid or gas, both of which have the potential to contaminate groundwater (Lange et al., 2013). However, 94% of fracking wells have what is referred to as “integrity,” and will not leak (Jackson et al., 2014, p. 337). The solid construction of the well allows oil companies to begin fracking. This process involves flushing the well with highly pressurized fracking fluid – composed of 99% water, and less than 1% chemicals and sand – in order to fracture the shale rock and release the oil or natural gas from the pockets in which they were previously encased (Pool, 2011). The oil or natural gas then goes up the well and is refined and exported for use (Pool, 2011).

Along each of these steps in the process of fracking, there is potential for environmental and public health harm. The remainder of this chapter will examine the impacts on water, air, and land that have caused concern for environmental and public health. These concerns have inspired a nationwide growing patchwork of local grassroots campaigns against fracking, of which those in New York and California are a part.

Fracking and Water

The process of fracking brings the necessary protection of water in direct conflict with increasing demand for energy, which is largely supplied by fossil fuels. According to the U.S. Energy Information Administration’s 2011 Annual Energy Review, over 80% of the country’s energy comes from the burning of fossil fuels including petroleum, natural gas, and coal. Fracking permits the continued extraction and use of these fuel sources. Though the perpetuated reliance on fossil fuels as a fuel source permitted by fracking has its own environmental implications that will be further discussed in a later

section of this chapter, the process of fracking is responsible for its own share of environmental issues. The impact fracking operations have on water sources is perhaps the most common concern articulated by environmental and public health groups alike. There are three main sources of conflict between water and fracking: the large amount of water used in fracking fluid, the wastewater that results from fracking, and the potential for groundwater contamination.

Though it is difficult to gauge the exact amount of water used in fracking fluid, due to the lack of necessary or standard disclosure rules for oil companies among different states, it is estimated that a single fracking well uses about 2 million gallons of water per extraction. A well can be refracked dozens of times until the material is fully recovered. Each refracking process uses increasing amounts of water (Jackson et al., 2014, p. 335). Compared with other forms of extractive energy sourcing like coal and nuclear energy, fracking uses considerably less water, though does use more water than renewable energy resources (Jackson et al., 2014). To put this number in perspective, the amount of water used in the lifetime of one fracking well uses 87% of the amount of water as the average U.S. household of four uses in a year, though is still much less than the agriculture industry, the country's top source of water use (Onishi, 2014; Jackson et al., 2014, p. 335). The amount of water used in fracking operations is therefore not extreme, and accounts for less than 1% of the state's overall water use (Mooney, 2015).

However, it is not only the amount of water that causes certain groups to take issue with fracking. When this water is mixed with chemicals and sand to become fracking fluid, it also has the potential to become environmentally problematic. This is for two reasons. First, according to Californians Against Fracking Representative Patrick Sullivan, this water is largely removed from the water cycle (Mooney, 2015). This can

reduce precipitation in local climates, which usually replenishes groundwater supplies. Second, this amount of water can become problematic once it becomes fracking wastewater. Although Jackson et al (2014) found that approximately 56% of wastewater used in fracking the Marcellus Shale in Pennsylvania can be recycled into future re-fracking operations within the same well or field, the remaining 44% of fracking wastewater has proven to be an issue of concern for oil companies and regulating agencies. The amount of wastewater and its inability to be re-used (other than the 56%), create a storage issue for oil companies. One common solution oil companies use to address this wastewater is to dig injection wells in fracking production areas (Ahearn, 2012). Injection wells are dug to store the wastewater underground. However, the force with which the wastewater is pumped into these holding wells can often cause seismic activity in the local area. The U.S. Geological Service released a report in 2015 confirming the long-suspected causation of the re-injection of fracking wastewater into these injection wells and resulting earthquakes in the local area (Ellsworth et al., 2015). This is visible in Oklahoma, where fracking activity has increased since 2008 (Schlanger, 2015). According to Schlanger (2015), Oklahoma – a state with traditionally minimal seismic activity – recorded 230 earthquakes in the first half of 2014 alone.

Additionally, the pressure from wastewater pumping can compromise the integrity of these wells, and lead to groundwater contamination (Holloway et al., 2014, p. 79). According to Jackson et al (2014), poor well integrity is the most common source of groundwater contamination, with 6% of wells reported as leaking. When a well leaks, it has the potential to pollute the water table with the naturally occurring salts, minerals, and metals released from the shale rock during the fracturing process, or with the chemicals used in fracking fluid and oil processing (Lange et al., 2013). This will be

described at greater length in the next section of this chapter. The amount of water used in fracking, the resulting wastewater, and the potential for groundwater contamination all contribute to the water-related concerns associated with fracking. However, the situation has led to organizing opportunities against fracking. Individuals and groups from diverse backgrounds and perspectives are able to relate to movements against fracking through the mutual concern to protect water. In both New York and California, anti-fracking coalitions have formed in partial response to this concern and consist of such diverse partners as Big Water New York, Brewery Ommegang, Cattaraugus-Chataqua For Clean Water, Chefs for the Marcellus, and the Coalition of Concerned Medical Professionals in New York and the Defending Water Campaign, Ballona Creek Renaissance, Cal Poly Surfrider Club, and the Marin Water Coalition in California (Californians Against Fracking, 2015; New Yorkers Against Fracking, 2015).

Fracking and Chemicals

Though water constitutes about 99% of fracking fluid, the remaining 1% is crucial for fracking operations (Pool, 2011). In order to effectively fissure shale rock, fracking fluid must contain a mixture of chemicals to burn through the rock as well as sand to hold the new fissures in place and allow the desired natural gas or oil to escape the shale rock (Holloway, 2013). Chemicals serve several important purposes throughout the process of fracking. They are used in the drilling of the well itself, in fissuring of shale rock, the extraction of the reserves, and in the production and refining of the natural gas or petroleum (Moore et al., 2014). Much controversy surrounds the use of chemicals in fracking fluid for two reasons: oil companies do not have to disclose the majority of chemicals used in fracking fluid and many of the chemicals that are disclosed are known carcinogens and toxic to humans (Richardson et al., 2013; Moore et al., 2014). The use of

chemicals has thus become a large contributing factor in the concern over fracking as a drilling practice and reason to mobilize with the subsequent movements against it (Finkel et al., 2011).

Groups and individuals have found issue with the lack of necessary disclosure of chemicals used in fracking fluid for multiple reasons. First, the lack of consistency between state regulations of fracking and rules regarding the disclosure of fracking chemicals results in the lack of disclosure of the chemicals used in fracking (Richardson et al., 2013). Being unaware of the particular chemicals used inherently prohibits individuals, communities, and governments to protect themselves, their citizens, or the local environment against these chemicals. This can cause harm to the physical health of individuals or communities, since chemicals are generally somewhat toxic to humans – depending on levels of exposure.

Another concern regarding the of necessary chemical disclosure is the power that is then granted to oil companies when they are not required to reveal the chemicals used in the fracking processes. This lack of regulation comes from a stipulation in the 2005 Energy Policy Act that exempts oil companies from provisions from the seven following acts: Safe Drinking Water Act, Clean Water Act, Clean Air Act, National Environmental Policy Act, Comprehensive Environmental Response, Compensation, and Liability Act, Resource Conservation and Recovery Act, Toxic Release Inventory under the Emergency Planning and Community Right-to-Know Act (Goho, 2012). The main implication of this clause is that it does not require oil companies to release the complete list of chemicals because it regards this list as “trade secret” and is therefore protected in a similar way to food producers and their “secret ingredients” (Prud’homme, 2013, p. 65). This stipulation is colloquially known as the “Halliburton Loophole,” since it was reportedly inserted into

the legislation by former Vice President of the United States and CEO of Halliburton Industries, Dick Cheney (Goho, 2012). The basis for this stipulation was to limit federal regulation of fracking and allow for state regulation. This clause has had consequences ranging from an individual's inability to know what chemicals could possibly be in his or her drinking water, to a government's limited ability to regulate the use of these chemicals, to the scientific world's limited ability to conduct research on fracking, and to the increasing and mysterious nature of the oil company power in the United States (Richardson et al., 2013). The Halliburton Loophole has essentially granted oil companies control over the information available on fracking fluid, which does not allow for a fair or complete understanding of this process. This has implications on the human and environmental health of local communities as well as the global climate (Kunnas, 2013).

However, some chemicals in fracking fluid are publicly known. Many of these chemicals can cause harm human and environmental health (Miller, 2015). It is important to note that fracking fluids differ in the types and quantities of chemicals according to what a particular well requires, which is determined by a variety of factors including shale composition and natural gas or oil quality. This discussion of the components of fracking fluid will therefore be generalized. Below, Table 2.1 provides a list of the typically used fracking fluid chemicals as well as their everyday uses. In addition to these chemicals, a variety of volatile organic compounds (VOCs) –benzene, toluene, and xylene – are often found in fracking fluid and are known to cause harm to human health even in low rates of exposure (Ahearn, 2012). These chemicals tend to compose only 1% of fracking fluid, with water and “proppant” material (usually sand) making up the other 99% (Pool, 2011). While the proportions of these materials may seem like the chemicals

are quite diluted, it is important to remember that a fracking well often uses about 2 million gallons of water, which means there can be up to 2,000 gallons of this chemical mixture (Jackson et al., 2014). Though these chemicals have the potential to pollute ground and surface water – causing harm to local people and environments – there is still much controversy around the direct connection between fracking activity and contamination from chemicals. However, as described in the previous section on water and fracking, this contamination could come from either well leakage in the actual process of fracking or from the produced wastewater, which can be stored in underground wells or above ground pools – both of which can lead to pollution problems.

Table 2.1

Additive Type	Main Compound(s)	Purpose	Common Use of Main Compound
Diluted Acid (15%)	Hydrochloric acid or muriatic acid	Help dissolve minerals and initiate cracks in the rock	Swimming pool chemical and cleaner
Biocide	Glutaraldehyde	Eliminates bacteria in the water that produce corrosive byproducts	Disinfectant; sterilize medical and dental equipment
Breaker	Ammonium persulfate	Allows a delayed break down of the gel polymer chains	Bleaching agent in detergent and hair cosmetics, manufacture of household plastics
Corrosion Inhibitor	N,n-dimethyl formamide	Prevents the corrosion of the pipe	Used in pharmaceuticals, acrylic fibers, plastics
Crosslinker	Borate salts	Maintains fluid viscosity as temperature increases	Laundry detergents, hand soaps, and cosmetics
Friction Reducer	Polyacrylamide	Minimizes friction between the fluid and the pipe	Water treatment, soil conditioner
	Mineral oil		Make-up remover, laxatives, and candy
Gel	Guar gum or hydroxyethyl cellulose	Thickens the water in order to suspend the sand	Cosmetics, toothpaste, sauces, baked goods, ice cream
Iron Control	Citric acid	Prevents precipitation of metal oxides	Food additive, flavoring in food and beverages; Lemon Juice ~7% Citric Acid
KCl	Potassium chloride	Creates a brine carrier fluid	Low sodium table salt substitute
Oxygen Scavenger	Ammonium bisulfite	Removes oxygen from the water to protect the pipe from corrosion	Cosmetics, food and beverage processing, water treatment
pH Adjusting Agent	Sodium or potassium carbonate	Maintains the effectiveness of other components, such as crosslinkers	Washing soda, detergents, soap, water softener, glass and ceramics
Proppant	Silica, quartz sand	Allows the fractures to remain open so the gas can escape	Drinking water filtration, play sand, concrete, brick mortar
Scale Inhibitor	Ethylene glycol	Prevents scale deposits in the pipe	Automotive antifreeze, household cleansers, and de-icing agent
Surfactant	Isopropanol	Used to increase the viscosity of the fracture fluid	Glass cleaner, antiperspirant, and hair color

Source: U.S. Department of Energy. "Fracking Fluid Chemicals and Their Everyday Uses." (2009).

One of the more controversial examples of the relationship between fracking fluid chemicals and groundwater contamination is in Pavillion, Wyoming, where benzene levels were over 50 times safe levels (Jackson et al., 2014, p. 342). This was the first study that found a connection between fracking fluid and groundwater contamination, which threatened local oil recovery and production operations in this decidedly pro-industry state. The EPA conducted the original study, with plans for an independent scientific study to follow. However, after three years, the EPA decided to leave the responsibility of a follow up study to the state (Gruver et al., 2013). Meanwhile, local residents drank cistern water out of fear of the chemically-tinged water than ran out of their faucets (Gruver et al., 2013). Wyoming has since become an example of the public health, environmental, and economic interests that often come into conflict over fracking practices. It is also an example of a common partnership in the anti-fracking movement: public health activists and environmental activists.

Fracking and Air

Fracking-related air pollution continues to fuel the partnership between public health and environmental advocates. Fracking is both directly responsible for increased air pollution and decreased air pollution (Jackson et al., 2014). Fracking can cause increasing air pollution in several ways: building a fracking site requires extensive infrastructure and access roads, which in itself requires the use of fossil fuels and also give access to diesel-burning trucks for material transportation; diesel engines are used to pump the fracking fluid into the ground, releasing carbon dioxide, particulate matter, and nitrous oxide into the air; methane is released in natural gas drilling operations, as part of the flowback liquid; and if equipment leaks, “fugitive emissions” can escape into the atmosphere (Jackson et al. 2014, p. 347). Though leaks are not a regular occurrence, they

do occur, and it is in the accumulation of thousands of fracking sites releasing greenhouse gasses like carbon dioxide, carbon monoxide, methane, and nitrous oxide, as well as particulate matter, VOCs, and toxic chemicals like formaldehyde that air quality is considerably impacted (Jackson et al. 2014, Moore et al., 2014). These pollutants create unhealthy breathing conditions for field workers and local communities as well as contribute to global warming and climate change.

However, fracking can also curb some types of air pollution. This is particularly true in the case of fracking for natural gas, since natural gas can be used in place of coal. According to Jackson et al., using natural gas in place of coal can reduce carbon dioxide emissions by half and reduce the amount of nitrous oxide, sulfur dioxide, and particulate matter emissions (2014). That being said, many environmentalists argue that natural gas is far from clean energy, and still has public health and environmental consequences (Finkel et al., 2011). For this reason, activists from diverse backgrounds mobilize together on the issue of air quality and fracking from their distinct perspectives.

Energy and Fracking

Global use of our limited energy resources is fraught with controversy. As with any natural resource, the rights to energy resources, types of energy resources, and use of energy resources are a constant source of conflict in America and abroad (Fry et al., 2012). This is largely a result of America's dependence on foreign oil, most of which comes from war-torn countries in the Middle East or from Russia, with whom the US has a tumultuous historical and contemporary relationship. Fracking offers a solution to these issues. Extensive fracking would allow the US to wean itself off the importation of foreign energy resources (and the conflict that comes with them) and develop its own

energy infrastructure. Fracking is thus often touted as America's route to energy independence, as visible in President Obama's 2013 Inaugural Address, quoted previously:

After years of talking about it, we are finally poised to control our own energy future. We produce more oil at home than in 15 years... We produce more natural gas than ever before – and nearly everyone's energy bill is lower because of it. (Office of the Press Secretary, 2013).

However, the domestic oil and natural gas reserves are already depleting, and it is becoming increasingly inefficient to harvest these reserves, as the price of natural gas decreases, the cost of fracking and refracking stays the same, and the amount of production from wells decreases each time it is fracked (Goho, 2012). Therefore, in order to maintain production and meet demand, oil companies must drill new wells at an accelerated pace. The theory of resource expenditure, which is also known as the Red Queen Effect (named after the character from the *Alice in Wonderland*), can be applied to this current state of fracking in America. According to Coram (2008), the theory of resource expenditure refers to the phenomenon in which a group or groups will continually increase their resource spending, just in order to maintain the same level of production. Geologist Richard Hazlett (2015) applies this theory to fracking in the United States in a presentation at Pomona College. In this application, it is clear that oil companies are currently spending more of their own resources in order to extract the same amount of oil or natural gas from shale deposits. Fracking alone will therefore not solve America's dependence on foreign oil, but will distract and delay policy makers and energy companies from developing and advancing renewable sources of energy (Pool, 2011). Placing emphasis on fracking as the cure-all for America's energy needs is

therefore not only impractical, but is also dangerous because it perpetuates the country's reliance on fossil fuels as our main source of energy.

Moreover, because America is the one of the most influential countries in the world, it has the power to encourage other nations to jump on the fracking bandwagon. This is visible in Secretary of State Hillary Clinton's active role in bringing the advanced American fracking technology to other oil producing countries, like Russia (Blake, 2014). While drilling for unconventional oil and natural gas reserves may allow the world to meet its global energy needs in the short run, it does little to promote other forms of energy production in the long run, all while perpetuating global reliance on fossil fuels, increasing the risk of polluted air and water around the world, and contributing to climate change (Field et al., 2014). This is a main source of contention for more radical climate justice activists and fracking. According to the 27 Bali Principles of Climate Justice (2002), developed during the United Nations World Summit on Sustainable Development, climate justice is a framework that addresses the unequal distribution of the impacts of climate change. Climate Justice action works to distribute the "environmental burdens and benefits, equal participation in decision-making, and for those responsible for environmental injustices to be held accountable for reparations." (Grady-Benson, 2015, p. 64). Thus, the continued use of fossil fuels – permitted by fracking at home and the American promotion of fracking abroad – is problematic according to the climate justice narrative because it contributes to global climate change, with only the wealthiest section of the globe able to reap the rewards of extracting this resource.

Conclusion: Organizing from Controversy

In the past two decades, fracking in America has continually grown (Jackson et al., 2014). With the rise and evolving ubiquity of this drilling method, diverse populations and groups have been affected by its direct and indirect consequences as discussed in this section. Whether it is based on the water use, chemical use, air quality impairment or improvement, the promise or myth of energy security, or any combination of these reasons, these groups have found reason to engage with the issue of fracking. Environmentalists, public health advocates, scientists, chefs, beer brewers, labor unions, farm workers, parents, and many others have all joined the coalitions against fracking because it affects these diverse populations in a many different ways. The next section of this thesis will further develop, examine, and localize these issues, responses, and organizing efforts in the case studies of New York and California.

“Frack Off!”: The Anti-Fracking Movement in New York

New York was one of the first states in the country with a considerable shale deposit to take action against fracking. In 2010, the state legislature passed a two-year moratorium bill, which temporarily put a hold on fracking operations until further studies on the health, environmental, and economic studies were conducted (Ayala, 2011). Four years later, New York Governor Andrew Cuomo announced that his administration would ban the practice statewide (Kaplan, 2014). The order followed the release of the state Health Department’s review of fracking, which found that the economic benefits of the drilling method do not outweigh the health costs (2014). The Acting Health Commissioner, Dr. Howard Zucker spoke at the press conference announcement. The commissioner summed up the state’s sentiment towards fracking with his question, “Would I let my family live in a community with fracking?” and answered with a firm, “no” (Fluer, 2014). The Health Department’s report was conducted as a supplement to the Department of Environmental Conservation’s General Environmental Impact Statement (GEIS) on high volume hydraulic fracturing, which also found the potential for “widespread” environmental harm resulting from the drilling method and dramatically reduced the projected economic benefits (NYSDEC, 2011). In spite of the fact that the Governor is ultimately the only authority capable of banning fracking in New York state, he did make a concerted effort in this announcement to direct all attention and questions to the Health Commissioner Dr. Zucker and DEC Commissioner, Joseph Martens. This was representative of the governor’s earlier promise during the 2014 campaign season to base his decision on fracking on the results of the Department of Health’s report. In response to activists’ calls on the Governor to ban fracking he would respond with “What the experts say is right, this is what I will do.” (Gerken, 2014)

Governor Cuomo's announcement was therefore framed in a way that allowed him to receive credit for the ban, though without having to claim much responsibility for any negative reactions from the oil industry and threats of secession from border towns in the Southern Tier that would follow (Waldman, 2015). Citing the report findings allowed the governor to have it both ways. The GEIS and DOH's report were not the only factors that led to New York state's ban on fracking. Instead, there was a confluence of incidents that contributed to this ban. In 2008, landowners living above the Marcellus Shale Deposit in the Southern Tier of Upstate New York shouldered the initial burden to decide whether or not hydraulic fracturing was a safe enough process for them to allow it in their neighborhoods and lease their mineral rights to oil companies speculating in the area (Ayala, 2011). Residents in Broome, Tioga, Delaware, and Sullivan counties had to consider the balance between individual and community safety with individual and community economic development. The compensation rates of these leases further complicate this decision because residents in the area are often under financial pressure, due to the stagnant Upstate economy. These residents would benefit from fracking come compensation (Spector, 2014). These rates vary according to oil company estimates of recoverable gas in the shale rock, but could exceed \$90,000 (Paredes et al., 2015). In the economically depressed Southern Tier region of Upstate New York, the prospect of this economic development was difficult to resist. Thus, community meetings soon commenced, concerning the potential economic, health, and environmental benefits and consequences that could result from fracking. The state's movement against fracking began with the individuals from these communities that took issue with the development of the practice in their neighborhoods. Additionally, there was minimal empirical research on the public health and environmental effects of fracking, so many individuals

participating in these meetings did not feel well enough informed or equipped to make a decision on the matter (Ayala, 2012).

Media attention around fracking increased nationally in reaction to these local movements calling for research on the effects of this drilling method and for fracking moratoriums until this research was conducted (Ayala, 2012). Additionally, the 2010 release of the documentary on fracking, *Gasland*, which details the rise of fracking in the Marcellus Shale in Pennsylvania and the lived experiences of those affected by fracking, helped spread national awareness of what – at the time – was a largely mysterious method of drilling. These factors, combined with the 2011 release of the GEIS detailing the environmental impacts of fracking and the 2014 release of the Department of Health's report on the public health impacts of fracking, helped bolster the movement and pave the political pathway for Governor Cuomo to ban the practice. Organizers of the statewide movement used these resources, along with a certain framework, strategy, and multiple tactics to build a campaign capable of successfully taking action against fracking in New York. This chapter of this thesis will detail the motivation, framework, strategy, and tactics used in this grassroots movement in order to provide insight to the campaign that resulted in the only successful example of a statewide ban on fracking in the country.

To examine the narrative around and the inner-workings of this movement, my main sources in conducting this research were local media sources and interviews with organizers who worked on the campaign in New York. Local and statewide media outlets provided an important perspective on the political, economic, health, and environmental narratives on fracking in New York, which help inform the direction of the grassroots movement. While I was able to piece together fundamental aspects of fracking in New York from this media coverage, the nature of this topic required that I talk with people

working on the ground in the movement. I was able to interview two organizers, Alex Beauchamp and Jack Miller, both of whom worked with Food and Water Watch. Food and Water Watch is a national advocacy and consumer protection organization working on local, state, and national levels to ban fracking. The organizers worked on the grassroots and administrative levels of the campaign and provided invaluable insight into the motivation, framework, strategy, and tactics used in the state's successful fight against fracking.

Where

The Marcellus Shale, one of the country's richest sources of natural gas, sits beneath Pennsylvania, Ohio, Maryland, West Virginia, and the Southern Tier of Upstate New York. Though gas drilling is not new in Upstate New York, as New York boasts the first natural gas well in the country, the potential introduction of fracking to the area in 2009 presented novel complications for residents and policy makers alike (Rinfret et al., 2014). The Southern Tier of Upstate New York borders Pennsylvania, where fracking has occurred since the 20th century, and in 2008, both states experienced an influx in speculation (Bateman, 2010). Residents in New York watched their neighbors in Pennsylvania experience an economic boost from fracking, though at the potential cost of human and environmental health. Thus, when fracking was introduced to the Empire State in 2008, the New York state legislature aired on the side of caution and decided to withhold would permits to oil companies until a GEIS was conducted. Until the release of this statement, then-Governor Paterson filed a statewide moratorium on fracking with Executive Order 41 in 2011 (Rinfret et al., 2014). With this order, the section of the Marcellus Shale lying under New York was left un-fracked.

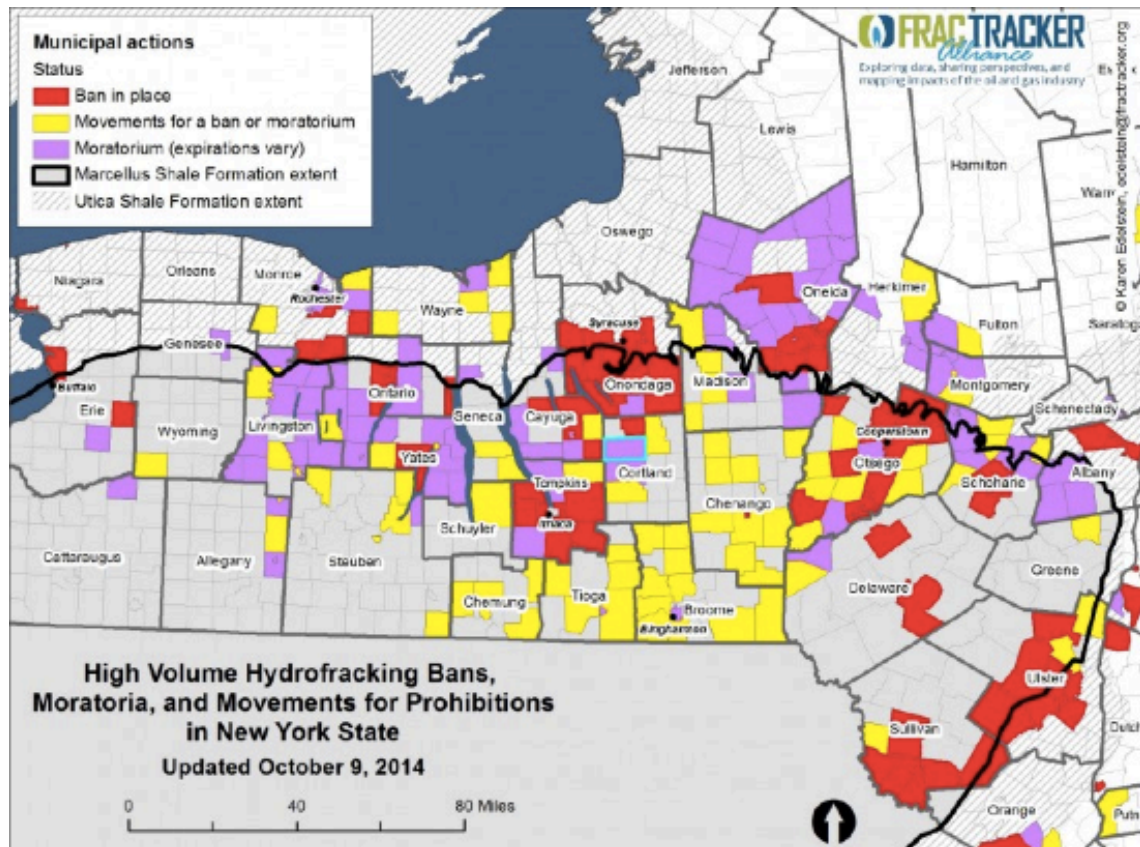
Below are three maps. Map 3.1 shows the Marcellus Shale's full extent; Map 3.2 shows the local moratoria, bans, and movements for a ban or moratoria in New York prior to the statewide ban; and Map 3.3 shows the location of fracking wells in Pennsylvania in order to illustrate the level of fracking activity that is possible in the shale deposit, when the state government permits the practice.

Map 3.1



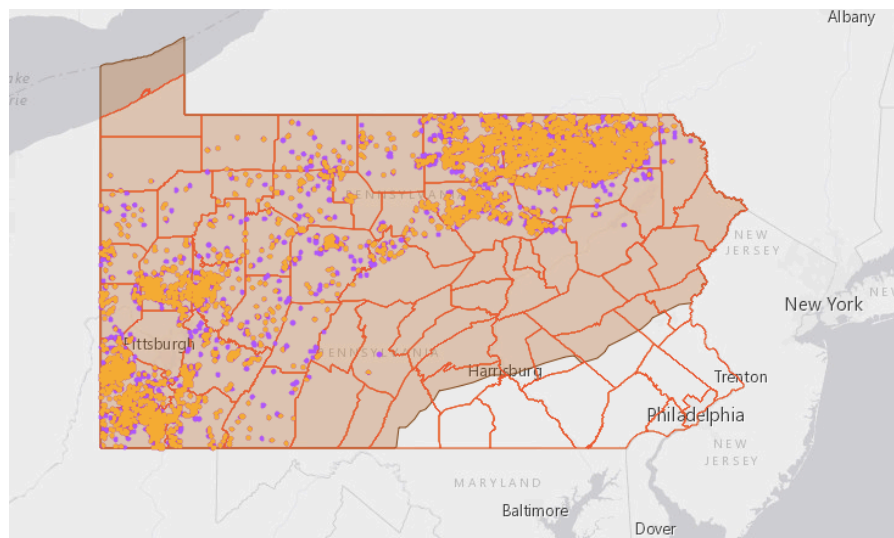
New York Department of Environmental Conservation. "Marcellus Shale." (2015)

Map 3.2



Map of Bans & Moratoria in New York State. Oct. 9, 2014. Provided by the FracTracker Alliance on FracTrack.org

Map 3.3



Pennsylvania Oil and Gas Activity. Jan. 2015. Provided by FrackTracker Alliance at FracTracker.org

Since Pennsylvania's fracking wells are drilled throughout the shale deposit and as close to the New York border as possible, the nature of drilling in the Marcellus Shale is such that individuals living along the border can directly see their neighbor's different experiences of fracking. As a result, Southern Tier New Yorkers were able to see their possible future, should they permit fracking in their state. Perhaps this factored into the inspiration for the anti-fracking movements against fracking that were building, as visible in Map 3.2.

However, as also visible in Map 3.2, three out of the six border counties in New York have no notable actions against fracking, illustrating the controversial nature of the practice. This lack of action to stop fracking in the region is largely credited to the potential result of economic benefit, which some residents in the Southern Tier believe to be desperately needed to boost their economy. The depletion manufacturing jobs, regional depopulation, the 2009 economic recession, and lack of economic diversity in Upstate New York have all contributed to the economic gap between Up and Downstate New York (Spector, 2014). Though the unemployment rate in Southern Tier counties hovers around the state average of 5.8%, the jobs available are mostly low-wage due to the agriculture-based economy in this predominately rural region of the state (NYS Department of Labor, 2015). In order to address the economic gap between the two regions, Upstate New York residents have long been searching for answers to its economic stagnation, and the development of fracking seemed to hold much promise for some residents (Spector, 2013). However, after his election in 2011, Governor Cuomo started setting the stage to legalize commercial gambling in the state, remaining silent on the issue of fracking, which was already under a statewide moratorium (Mckinley et al., 2014). The large number of stakeholders involved in the development of a commercial

gaming industry in New York – Indian casinos, conservative politicians, residents, and private development companies –slowed down the legalization process (Spector, 2013). Plans to permit commercial, privately owned casinos were not announced until December 17, 2014 – the same day as the Governor’s announcement to ban fracking (McKinley et al., 2014). The casinos in the Catskills and Fingerlake regions – both of which sit atop the Marcellus Shale – are set to open by 2017, offering hope for Upstate economic diversification and expansion.

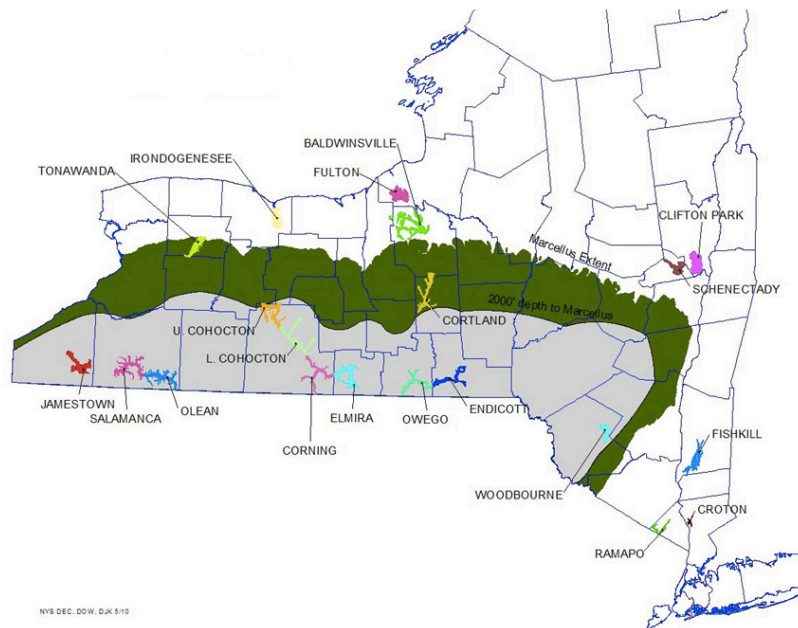
In the meantime, the Governor’s office has given grants to projects in Upstate New York in an effort to stimulate the region’s economy. The Governor’s 2015 Opportunity Agenda includes the \$1.5 billion Upstate New York Economic Revitalization Competition, in which seven Upstate regions will compete for one of three upstate revitalization funds, at \$500 million each (Governor’s Press Office, 2015). This announcement came in January 2015, in an effort to invest in the region after what some Upstate residents feel is a “denial” of the economic opportunity that would have come from fracking (Waldman, 2015). The plan focuses on economic development through investments in clean energy, agriculture, and renewable wood products, showing the Governor’s intention to expand the region’s green economy (Governor’s Press Office, 2015). While the plan is largely being celebrated, some representatives of the conservative Southern Tier region have voiced discontent with the plan, calling it superficial and a “window dressing” (O’mara in Waldman, 2015). This sentiment echoes some Upstate resident’s feelings of underrepresentation in the state’s political environment, which is often dominated by the left-leaning and economically powerful Downstate region (Spector, 2014). This dominance is visible in the anti-fracking movement, which originated in the Upstate communities shown in Map 3.2, but became

more powerful once the movement spread to the Downstate region because people realized that fracking Upstate could threaten New York City's municipal water supply located Downstate (Beauchamp, 2015). Organizers working throughout the state did argue that the threat to New York City's water supply was actually a catalyst for the Upstate movement becoming a statewide movement. Thus, Downstate participation in the anti-fracking movement helped the movement grow in a geographical sense as well as a political sense.

That being said, Upstate New York did have its own share of resources that were important in the development of the anti-fracking movement. The high concentration of colleges and universities in the Southern Tier also had an important impact on the anti-fracking movement in the state. Ithaca College Scholar in Residence, author, and New Yorkers Against Fracking co-founder and Advisory Committee member, Sandra Steingraber, Ph.D has long been a vocal activist against the public health dangers of industrial practices. Steingraber uses her position and influence as a scholar, activist, and Upstate New York resident to grow and strengthen the state's anti-fracking movement through public appearances speaking about the dangers of fracking (Pesto, 2015). Steingraber used her unique position to speak on behalf of Upstate residents who are against fracking. Professors, students and farmers alike were equally threatened by the prospect of fracking, since contaminated groundwater does not necessarily respect boundaries of economic or educational privilege. As Steingraber and my interviewees have argued, this concern over groundwater contamination is well-founded, since much of the state's extensive aquifer system is in the Southern Tier, above the Marcellus Shale, as visible in Map 3.4, below. The development of fracking operations and the potential for leaks and spills in the area were therefore viewed as threats to local and statewide

water supplies, since these aquifers are the primary source of municipal water supplies throughout the state (NYSDEC, 2015). The diversity between groups affected by fracking in the Southern Tier and beyond was a major source of strength for the movement from its conception, and one that will be elaborated upon further in a later section of this chapter. Below, Map 3.4 shows New York's aquifer system with the extent of the Marcellus Shale Deposit in dark green.

Map 3.4



New York State Department of Environmental Conservation. "Map of Primary Aquifer System and Marcellus Shale Extent." 2010.

Why New York?

New York is an important case study for this thesis for several reasons. First and foremost, New York is the first state in the country with significant shale deposits to ban fracking. This set an important precedent, exemplifying that statewide bans on fracking is possible – even in states with rich deposits of natural gas or oil. This had an impact on the mentality within anti-fracking campaigns across the country. Interviewees working in California expressed the importance of seeing the possibility that what they are currently working towards can be accomplished. New York's success reinvigorated, re-inspired, and therefore strengthened campaigns across the country (Ortega, 2015; Roberts, 2015). New York's anti-fracking movement also serves as the only successful model for statewide anti-fracking campaigns. Organizers in other states can now implement the strategy and tactics employed in New York, knowing that they were successful in that political environment. Its success makes New York's campaign against fracking an important example against which other fracking states can compare themselves.

While the ban itself is definitely a precedent, the fact that the Governor enacted a statewide ban as a preventative measure is also important. Governor Cuomo banned fracking before any problems resulting from the practice could occur. Though it is likely circumstantial rather than intentional, Governor Cuomo's fracking ban is an example of the use of the precautionary principle, which is highly unusual in American Environmental Politics, and thus noteworthy in this case. According to Duriseti, the precautionary principle allows governments to function under the conditions of uncertainty (2003). In the absence of certainty or proof, the precautionary principle allows governments to make policy-based decisions as a precautionary measure (Duriseti, 2003). However, American political culture is often such that preventative measures are

taken only after events worth preventing have already occurred. Conversely, European political culture permits the prevention of problems before they can transpire, hence the strong anti-fracking movement in the UK and the European Union prior to any immediate threat of drilling (Pool, 2011). Other instances of the use of the precautionary principle in Canada, the UK, and the EU include: Genetically Modified Organism labeling, resource conservation, and renewable energy development. The precautionary principle is regarded therefore as an important tool particularly in environmental and public health politics, since it permits policy makers to avoid the development of certain procedures if they have potential risks. However, it is not the political standard in the US to use the precautionary principle, which makes Governor Cuomo's precautionary ban on fracking particularly important. This could potentially signify a new trend in American environmental politics that, according to many scholars, is desperately necessary in order to seriously combat global climate change.

Grassroots Organizing in New York: Motivations, Framework, and Message

New York City famously has one of the cleanest municipal water supplies. The incomparable quality of the characteristic bagels, bread, and pizza dough that define New York cuisine is owe to this pure water, which comes from the extensive natural aquifer system in Upstate New York. Therefore, when city residents heard of the threat to their drinking water supply from possible fracking operations, critical conversations of fracking began. In reaction, the DEC moved forward with plans to permit fracking, though not in areas that would affect the aquifers, from which New York City's Department of Water and Power source. This effort to appease the industry and complaining constituents in the city backfired on the DEC, when city residents organized a "Not In Anyone's Backyard" movement in reaction to what many considered the

DEC's action to be an example of a "Not In My Backyard" (Beauchamp, 2015). Upstate and Downstate therefore communities worked together to protect this water. Protection of statewide water quality was therefore the motivation behind New York's anti-fracking movement. Residents united against the threat of what is arguably one of the freshest water supplies in the country becoming permanently polluted, and the health of those that drank from it permanently altered.

This has largely defined the movement in New York and shaped the framework, or the overarching theme of in the decade-long statewide movement to ban fracking. As stated by Food and Water Watch Northeast head organizer and my interviewee, Alex Beauchamp, the campaign was distinctly health-oriented, which was effective on a grassroots level, though coalition building, and in political discourse and action (2015). This framework had near universal appeal to New Yorkers because the threatened aquifer system feeds the entire state, which allowed diverse communities the ability to protect their water from fracking contamination. Using a health-centric campaign framework allowed for the leading involvement of healthcare professionals within the statewide coalition against fracking, which will be discussed at greater detail in a later section of this chapter. Finally, focusing on the human health impacts of fracking gave political strength to the movement in that it was an inarguable counter to the industry's emphasis on the potential for economic gains and new jobs. Whatever economic gains promised by fracking are nullified if individuals and communities are unable to reap those benefits due to the health threats that were also promised by fracking (Beauchamp, 2015; Miller, 2015). Human health outweighed economic health in the case against fracking in New York, and therefore it is possible that state politicians did not want to be saddled with the blame of permitting the practice in their districts.

Early in the movement, organizers identified the state's governor as the target decision-maker because he has the power to ban fracking by executive order. Two governors later, and at the height of New York's anti-fracking movement, Governor Andrew Cuomo had become the target. The message was equally straightforward with an unambiguous, measurable goal: calling on the governor to ban fracking. Beauchamp emphasized the importance of creating and sticking to a message that activists actually want, as opposed to prematurely compromising to what they think they can get (2015). Therefore, the strong ask of the outright ban on fracking was intentional and necessary. The motivations, framework, and message of the New York campaign to ban fracking were clear. In order to achieve this goal, organizers on the local and state levels employed certain grassroots tactics and strategies, which will be the focus of the next section of this chapter.

Grassroots Organizing in New York: Strategy and Tactics

New York's anti-fracking movement grew from the grassroots. In 2008, concerned individuals in Upstate New York began forming a network of small community groups in order to address the new issue of fracking (Ayala, 2011). The groups formed after oil companies began approaching property owners, interested in buying lease agreements to the minerals under these lands. Private property owners own not only the surface of their land, but the rights to the minerals (including oil and natural gas) below the surface of their land as well, and therefore have the right to sell those rights to interested buyers. Industry presence in Upstate New York grew in conjunction with increasing regional skepticism of fracking, prompting these community meetings. However, while these citizens were indeed concerned, they did not necessarily have the resources required to orchestrate a larger, cohesive, and impactful movement (Ayala,

2011). As these local movements began to gain traction and reach out to larger organizations that did have the tools necessary for statewide action, grassroots organizers were able to mobilize populations in these and other communities within the state (Beauchamp, 2015). The main long-term strategy in fighting fracking in New York was thus to build grassroots strength in order to wield political influence. To carry out this strategy, organizers employed certain grassroots and political tactics. On a grassroots level, organizers emphasized the importance of public outreach and education on the issue, coalition building, and harnessing the power of the media in order to take political action. Using the strength in this grassroots involvement, organizers were able to engage in “bird-dogging” activities, call-in days to Governor Cuomo, and leverage 2014 as an election year for Governor Cuomo to the advantage of the movement.

Building a strong grassroots movement ultimately lies in the number of people involved in the movement. Organizers working in New York emphasized the importance of working directly with communities to mobilize around the issue. In order to engage with people and the issue, organizers used public outreach and education tactics. In New York, these tactics had simple applications. Food and Water Watch organizer Jack Miller said that oftentimes public outreach involved conversations with people on the street. This could take the form of “petitioning,” which involves giving passers by a short description of the issue, why they should be concerned, and how they can take action against fracking – by signing a petition asking Governor Cuomo to ban fracking. Public outreach therefore generally incorporates education on the issue, the thought being that once someone understands the implications of fracking, they will likely be against it and volunteer their time, signature, or money to the campaign against fracking. Miller explained the importance of these outreach and education efforts in New York, due to a

phenomenon organizers referred to as the “80/20 split,” which references the percentage of New Yorkers who know about fracking and their likelihood to be against it. According to Miller, this means that once a New Yorker knew even just the basics of fracking and its implications, there was an 80% chance that they would be against it and a 20% chance that they would be in favor of fracking. This ratio was therefore important for organizers to take advantage of for several reasons. First, it meant that the vast majority of people living in New York that learned about fracking agreed with the campaign’s goal to ban fracking, which gave the campaign strength. Secondly, it made public outreach and education efforts a priority, since they were partially how residents learned about the issue and would likely become involved in the campaign (Miller, 2015). The more people that became involved in the campaign, the more “soldiers” there were to continue these outreach and education efforts. The mobilization of these communities gave the movement strength and political legitimacy.

Another extension of the public outreach and education efforts took the form of coalition building. Coalition building is the process of organizations and groups working together to address a shared issue of concern. Coalition building is an essential aspect of grassroots organizing, as it brings together groups across geographic, financial, population, size, and disciplinary boundaries. For example, New Yorkers Against Fracking is the major statewide coalition uniting over 300 different groups and organizations in the fight against fracking. These groups range from the Concerned Medical Professionals, faith-based organizations, environmental groups, and student groups, to poets, beer brewers, social justice organizations, indigenous groups, and neighborhood councils. The power of coalition building comes from the pooling together of the strength in diverse populations, areas of expertise, experiences, audiences, spheres

of influence, and resources of these individual groups to work towards the common goal of banning fracking. Food and Water Watch Northeast Organizer, Alex Beauchamp, spoke to the particular importance of the public health and medical professional groups' involvement in the coalition. According to Beauchamp, the public's trust of doctors, nurses, and medical professionals was instrumental in communicating the health impacts of fracking, illustrating the organizer's statement describing the public health framework of the campaign as a whole.

However, it is in collaboration between groups like the Concerned Medical Professionals and like Environment New York that the movement becomes dynamic. Jack Miller spoke to the importance of the establishment of New Yorkers Against Fracking in participating in the People's Climate March in September of 2014. In what was the largest collective action addressing the multi-faceted repercussions, victims, perpetrators, and solutions of climate change, the People's Climate March brought together over 300,000 people, with solidarity marches occurring around the world (Foderaro, 2014). Members from New Yorkers Against Fracking took to the streets and were able to contextualize their own role in the movement against fracking and in the larger movement to address climate change.

This event garnered vast amounts of media attention, which was important for several reasons. Media coverage of the People's Climate March helped spread the messages from the march to a wide audience who were not march participants, it connected the march on the streets to those in political power, and it temporally extended the conversation about climate change, making it an issue beyond the single day of the march. These same characteristics are true for media coverage of anti-fracking events, the movement, or developments in the state of fracking in New York. For this reason,

organizers must know how to harness the power of the media effectively. Both Beauchamp, who worked coordinating state-level aspects of the movement, and Miller, who worked in Westchester County coordinating local-level events, pitched every one of their events to various media outlets, with the knowledge that coverage of those events would keep fracking and the movement to ban fracking in the public and political elite discourse. Additionally, pitching stories to the media allows organizers to have a certain extent of control over the direction of this discourse since they will likely frame the issue to the reporter in favor of their position. The ability to effectively use the media is therefore essential for organizers in order to triangulate the issue, the public, and the politicians.

Media coverage is one factor in organizers' attempts to politicize and proselytize the issue of fracking. However, it is even more powerful of a tactic when combined with other tactics that use grassroots strength to wield political power. In New York, one of the most impactful tactics that Beauchamp and Miller described is known as "bird-dogging." Though neither organizer could explain the origin of the somewhat strange term, both emphasized its efficacy in keeping the goal of banning fracking in the daily discourse of New Yorkers and Governor Cuomo alike. This is because bird-dogging is when organizers, volunteers, and other activists attend every event on the Governor's released schedule and directly ask him to ban fracking. This has five important effects. First, by repeatedly and publicly asking the Governor to ban fracking, activists make it an issue he cannot easily ignore. Second, this continued attendance and asking emphasizes the fact that Governor Cuomo is the sole individual with the power to make the decision to ban fracking in the state of New York. Third, media outlets are often present at these events, putting the activists' asks on record, and possibly on camera. Fourth, the "in-

person ask” is regarded as particularly strong, since it is especially difficult for the decision maker to evade a question or concern when the person asking is present. Fifth, organizers spoke to this tactic’s empowering quality, which resulted from the individuals-turned-activists’ direct challenging of their Governor. Because there is often a disconnection (whether it is real or perceived) between politicians and their constituents, the ability to engage with the Governor helped build feelings of empowerment among individual activists and organizers. Bird-dogging was therefore an effective way to connect the Governor with his constituents and their concerns over the issue of fracking.

Though bird-dogging does have its many benefits, it does not come without its challenges. Bird-dogging necessitates in-person participation by a number of activists, which can often be a challenge for organizers, as activists also usually have other engagements (Pilisuk et al., 1996). For this reason, it is not always possible to organize large bird-dogging activities. Therefore, organizers often use call-in’s to the Governor’s office as a compromise between the logistics of daily life and the continued momentum of the movement. Call-in’s can take several shapes, but always have the end goal of calling the governor’s office and asking him to ban fracking. In one case, a “call-in day” can be organized, where a group or a coordinated set of groups of activists in different parts of the state call in to the Governor’s office directly and ask him to ban fracking. In another, activists can build on that scenario and call other activists, volunteers, and organizers from around the state and ask them to call the governor’s office. In a third case, organizers can expand on the petitioning tactic as they are working on the street and ask passers by to call in to the Governor’s office then and there in addition to adding their signature to a petition, effectively doubling that individual’s impact. In each case, the Governor’s office receives continual phone calls with requests from constituents to ban

fracking. Call-in's are therefore an effective tactic in making fracking an issue the Governor cannot ignore and in reinforcing the idea that Governor Cuomo is the target of the campaign since he has the unique ability to file an executive order to ban fracking.

Organizers used these political tactics strategically throughout 2014, since Governor Cuomo was up for re-election. Election years can be as important for issues as they can be for candidates (Rinfret et al., 2014). Therefore, it was important for organizers to use this election year to their advantage to build momentum in the movement by targeting specific counties for grassroots and political mobilizing. Organizers targeted counties that were undecided on the gubernatorial race in order to make fracking the deciding factor for those counties. Jack Miller was an organizer in these election year efforts in Westchester County, which was undecided. Miller emphasized the importance of public outreach and education tactics in these counties, due to the aforementioned "80/20 split" which describes the percentage of New Yorkers educated on the issue and their stance on the issue, with 80% against fracking. While this 80% were decided on the issue of fracking, they were undecided on the re-election of Governor Cuomo. Thus, organizers in Westchester and other undecided counties used the issue of fracking to influence the Governor's impact in these counties. In the primary race, this worked well. The incumbent candidate, Governor Cuomo was expected to win the primary by 95% percent, though only won 62% of the vote. Zephyr Teachout, who Miller explained appealed to the anti-fracking demographic throughout her campaign, took 34% of the primary vote (New York Times, 2014). This showed the Governor that fracking was an issue his constituents were passionate about and therefore put pressure on the Governor to address the issue of fracking throughout the rest of his campaign (Beauchamp, 2015). While the Governor did not address fracking until after his re-

election, organizers considered the leveraging of the election year as one of their most successful tactics because it increased media coverage of fracking, through media coverage of the campaign and it kept the pressure on the Governor to address the issue at least after he was re-elected.

Therefore, through articulating the motivation and framework of the campaign, organizers were able to develop a message, carried out through a long-term strategy and short-term grassroots and political tactics. Building grassroots strength through public outreach, education, and coalition building allowed organizers to then employ the political tactics of bird-dogging and call-ins in order to keep pressure on Governor Cuomo. The coordination of this movement, combined with the release of the Department of Environmental Conservation's GEIS in 2011, and the Department of Health's report on the Public Health Impacts of Fracking in 2014 helped give Governor Cuomo the political cover necessary to set a precedent in making New York the first state with significant shale deposits to ban fracking.

Chapter 4

Pumping Money, Oil, and Power: The Anti-Fracking Movement in California

In 2012, only 30% of Californians were aware that fracking was occurring in the state. By the summer of 2014, approximately 75% of Californians knew fracking was

occurring (Jacobson, 2014). There are several factors that could explain this increasing awareness. In 2011, a private firm, INTEK, who was contracted with the U.S. government, released a report claiming that California's Monterey Shale deposit held up to two-thirds of the nation's oil reserves. This set off a speculation boom throughout the shale deposit, which runs up central California. As a result of this increased speculation, there was a spike in media coverage of fracking in California, and thus an increase in public knowledge of the subject. However, in 2014, three years after the release of INTEK's report, the U.S. Energy Information Administration corrected these figures, and reduced the estimated amount of recoverable oil in the deposit by 96% (Sahagun, 2014). The increasing presence of fracking that resulted from the statewide speculation efforts had already raised public awareness of the issue. In addition, 97% of California was experiencing an exceptional drought, causing Governor Brown declared a state of emergency in January 2014 (Kim, 2015; Governor's Office, 2014). This contributed to general concerns over water use and conservation, which implicated oil companies and the 2 million gallons of water that is used in a single fracking well (Jackson et al., 2014). In addition to these external factors that influenced public knowledge of fracking operations in California, there were direct efforts to increase Californian's awareness of the issue. In reaction to the statewide intensification of fracking and worsening drought, grassroots organizing efforts against fracking took shape and built momentum in this period between 2012 and 2014. Thus, this confluence of incidents helped bolster statewide grassroots organizing efforts. This chapter of this thesis will examine the nature of fracking in California and how that informs the motivation, framework, strategy, and tactics used in the grassroots movement to ban fracking in the state.

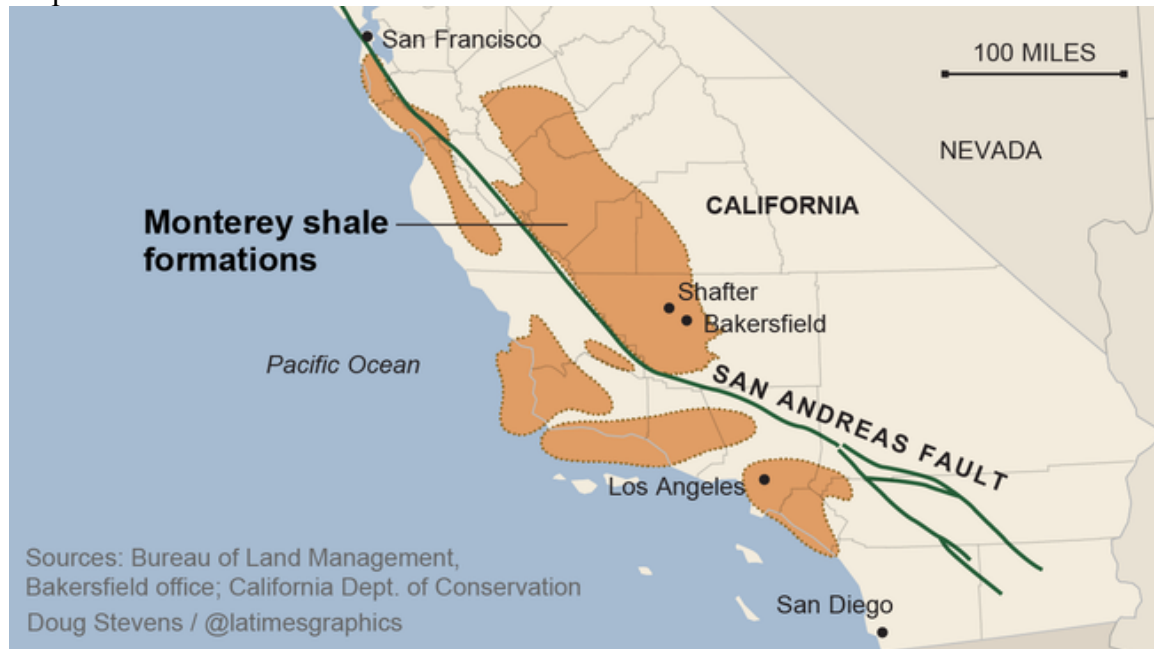
In order to explore the inner-workings of this movement, I used newspaper articles about fracking and anti-fracking activism in California and interviewed two organizers leading separate, but related movements against fracking on the local and state level. The newspaper articles provided a narrative of fracking in California, giving the political, environmental, and economic background information necessary to understand the development of this movement. While these media outlets offered a picture of local sentiments towards fracking as well as the development of fracking in California, few articles directly discussed the grassroots organizing efforts against fracking. In order to gain insight into the inner-workings, motivation, framework, strategy, and tactics of this movement, I interviewed two organizers working in California. Theresa Roberts works with the national advocacy and consumer protection organization, Food and Water Watch, which has been working in communities and states across the country to ban fracking. Manuel Ortega works with the San Francisco Bay Chapter of the Sierra Club – one of the most established environmental organizations in the country – also working on the local, state, and national scale to fight the growth of fracking. Through the information provided by these media sources and the two interviewees, it is possible to understand the motivation, framework, strategy and tactics that are currently in use to ban fracking in the Golden State.

Where

Oil companies have been drilling and fracking throughout California's Monterey Shale since the 1940's (Guzik, 2014). Currently, California fracking operations take place

off the coast near the Channel Islands and in ten counties: Colusa, Glenn, Kern, Los Angeles, Monterey, Sacramento, Santa Barbara, Sutter, Kings, and Ventura (Center for Biological Diversity, 2015). Below, Map 4.1 shows California's Monterey Shale deposit, which lies beneath these ten counties.

Map 4.1



Source: BLM cited in Stevens. "Monterey Shale Formations." 20 May, 2014.

According to Sahagun (2014) The U.S. government contracted an independent firm, INTEK in 2011. The firm originally estimated in 2011 that the Monterey Shale deposit had 13.7 billion barrels of oil, which would constitute about two-thirds of the country's oil reserves. Based on these estimates, the Price School of Public Policy at USC conducted its own study in 2013, which was funded by The Communication Institute and the Western States Petroleum Association, analyzing the economic impacts of fracking in California. The authors reported that the increased fracking of the Monterey Shale could boost the California state economy by 14% by 2020 through job creation and tax revenue (2013). However, a more recent report from the U.S. Energy Information Administration

corrected INTEK's figures, reporting instead that while there may be 13.7 billion barrels of oil beneath California's surface, the tumultuous seismicity of California's subsurface geology has assured that only 4% of that oil is actually recoverable – reducing the 13.7 billion barrels to less than 600 million barrels. This new finding has drastically changed the fate of fracking in California, which the industry is no longer purporting as the state with the answer for America's energy independence (Sahagun, 2014). California's geology has therefore also contributed to the fight against fracking in the state.

The initial 2011 estimates of the Monterey Shale's production value spurred an exploration and drilling boom throughout California. Due to current state regulations permitting oil companies the option of releasing data, the exact number of wells in the state is difficult to gauge. However, FracTracker – an online, open-access body of maps, data, and analyses – estimates that California currently has about 55,000 oil wells statewide (2014). Approximately 50-60% of these wells use hydraulic fracturing to recover oil. According to a report released in 2012 by California's Division of Oil, Gas, and Geothermal Resources, approximately 43,000 of these 55,000 wells are in one county: Kern, in California's Central Valley.

The Central Valley, known as America's food basket, produces over one third of the country's produce and 80% of California's oil (Bittman, 2012). Demographically, residents of the Valley are predominately of Hispanic origin and are recent immigrants, often speaking little English (Guzik, 2014). Of the Valley's 19 counties, eight had Academic Performance Index scores below the state average of 790 (California Department of Education, 2013). Residents of the Central Valley belong to the country's lowest income brackets and use food stamps over twice as often as the state average of 8% (Wozniacka, 2012). The median household income of the Valley's poorest county,

Fresno, was \$42,807 in 2011, compared to the state's median of \$57,287. Associated Press reporter Gosia Wozniacka wrote that this is largely resulting from the lack of diversity in the region's economic and job opportunities, which are predominately within the agriculture industry and typically low-wage. Farm laborers make up the majority of this workforce, about half of which is composed of undocumented immigrants (Medina, 2014). The Central Valley is also known as "prison alley," due to the disproportionately high concentration of federal and state prisons in the region, of which there are 17 (Braz et al., 2006). 350.org, a climate justice non-profit organization, reported in 2014 that the Valley is also home to the country's worst air quality, where more people die from diseases resulting from air pollution than anywhere else in the US. This is also where the vast majority of California's drilling and fracking occurs. The combination of industry, prisons, and poor environmental health contributes to a cycle of disinvestment from the Valley, in which individuals with higher-wage jobs can often earn their income in more hospitable regions and take their disposable income with them, in a type of reverse-gentrification (Wozniacka, 2012). FracTracker's report on fracking and demographics, which found that of the Californians living within one mile of a well, 20% are living below the poverty line and 69% are people of color, illustrates this relationship between industrial development and socio-economic status (Guzik, 2014).

These statistics highlight the fact that the place where the most extensive fracking is occurring in California is also among the most disenfranchised and the least politically powerful. This also could be reason for what organizers describe as the Governor's "lack of action" on fracking, which will be further discussed in a later section of this chapter. However, it is exactly for communities and power dynamics like these that grassroots organizing and activism evolved as an effective means for change. This is particularly

true in the case of fracking, in which these communities (in addition to other more urban or wealthier communities) are in a battle with one of the most powerful industries in the world: Oil and Natural Gas. Thus, understanding the geography, demography, and power dynamics resulting from fracked lands in California is integral to understanding the movement as a whole.

In reaction to the disproportionate amount of pollution and environmental health problems in the Central Valley, individuals, communities, and organizations have taken an environmental justice approach in responding to these issues. Though many of the environmental and public health problems in the Central Valley come from the extensive agricultural activity that occurs throughout the region, similar problems with air and water pollution result from the extensive fracking occurring in the same regions. An organization addressing environmental and public health issues resulting from fracking, the Center on Race, Poverty, and the Environment works closely with frontline communities – those who are more susceptible to the harms of pollution due to close proximity to or interaction with industrial activity – to organize a movement against fracking in what is the center of fracking in California. According to their website, The Center on Race, Poverty, and the Environment helped disseminate information about local fracking activity in trainings with these individuals from front-line communities, who have since become empowered agents of change – developing a plan of action, meeting with important decision makers, organizing rallies, and interviewing with media (cpre-ej.org, 2015). Thus in certain areas within California, confronting fracking through an environmental justice framework is effective in addressing immediate issues that result from fracking pollution and empower these traditionally disenfranchised communities to organize movements according to their unique conditions. As will be

discussed in a later section of this chapter, the organizing and environmental justice framework applied to these local, community-based efforts help build strength in the larger statewide anti-fracking movement by providing diversity that a dynamic movement requires.

Why California?

California is an important case study for this thesis for several reasons. First, unlike New York, fracking is already well established as a method for oil drilling in the state, and has been since the 1940's (Guzik, 2014). Resulting from INTEK's original 2011 report on the Monterey Shale's projected large productivity, speculation efforts increased dramatically throughout the state and slated California as the next frontier for America's fracking boom. However, as previously discussed, the U.S. Energy Information Administration later corrected and reduced these figures that inspired the increased search for oil (Sahagun, 2014). Thus, while exploration for new opportunities to drill has dramatically decreased, fracking operations that were already underway have continued. This increased activity around fracking raised public awareness of fracking and subsequent skepticism of the practice. Fracking may therefore be an established method of drilling for oil, but it is not necessarily a widely accepted method.

This illustrates the second reason California is important to study for the purposes of this thesis: fracking comes in direct conflict with many of the progressive and environmental ideals that California residents and their Governor proudly share. These same values have contributed to California's reputation as a "green powerhouse," coming from the state's leadership in the field of environmental politics on the national and international levels (Hayden, 2015). This leadership is visible in Governor Brown's

January 2015 inaugural address, wherein a large portion of the speech is dedicated to the state's fight against climate change, although discussion of fracking is absent. In the address, Governor Brown announced new goals to achieve by 2030: to increase the percent of the state's electricity derived from renewable sources up to 50%, reduce petroleum use in cars and trucks by up to 50%, and double the efficiency of existing buildings (Brown, 2015). The state's leadership is also visible in Governor Brown's participation in the 2014 U.S.-China Climate Negotiations and the 2014 UN Summit on Climate Change in New York (Siders, 2014). It is additionally evident in the passing of AB32 by the state legislature, which instituted a statewide cap-and-trade program to cut greenhouse gas emissions by 431 million tons by 2020 (Brown, 2015). Moreover, the state's commitment to environmental progressivism has challenged the idea that environmentalism conflicts with economic success, since California is the world's eighth largest economy (Hayden, 2015). Thus, many anti-fracking activists take issue with the inconsistency between California's supposed commitment to fighting climate change and its simultaneous permission of fracking.

As a result, the movement against fracking in California is growing. This will be instrumental in convincing Governor Brown to issue a statewide ban against fracking. This is in direct correlation to the third reason this thesis focuses on California as a case study: the state's anti-fracking movement could very well be successful in its goal to ban fracking statewide. Between the July 2015 release of the Department of Oil, Gas, and Geothermal Resources' Environmental Impact Statement, the growing and strengthening statewide anti-fracking movement, and the catalyst of New York's ban on fracking, three out of four interviewees expressed feelings of success in the near future. This makes California an important case study because it would make the state the first with fracking

activity to institute a statewide ban on fracking, giving an opportunity for other industry-laden states – like Texas, Colorado, and Pennsylvania – to follow suit.

The curious case of California and fracking is therefore similar, though not identical to the case of New York and fracking, which is the fourth reason it is important to study California's anti-fracking movement. The two states are similar in their left-leaning politics, their diverse demographics, and – as will be further discussed in a later section of this chapter – the evolution of their anti-fracking movements. However, they are dissimilar enough in their geography, the presence of fracking, and origins of their anti-fracking movements to provide interesting and important opportunities for comparison. Though this chapter will focus on California's anti-fracking movement, the next chapter of this thesis will directly discuss these comparisons between the movements in both states. In comparing California with New York, there is research opportunity for other states and the anti-fracking movements within those states to be compared to New York and the pathway it paved towards statewide fracking bans.

Grassroots Organizing in California: Motivations, Frameworks, and Message

Since 2011, California has been in a steadily increasing drought. In January 2014, Governor Brown declared a drought state of emergency. Later, in the summer of 2014, Californians found themselves in the worst drought in the state's recorded history. In March, 2015, Governor Brown released an emergency measure billion dollar drought relief plan aimed to offer short and long term relief measures, providing immediate support for affected communities as well as new infrastructure initiatives to increase future recycling and desalinization projects (Megerian et al., 2015). In April 2015, the Governor instituted the first mandatory water restrictions in California's history, targeting

municipal water agencies (Executive Order B-29-15, 2015). In announcing these restrictions, Governor Brown failed to mention that they also do rural water use, which will limit the amount of water the state's largest consumer – the agriculture industry – can use (Johnson, 2015). Nevertheless, the perceived exemption of the agriculture industry from the mandatory restrictions has left many Californians feeling cheated by the executive order, since they are the main recipients of the new restrictions even though they are not consuming the nearly as much water as these large industries. This war over water has forever shaped California's politics, with iconic battles over the scenic Hetch Hetchy Valley to supply San Francisco's municipal water supply and Owen's River to supply Los Angeles' to the depleting groundwater sources throughout the Central Valley so much so that it is sinking (Boxall, 2015). California's dubious relationship with water is so integral to the contemporary experience of the state that scholars and Hollywood filmmakers alike document this history. Thus, it is only fitting that the discussion around fracking in California is centered on water use, especially considering the drought-stricken state of California and the fact that a single fracking well uses at least 2 million gallons of water. The main motivation behind California's anti-fracking movement is therefore managing water use and conservation. The drought has defined, shaped, and directed the anti-fracking movement in California.

This motivation has directly affected the framework of the discussion around and movement against fracking in California. Concerns over water use have taken priority in addressing California's fracking activity, which has framed the state's anti-fracking campaign as environmental. The primary emphasis on environmental concerns is visible in the larger actions organized by the statewide coalition, Californians Against Fracking, which is composed of nearly 200 diverse groups. For example, in February 2015, the

coalition led the organization of the March for Real Climate Leadership in Oakland, which called on Governor Brown to be “real climate leader” by banning fracking. The march first emphasized the impacts of fracking on the climate, and then on human health. Though there is reason for environmentally motivated concerns over fracking (Hoenicke, 2015). In addition to water conservation, ground water contamination, disposal of wastewater, the release of the greenhouse gas, methane; other forms of air pollution; land use issues; and habitat destruction resulting from the development of fracking infrastructure are all environmentally-based reasons individuals and organizations use to address this issue (Center For Biological Diversity, 2015). However, these environmental concerns are intrinsically connected to concerns over public health, as harm to environmental health often results in harm to human health. This idea is articulated in the environmental justice movements against fracking in the Central Valley. These groups are adding to the campaign rhetoric and bringing in the concerns of frontline communities, which reflect the connection between environmental and human health and the necessary protection of both. Thus, California’s anti-fracking movement is maturing and growing as it incorporates priorities of diverse groups. In this evolutionary process, the framework of California’s anti-fracking movement is primarily environmental, though is increasingly inclusive of these concerns to protect public health.

The motivations to control water use and environmental framework that have shaped the anti-fracking campaign in California influence the direction of the movement. Additionally, these two factors inform organizers on who is the target of the campaign. Interviewees continually stressed the importance of having a clear message, with an identifiable target and a clearly articulated goal in order to run a measurably successful campaign. These three factors come together in the message to call on Governor Brown

to ban fracking statewide. Much like Governor Cuomo, the California Governor has the authority to issue an executive order banning fracking in California. The following section will detail the tactics and strategies currently in use in order to take action according to this message and achieve the campaign goal of banning fracking in California.

Grassroots Organizing in California: Strategy and Tactics

To carry out the movement according to this message, organizers must identify a long-term campaign strategy and short-term tactics with which to carry out that strategy. In California, the main strategy in the anti-fracking movement is to build grassroots strength – which comes from public involvement in the campaign – and use that strength to wield political influence over Governor Brown. Grassroots organizers emphasize the importance of employing certain tactics with which to carry out this campaign. Canvassing and petitioning are the main tactics organizers are using in public outreach and education efforts, which form the backbone of any grassroots movement. On an organizational level, building coalitions between diverse groups united by the common goal of banning fracking also extends these outreach and education efforts. Pitching stories and events to media outlets is a tactic often used by organizers to harness the media's immense power and direct it to further the campaign goal in connecting the “on the ground” grassroots efforts with the politicians who are able to make decisions on the issue. This connection is important, as it allows the building grassroots power to be used for political influence. Another tactic used to wield political influence is organizing locally in order to build a patchwork of “frack-free zones,” through passing local bans and moratoriums. This helps to make fracking and anti-fracking activism an issue that is hard for Governor Brown to ignore, which is the organizers' goal in the employment of

these tactics. This goal is also actualized through public activism tactics, like bird-dogging activities and marches publicly and personally calling on Governor Brown to ban fracking in California. California organizers use these tactics in carrying out the strategy of building the grassroots power necessary in order to exercise political influence over local and state decision-makers to achieve their goal of banning fracking.

Organizers continually argued that the strength of the anti-fracking movement lies in the number of people involved in the campaign. Therefore, the first tactic that organizers use in California is public outreach and education, which are inextricably linked. Organizations approach this aspect of organizing in different ways according to the size of the community. On a local, county level, organizers with Food and Water Watch (FWW) – one of the main national organizations working to ban fracking – use local groups to begin initial outreach efforts. FWW California Organizer Theresa Roberts explained that these efforts start simply: with conversations with local individuals about fracking. Roberts has organized these initial outreach efforts throughout California, including Monterey, Alameda, and San Benito counties. In San Benito, which successfully banned fracking through ballot initiative in November, she worked with a small group of concerned citizens, who needed the resources of a larger organization, like FWW, to organize on a larger scale in their county. Roberts stated in an interview, “it’s all about that one-on-one, volunteer, personal outreach,” in these beginning stages because they foster the passion necessary for becoming involved in the anti-fracking movement, which can often require a high level of volunteer commitment. This also reflects Pilisuk et al.’s (1996) emphasis on the necessity of dialogue as tool to foster community participation and commitment in a campaign. These conversations can take place in a range of places, though already established “organizing spaces,” like churches

or places of worship, community centers, or partner organization offices often work well. They also help organizers like Roberts, who are not local citizens, learn about the local community's needs and political environment, which helps build the most effective movement for that community. Volunteers are often recruited through less formal means as well. Petitioning – or stopping people walking on the street to talk with them about fracking – is another common outreach and education tactic. This usually involves a volunteer standing in a heavily-foot-trafficked area – outside of a grocery store, for example – and asking passers-by to sign a petition calling on Governor Brown to ban fracking. This informs local individuals about the issue and can also double as an opportunity for recruiting those interested in volunteering with the movement.

The Sierra Club, one of the country's largest and most established environmental organizations is also working across the country on anti-fracking efforts. The Sierra Club is structured in a way that allows local chapters (based on city or region) to address an issue in a way that fits the political and cultural landscape of that community (Ortega, 2015). On state and federal levels, therefore, the Sierra Club advocates for stopping fracking, rather than “banning fracking.” For example, Manuel Ortega, Sierra Club's Bay Area Chapter organizer works locally in Alameda County with the Board of Supervisors to prohibit the future issuing of permits to oil companies seeking to drill in the county. Due to the low fracking activity in the county – only one permit is currently issued – this would have nearly the same affect as banning fracking in the county, though avoids the risk of using the politically-charged language of “ban,” which could break ties with potential allies. For these local efforts, Ortega does not need many volunteers because it involves more lobbying than it does public involvement, as indicated in Perkins et al.'s (1996) description of issue-based campaigns which can often rely more heavily on

personal meetings with politicians than grassroots activism on the street. However, in addressing the issue of fracking in the context of a statewide campaign, Ortega did say that his office participates in the organization's statewide canvassing efforts as means of public outreach and education. Canvassers are paid employees who walk door-to-door in a neighborhood and have conversations with people about fracking and work to build membership for the organization. This allows outreach efforts to cover a wide geographic range and reach a large number of people, especially when it occurs across the state through individual Sierra Club chapters.

These outreach efforts are inherently educational, for both organizers and the communities in which they are organizing. Education is thus a fundamental component of outreach efforts. This occurs on two levels: organizations and their employees learn from community members about the local political, cultural, and environmental conditions and community members learn about fracking and how to organize a successful campaign in their community. While working with the local concerned citizens group in San Benito, Roberts was able to learn that there was enough resident support to ban fracking, so that a ballot initiative would be the route to ban fracking with most potential for success. She was then able to share her expertise in organizing and training community members as organizers in addition to more information about fracking in their community. Like New York, fracking had yet to begin in this small agrarian county. Robert's experience in San Benito is reflective of the two-way educational path that is necessary for successful grassroots organizing. On the ground in San Benito, Roberts would train future organizers in order to expand their impact. In collaboration with local groups, Roberts and FWW hosted workshops with scientists and geologists in order to help inform citizens about fracking with non-biased, expertise knowledge. Both Roberts and Ortega

used meetings as educational opportunities as well. These meetings are usually lobbying meetings with local politicians. In order to have an impact on fracking beyond the boundaries of San Benito or Alameda counties, both FWW and the Sierra Club provide online resources for the general public, send e-mail blasts to subscribing individuals, and publish links to open-access scholarly reports on fracking, free of cost. Additionally, FWW has a section of its website dedicated to “activist tools,” which provide interested individuals with the basic tools necessary to organize a movement against fracking (Food and Water Watch, 2015). Therefore, both organizations emphasize the importance of issue-based knowledge, but FWW places equal importance on organizing-based knowledge as well.

Once these local outreach and education efforts create an organized group, it can become part of a coalition. In general, coalition building involves partnering with other groups and organizations to address and take action on an issue together. Coalitions can, but do not necessarily form among similar groups. Typically, it is an issue, rather than a type of group, that unites diverse entities to organize towards a common goal. For example, Californians Against Fracking is a statewide coalition of nearly 200 groups and organizations. Members range from traditional environmental groups like the Sierra Club, Food and Water Watch, and Center for Biological Diversity; and environmental justice groups like Union de Vecinos, the Center on Race, Poverty, and the Environment, and Communities for a Better Environment; to medical professional groups like Physicians for Social Responsibility of San Francisco and the California Nurses Association; indigenous groups like United Native Americans; faith-based organizations like the Orange County Interfaith Coalition for the Environment; food justice groups like the Food Empowerment Project; water protection groups like Ballona Network, California

Water Impact Network, and San Louis Obispo Clean Water Action; public health advocates like Breast Cancer Action; and student groups like UC Berkeley Students Against Fracking and Fossil Free UC. Coalitions are an integral part of grassroots movements because they unite groups from diverse backgrounds to work towards the common goal of (in this case) banning fracking. Just as Roberts shared her resources with the concerned citizen group in San Benito and the group in turn shared their knowledge of the local political environment, resource sharing is a huge component of coalition building, since the currency of grassroots efforts usually involves skills rather than money. Therefore, the diversity within Californians Against Fracking strengthens the movement because it fosters this type of sharing between all kinds of groups (De Chiro, 2008). These groups are composed of and cater to unique populations, approach fracking as an issue from different perspectives, come from different geographical backgrounds, have distinct areas of expertise, and distinct spheres of influence. Coalitions pool all of these resources.

This is exemplified in the March For Real Climate Leadership, which Californians Against Fracking organizers – who each work for groups that are members of the coalition – organized in February. Participants from the many members of Californians Against Fracking marched in Oakland, where Governor Brown used to be mayor, and where he and his family lives when not in the state capital. Leading up to the march was a month-long panel series, the California Crossroads Tour. The “tour” started in San Diego and continued up the state in six other cities that were relevant to the fight against fracking in various ways: Los Angeles, Oxnard, Santa Barbara, Delano, San Juan Bautista, and Oakland. I attended the Los Angeles panel, at which speakers from local groups like CoWatching Oil LA, Carson Coalition, and South Bay 350 and statewide

groups like the Sierra Club Beyond Coal Campaign; the Center for Race, Poverty, and the Environment; and Communities for a Better Environment represented their groups. The Master of Ceremonies for the panel was David Braun, who is the lead organizer in Californians Against Fracking, and also worked extensively with the New Yorkers Against Fracking coalition (California Crossroads Tour, 2015). The coordination of the panel series and the march, which drew over 2,000 people was an organizing feat, and exemplifies the importance and power of a coalition. Ortega argued that the march has been one of the largest successes of the campaign as a whole (2015). Through events like these, coalition building increases the impact of the campaign by building the number of individuals involved and increasing the number of organizations involved. This ensures a diverse, broad-based activist population, united against fracking.

These characteristics of a coalition like Californians Against Fracking can create the potential for a large and dynamic movement and have the potential to create disintegration and chaos. In order to maintain coordination among these many groups, Californians Against Fracking as become an organization in its own right and is responsible for managing various social media outlets, coordinating events like the March For Real Climate Leadership in Oakland, the California Crossroads Tour, and maintaining a website, which acts as headquarters for the coalition since the nature of a coalition can preclude it from occupying a physical space. Additionally, individual groups or organizations choose to join the coalition, so it is essentially a self-selecting sample of parties interested in and dedicated to fighting fracking in California.

One of the most important strengths of coalition building as a grassroots activism tactic is its ability to connect a small, local anti-fracking movement with the resources and strength of a statewide body, as seen in San Benito county. According Roberts, local

action against fracking has taken off statewide, due to the lack of action on the state level. The local bans, moratoriums, and permitting restrictions that have occurred throughout the Monterey Shale area create “frack free zones,” and help build momentum for the statewide action that Roberts argues is lacking. Both Roberts and Ortega emphasized the importance of working on the city and county level in order to build a patchwork of areas prohibiting fracking. Local action against fracking has gained momentum since Beverly Hills became the first California city to successfully ban fracking in 2014 (Feldman, 2014). According to Food and Water Watch, there are now 21 neighborhoods, cities, and counties across the state that have passed a ban, a moratorium, or a land use permit restriction in their communities, effectively stopping or regulating local fracking operations. The local fight against fracking has taken shape in ballot measures (Hermosa Beach, San Benito County), through city council resolutions (Arroyo Grande, Berkeley), letters of discontent (Rampart Village Neighborhood Council), or county supervisor resolutions (Santa Cruz County) (Food and Water Watch, 2015). However, there are still many counties and municipalities that were unable to stop fracking in their communities. In the November 2014 elections, Santa Barbara County failed to pass a ban on fracking within county limits and in the March 2015 elections, La Habra Heights, a small city east of Los Angeles, failed to pass a ban on fracking within city limits (Peterson, 2014; Fulton, 2015). Thus, organizers argue for the importance of connecting these local actions with the statewide movement against fracking in order to celebrate the victories and continue to mobilize against the failures. The coalition Californians Against Fracking is thus a fundamental component of the anti-fracking grassroots organizing in California.

The media is another useful tool for organizers to connect local and statewide organizing efforts. Media coverage of an event or new development in the movement or

in fracking is yet another extension of organizers' education and outreach tactics. Press coverage of an issue inherently increases public knowledge of that issue, but it can help make that issue political. This is because the media acts as a middleman between politicians and the public, communicating the thoughts of one entity to the other and connecting grassroots operations on the street with the decision makers in their offices. Politicians and decision-makers care about their own portrayal to their constituents and the concerns of their constituents. The media has the power to shape both of these. For this reason, organizers are trained in pitching stories to media outlets, getting coverage of events, fracking developments, writing letters to the editor, opinions and editorials, and in giving interviews. When organizers pitch a story to the media, they are providing an anti-fracking lens through which that story may be written. However, when organizers write the story themselves through letters to the editors or opinion pieces, they control the story in its entirety. This tactic is often used by Environment California, a statewide environmental advocacy group and research center. Dan Jacobson, the legislative director for Environment California, often writes editorials warning of the dangers of fracking and calling on Governor Brown to ban fracking in the *Sacramento Bee*, the state capital's main newspaper (Jacobson, 2014). Using the media in this way, according to Roberts, is particularly important when oil companies have the ability to pump millions of dollars into pro-fracking campaigns. Ryan (2011) also speaks to the importance of media coverage in grassroots activism, but does emphasize that it is one of many tools the organizer has at his or her disposal in to increase outreach, education, and political impacts of the campaign.

The combination of outreach and education efforts, coalition building, and – in a less direct way – media coverage help to build the grassroots strength in numbers

necessary in order to carry out political tactics and carry out the campaign's main strategy. Organizers employ directly political tactics to call on Governor Brown to ban fracking. In California's anti-fracking movement, organizers have identified Governor Jerry Brown as the main target because he has the authority to issue an executive order banning fracking statewide. However, this clearly is not an option the Governor will voluntarily take, as it is politically risky to ban a practice that is currently bringing money into California's economy, is not under an overwhelming amount of public scrutiny, and is not yet occurring on a huge scale. Moreover, with the 96% reduction in predicted recoverable oil in the Monterrey Shale, it is simply no longer in the interest of the oil companies to spend time and money on speculation efforts to drill new wells in the shale (Sahagun, 2014). Additionally, the California legislature ordered an environmental, public health, and economic report on fracking, which is not due until July 1, 2015 (Hertsgaard, 2015). Governor Brown has therefore been able to remain silent on the issue, as fracking may dissipate on its own. In response to this silence, organizers are working to make fracking an issue for Governor Brown. To do this, anti-fracking activists have begun showing up at the Governor's public events, protesting his implicit consent of fracking in California and calling on him to ban fracking in bird-dogging efforts, which are consistent with Alinsky's insistence to "keep the pressure on" throughout the campaign (1971, p. 127). The March for Real Climate Leadership was also an important example of organizers making fracking an issue Governor Brown could not ignore. Although the march did not immediately force the Governor to ban fracking, it was successful in making this an issue for Brown, since it received extensive media coverage, reinforced and expanded outreach efforts, and strengthened the coalition Californians Against Fracking, by showing its organizing capabilities.

By employing these grassroots and political tactics to carry out the campaign strategy, organizers of California's anti-fracking grassroots movement are able to build momentum and interest around this issue. Through education and public outreach, coalition building, and media use, organizers build the grassroots strength necessary to wield local and state-level political influence. Organizers call on Governor Brown to ban fracking in using these tactics to maximize individual involvement with the campaign and make that involvement have a political impact. Both Roberts and Ortega voiced confidence in the possibility of a statewide ban in the near future, so long as the campaign continues to develop along this model.

Chapter 5

Discussion of Case Studies

New York and California's campaigns against fracking are each important case studies. The state of New York has set a precedent in being the first state with significant shale deposits to ban fracking, and pre-emptively so. California offers a different narrative. Unlike New York, where fracking operations never actually started, fracking is a well-established method of drilling for oil in the Golden State, and has been for over 60

years (Guzik, 2014). It is therefore somewhat ironic that California is also the national leader of progressive environmental politics and a “green powerhouse,” which makes the permission of fracking in the state somewhat of a conundrum, and necessary for examination (Hayden, 2015). The population, state legislature, and executive powers in California that make it so environmentally progressive could also be the reason a statewide ban on fracking could very much be possible in California’s near future. Thus, the comparison of the anti-fracking movements in New York and California offer important insights to the nature of grassroots movements and fracking in America. In comparing the movements in these two states, there is opportunity for the burgeoning movements in other fracked states across the country to understand the process for success or failure. This chapter of this thesis will therefore synthesize and analyze the information provided in the previous two case study chapters, which focused on the individual movements against fracking in New York and California. This chapter will provide the similarities and differences between the origins, motivations, frameworks, messages, strategies, and tactics as well as the resulting implications to the directions and successes of the campaigns. In doing so, I will recommend steps the campaign in California should take in order to ensure a statewide ban on fracking.

Campaign Origins

Due to the fact that these are grassroots movements against fracking, the origins of the campaigns in both New York and California are in local communities that were threatened by the expansion of fracking in their respective states. All four organizers described the trajectory of these campaigns as growing from local organizing and actions against fracking and into a statewide movement. In New York, grassroots activism against fracking started in the Southern Tier of the Upstate region, which is where oil

companies were speculating for the development of fracking operations. In California, where fracking was already occurring, communities threatened by the potential expansion of fracking in 2011 in parts of Los Angeles and the Central Valley were also the initial organizers of the anti-fracking movement. In both New York and California, these initial local efforts did not blossom into statewide efforts until the development of statewide risk – water quality in New York and water conservation in California – and the development of partnerships with larger organizations, like Food and Water Watch, who have more resources and influence on a statewide level (Beauchamp, 2015; Roberts 2015).

The lack of statewide influence of these initial grassroots movements is indicative of the disenfranchisement of the populations originally threatened by fracking in each state. These populations are geographically, politically, and economically isolated from the rest of the state, and are “excluded from the mainstream of organized power” (Pilisuk et al., 1996, p. 112). Upstate New York is predominately rural, with small, family agriculture operations constituting the majority of economic activity in the region. Therefore, this lack of economic diversity, compounded with the 2009 economic recession, the depletion manufacturing jobs, and regional depopulation in Upstate New York have all contributed to the economic stagnation and resulting disenfranchisement of the region (Spector, 2014). The lack of economic power in Upstate New York has contributed to what locals describe as the region’s lack of influence on statewide politics, which are often dominated by the left-leaning and economically powerful Downstate region (Waldman, 2015). Additionally, the struggling economy of Upstate New York has left residents and local representatives seeking short-term economic boosts, without necessarily considering long-term social, political, or environmental consequences. For example, Southern Tier counties Broome, Tioga, Delaware, and Sullivan embraced the

development of fracking hoping for the economic stimulation that promised to follow (Waldman, 2015). The need for economic stimulation was so great in these counties, that it was prioritized over the protection of human and environmental health. However, in the majority of Southern Tier counties, concerned citizens organized in community meetings in an effort to consider these human and environmental costs with the potential economic gains that could result from fracking. These community meetings therefore marked the beginning of the state's anti-fracking movement (Beauchamp, 2015).

Like Upstate New York, California's Central Valley is among the most disenfranchised region in the state. It is also predominately rural and its economy is heavily reliant on the agriculture industry. According to FracTracker's 2014 report on the locations of fracking wells in California, the Central Valley is also where the vast majority of the state's fracking operations occur. However, unlike Upstate New York residents – whose disenfranchisement is largely linked to the region's stagnant economy, and not racial or ethnic differences – the marginalization of Central Valley communities results from several other social, political, and cultural factors. The majority of Central Valley residents are of Hispanic ethnic origin, many of who do not speak English (Guzik, 2014). Additionally, the large population of migrant farm workers that travel to the Valley to work in the agriculture industry are also undocumented, and therefore have little political clout (Medina, 2014). Between the Valley's intense industrial agriculture activity – which is responsible for supplying over one third of the nation's produce – and the minimally-regulated fracking operations, Central Valley communities experience problems with water quantity, water quality, and air pollution, which has stimulated Environmental Justice activism throughout the region (Bittman, 2012; Guzik, 2014). It is therefore not surprising that the early stages of California's anti-fracking movement

began to take shape in the Central Valley, and that – due to the region’s marginalization – these efforts have been largely ignored on the state level.

The correlation between the presence of fracking and the relatively low socio-economic status of the (potential) frontline communities in New York and California is indicative of larger systems of disempowerment. However, as Alinsky argues, grassroots organizing developed as a weapon with to fight and reform these systems of power (1971). If, as Alinsky argues, power comes from either money or people, these communities have been able to build power through organizing people on a grassroots level. The following section of this chapter will detail the motivating factors that contributed to this organization of a statewide campaign against fracking.

Campaign Motivations

Though these campaigns can now operate on a statewide level, they are grassroots movements, and therefore are intrinsically connected to their places of origin. For this reason, the motivating factors behind the evolution of the anti-fracking movements in New York and California are unique to each state. In New York, the proposed introduction of fracking posed a sudden threat to the state’s water quality, since the location of the majority of New York’s aquifers are located in the same area as the Marcellus Shale, as visible in Map 3.4 (NYSDEC, 2010). With the 6% risk that a fracking well should leak, or that wastewater be disposed of irresponsibly – as has

happened in neighboring Pennsylvania – the groundwater contained in these aquifers could be contaminated (Jackson et al., 2014). According to the NYSDEC, these aquifers supply the majority of the state’s municipal water supply, thus threatening the quality of drinking water for the entire state – including New York City’s infamously pristine tap water –rather than just the frontline communities in the Southern Tier. The protection of the state’s aquifer system therefore became a state issue, and so did the anti-fracking movement. This urgent need to protect New York State’s water quality is the motivating factor behind the development of the statewide anti-fracking movement.

In California, water is a similarly important issue. However, concerns regarding water in California are largely in respect to water use, rather than water quality. This comes from the state’s long and tumultuous relationship with water and the quest to find it. Therefore, the fact that California is currently in its fourth consecutive year of drought – one of the worst in the state’s recorded history – has put extra pressure on the state’s management of water resources (Famiglietti, 2015). Moreover, the fact that a single fracking well – of which California has upwards of 55,000 – can use approximately 2 million gallons of water, threatens the state’s need for increased water conservation (FracTracker, 2014). Additionally, while concerns over groundwater contamination in California are valid, the state’s aforementioned water imperialism ensures that the vast majority of California’s municipal water supplies come from surface water sources like the Owen’s Valley River, Hetch Hetchy Valley’s Tuolumne River, and the Sacramento River, the Colorado River (NRDC, 2015). These water sources, and the populations drinking from them, are at little risk of contamination from fracking operations, decreasing the immediate threat to public health. However, these water sources are threatened by the overconsumption of water. Current disclosure regulations in California

allow give oil companies the option of releasing data on their water sources, and therefore it is difficult trace water sources for fracking activity. However, it is thought that the majority of water used for fracking comes predominately from groundwater, recycled water, and private water companies who have rights to a variety of water sources (Freyman et al., 2013). Therefore, the risk from fracking to California's water is primarily consumption and secondarily contamination. Thus, the main motivation behind California's campaign against fracking is the protection of water quantity.

The divergence between each state's motivations for organizing against fracking is indicative of the nature of grassroots organizing, which grows from local political circumstances. It therefore makes sense that these local environments would produce unique grassroots movements. However, it is important to understand the distinction between the motivations behind New York and California's movement because these motivations can affect the ways in which organizers carry out the campaign (Bettencourt, 1996). The next section of this chapter will detail how these motivations affect the similarly distinct frameworks used in each campaign.

Campaign Frameworks

As discussed in the previous two chapters, the motivations behind the development of a grassroots campaign directly inform the framework of that campaign. The motivating factor in New York's grassroots campaign against fracking was the protection of water quality, which many residents felt would be threatened should fracking develop in their state. The desire to protect water quality therefore framed the campaign in public health terms, since public health would be affected by compromised water quality. In the case of California's anti-fracking grassroots movement, the

motivating factor to protect that state's water quantity has framed the campaign in water conservation and environmental terms. The framework of each campaign has certain implications for the outcomes of each campaign because it impacts who participates in the campaign, how that campaign is presented in media coverage, and how politicians can make decisions related to that campaign.

Organizers in New York argued that the public health framework of the anti-fracking movement was one of the main contributing factors to the campaign's success. Most importantly, the public health framework of New York's campaign made it relatable to everyone, because public health affects everyone. This can in part explain the "80/20" that New York organizer, Miller described, in which 80% of the population of New Yorkers who were relatively knowledgeable about fracking were against the introduction of the practice to their state (2015). Threats to public health are threats to people of diverse economic, political, geographic, and racial backgrounds, which allowed organizers to mobilize a large and diverse movement. Additionally, organizations from equally diverse backgrounds were able to become part of New Yorkers Against Fracking (NYAF), the statewide coalition against fracking. Miller argued that one of the most influential coalition members within NYAF was the Coalition of Concerned Medical Professionals, which used its position as a group of scientists, doctors, and nurses to inform the public about the potential dangers of fracking. Its influence came from the fact that these types of professionals are viewed as being unbiased, as having minimal personal agendas and therefore are among the most trusted by the public (Miller, 2015). In addition to the Coalition of Concerned Medical Professionals, NYAF has many other health-oriented coalition members including the Brooklyn Food Coalition, Brewery Ommegang, Chefs for the Marcellus, and the Great Neck Breast Cancer Coalition (2015).

The broad-based support for New York's campaign to ban fracking is largely a result of the campaign's public health framework, which appeals to a broad constituency across racial, economic, geographic, and partisan boundaries. This has political implications as well. Beauchamp argued that one of the strongest assets to the movement in New York was the lack of partisan boundaries with the issue of fracking. This bi-partisan support for a ban on fracking is also partially responsible for Governor Cuomo's ability to ban fracking. In addition, politicians are able to take bold action, like ban fracking, if there is broad political and public support for that action (Rinfret et al., 2014). Thus, when New York's Department of Health released its 2014 report on the public health impacts of fracking, Governor Cuomo had the political cover necessary to ban fracking.

Governor Brown will soon have this political cover, come July 2015, when California's Department of Oil, Gas and Geothermal Resources will release its Environmental Impact Statement on fracking in the state. However, there are currently no plans for the state to conduct or hire a private firm to conduct a review of the public health impacts of fracking. This is indicative of the separate trajectories the campaigns have taken, which has resulted from their distinct motivations and frameworks. California's campaign is motivated by the need to manage water use and consumption in the state. This is rooted in conservationism, which is the principle that has largely defined American environmental policy by Gifford Pinchot, with the aim to protect the nation's natural resources for "the greatest good for the greatest number of people for the longest amount of time" (Pinchot in Skillen, 2009, p. 46) Conservationism aims to save natural resources in order to ensure that they will remain future human generations' use. Water is arguably the most precious natural resource in California, and is necessary to conserve for current and future generations. Therefore, because the campaign's motivation to

conserve California's water is rooted in the environmental principle of conservationism, and the motivation of a campaign informs the framework of the campaign, the framework of California's campaign against fracking is rooted in environmental principles. This affects the nature of the population involved in the campaign, the media portrayal of the campaign, and how the Governor can respond to the campaign.

Though California is an environmentally progressive state, not all Californians are able to relate to the principles of mainstream environmentalism, which has been characterized as a movement that prioritizes tiny fish rather than farmers' rights to water, as a result of the protection of the Delta Smelt in the rivers of California's San Joaquin Delta (Boxall, 2011). Mainstream environmentalism also has the potential to alienate certain groups based on race, class, gender, and political identity due to its history furthering white, patriarchal conceptions and separations of nature and humanity, which is an important history to understand, though is outside the scope of this thesis (Kuzmiak, 1991). This especially concerning due to the high correlation between harm to the environment and harm to people who are not white, male, or upper-middle class (Bullard, 1994). This correlation is visible in the case of fracking in California, which as previously discussed, affects among the most disenfranchised populations in the state in the Central Valley (Guzik, 2014; Medina, 2014). However, it was in reaction to this correlation and the lack of representation of these groups in the mainstream environmental movement that the environmental justice movement was born (Bullard, 1994). Therefore, California's campaign against fracking is environmentally framed, though this is interpreted in different ways according to the needs of a community. The movement in Central Valley is predominately framed in as environmental justice activism, while communities not directly affected by fracking in other areas of the state may fall more in

line with the framework of traditional environmentalism and conservation (Roberts, 2015). The campaign's emphasis on the environmental impact of fracking is reflected in the membership of the statewide coalition, Californians Against Fracking (CAF). Compared to New Yorkers Against Fracking, CAF does not have nearly as much, or as diverse of a public health-oriented membership body. Instead, the coalition predominately consists of a spectrum of environmental groups including 350.org, California Environmental Justice Alliance, Friends of the Earth, Klamath Forest Alliance, and Union de Vecinos.

Public perception of environmental issues can be affected by media coverage of environmental events, which Corbett argues is unique from the coverage of most other events (2006). According to Corbett, the news is predominately event-driven, due to its time-sensitive nature. For example, Governor Cuomo's announcement to ban fracking was a singular, time-sensitive event and therefore newsworthy. However, most environmental problems do not fit the prescription of a single "event," and rather are long-term phenomena – climate change, deforestation, desertification, and rising sea levels. Instead, most media coverage of environmental issues includes "events," – natural disasters, oil spills, or political marches – that result from these larger concerns. This reports the event without always acknowledging the root cause of this event, which is often related to one of these larger environmental phenomena (Corbett, 2006). Therefore, because the statewide campaign against fracking has framed fracking as an environmental issue, rather than a public health issue, most media coverage of fracking in California follows this event-driven model. This coverage usually surrounds an event that occurred as a result of fracking. While there have been plenty of these fracking events covered by the media, no major catastrophes have resulted from the drilling practice in

California. Nevertheless, benzene-contaminated wastewater, the discovery of illicit wastewater pits, earth tremors, and a county approving or rejecting a moratorium on fracking are events that have widely covered by various media outlets through an environmental lens (Cart, 2015; Miller, 2015; Larkin, 2015). Though it is not necessarily problematic for the media to cover fracking as an environmental story – it is an environmental story – it is important to understand that it reinforces the public's perception of fracking as a primarily environmental issue, which affects the public's role in the campaign as well as the political response to an environmental campaign.

Though fracking has caused these events, it is not resulted in a catastrophe. As a result, the practice's sixty-year history, combined with the lack of fracking disaster in the state has permitted Governor Brown's tacit consent of the practice (Hertsgaard, 2015). However, organizers of California's campaign against fracking argue that the Governor's voiced and actual commitment to environmentalism should overpower the permission of fracking, since it is shown to cause environmental harm. For this reason, using an environmental framework in California's campaign against fracking by leveraging the environmental problems resulting from fracking may actually be politically advantageous in California's case. The motivation to address and the framework used to address this issue is environmental, and thus it requires a political response from an environmental perspective.

The differences in motivations and frameworks within each of these campaigns are therefore indicative of the requirements in the response to each movement as well as the location-specific nature of grassroots movements. The urgent threat to New York states municipal water supply informed the public health framework of New York's campaign was widely relatable and maximized the population of individuals and groups

able to participate in the campaign. This broad-based population of New Yorkers against fracking put pressure on the Governor and gave him political cover to ban fracking statewide. In California, fracking poses a more immediate threat to water quantity, rather than quality, which has helped framed the state's campaign against fracking as environmental. While an environmental campaign does present certain challenges to organizers – especially in relation to the population participating in the campaign – this framework does make political sense in California, since it appeals to the state's reputation as a national leader in environmental politics and fracking does pose serious threats to the environment. However, relying on mainstream environmental principles that privilege certain groups of people over others and certain endangered species over people will not benefit the movement. Therefore, it will be important for organizers of the campaign to take full advantage of the interdisciplinary nature of environmentalism and include the spectrum of diverse perspectives that exist within the environmental movement. As visible in the diverse membership of environmental groups within the statewide coalition, Californians Against Fracking, organizers are making efforts in including the wide variety of environmental experiences resulting from fracking. In both movements, the protection of public health and the environment are prioritized, though New York prioritizes the former over the latter and California prioritizes the latter over the former. The framework of both of these campaigns informs, but does not define the public, media, or political perception of these campaigns.

Campaign Message, Strategy, and Tactics

With these motivations and frameworks in place, each campaign developed a message, with a clear target and a measurable goal. These campaigns against fracking have the same message: calling on the governor of that state to ban fracking statewide. In

these messages, Governor Cuomo and Governor Brown are the targets of the campaign, and banning fracking is the goal. As articulated by Alinsky, having a strong, focused message helps maintain strength and focus within the campaign (1971). It also reflects the idea New York organizer, Alex Beauchamp emphasized, which is to build a message around what the campaign wants, rather than potentially compromising for what the campaign may be able to win (2015). The consistency in message between these two campaigns is also important because it creates a patchwork of frack-free zones across the country, which builds momentum for national actions against fracking in a similar way to the local frack-free zones initially created within these states.

Equally important to the consistency in message between these two campaigns are the campaigns' consistency in long-term strategy and the short-term tactics with which to carry out that strategy. Both campaigns used the long-term strategy of building grassroots strength through maximizing individual participation within the campaign in order to wield political influence. Because both campaigns use the same strategy, they also use the same tactics in order to carry out that strategy. Across New York and California, organizers used similar public outreach and education tactics, coalition building, use of media in order to employ more directly political tactics that keep the pressure of the issue on the respective governors of each state.

To maximize public involvement in each campaign and therefore maximize the political impact of each campaign, organizers in New York and California used certain public outreach and education tactics. In New York, Food and Water Watch organizer Jack Miller reached out to the community of Westchester County through petitioning and neighborhood meetings. These were opportunities for Miller to learn the community's concerns regarding fracking as well as give information about fracking to concerned

citizens. In New York, using these education and outreach tactics was particularly important due to the “80/20 split” in which 80% of the New Yorkers who were somewhat knowledgeable about fracking were against its development in their state. It was necessary for Miller to maximize the campaign participation of that 80%. In California’s San Benito County, Food and Water Watch organizer Theresa Roberts described very similar experiences with outreach and education efforts, despite the absence of an 80/20 split. Nevertheless, organizers in San Benito county and other California communities used petitioning, canvassing, and community meetings to reach out to local individuals, learn local concerns about fracking, and help connect individuals with the information necessary to understanding the process and threats of fracking. In both states, it is necessary to maximize the mobilization and participation of concerned populations in order to maximize the potential for the campaign success.

Coalition building is another important tactic for organizers to expand these outreach efforts to diverse populations and increase the political impact of the campaign. New Yorkers Against Fracking and Californians Against Fracking are the statewide coalitions facilitating interdisciplinary and inter-organizational action against fracking. New Yorkers Against Fracking is a group of over 300 organizations, businesses, and concerned citizen groups representing a wide range of experiences related to fracking including: Wittenberg Center for Alternative Resources, Interfaith Impact of NYS, Indigenous Environmental Network, and Poets Against Fracking. As previously discussed, the public health framework and orientation of the campaign has resulted in more participation from health-oriented groups than in California’s coalition. Californians Against Fracking is similarly diverse, uniting nearly 200 groups across disciplinary backgrounds including: 350.org, Baldwin Hills Oil Watch, Breast Cancer

Action, San Joaquin Valley Latino Environmental Advancement Project, and the Small Planet Institute. Again, due to the environmental framework of California's campaign, there is wide diversity among participating environmental groups, composing the majority of coalition membership. The membership of the coalitions in each state is indicative of the affected and participating populations in each state.

In addition to harnessing the power of these populations, organizers in New York and California must similarly harness the power of campaign media coverage. In both states, organizers are trained in media pitch techniques in order to bring media to an event. Media coverage of the grassroots movement and of fracking itself is important because it connects on-the-ground actions with a larger audience, which could potentially become part of the movement. It also connects these grassroots actions with politicians who will ultimately be responsible for making decisions on fracking operations in New York and in California. This being said, using the media to bolster campaign operations is but one of many tools for organizers to use, and – though this was not an issue for organizers in either state – it cannot be relied upon as a singular tactic in spreading awareness of the issue and increasing participation in the campaign.

Media coverage of directly political tactics was particularly important for New York's campaign and is currently important in California's campaign because it puts these efforts on record. In both states, the main political tactic – in which organizers have direct contact with politicians deciding on the issue – is known as "bird dogging." Bird-dogging involves attending as many of Governor Cuomo or Governor Brown's public events as possible and directly asking him to ban fracking. Cumulatively, bird-dogging keeps the pressure on the issue and on the Governor to take a stance on the issue. Because the Governor is a present member of these events, the media also usually covers the

events. Using this political tactic was particularly important in 2014, since the Governors of both states were up for re-election. This worked favorably for the campaign in New York, which had another candidate in the Democratic Primary Elections who catered to the anti-fracking constituency and consequently took 32% of the vote (New York Times, 2014). Governor Cuomo was expected to win this primary election by an overwhelming landslide, illustrating the efficacy of leveraging the issue of fracking in the context of an election year (J. Miller, 2015). While organizers in California did try to use the election year to the advantage of furthering the campaign, there was no viable alternative candidate to Governor Brown, as there was in New York. Therefore, organizers did bird-dog Governor Brown, though it was less impactful than these same efforts used in New York's campaign against fracking.

This is indicative of the overall trend in comparing the two movements against fracking in New York and in California: California's movement is less mature. New York's anti-fracking grassroots movement had a nearly seven-year history before the state banned the practice. California's campaign has only taken root since 2012 (Beauchamp, 2015). However, organizers in both states argue that the position California finds itself in in 2015 is in line with where New York's campaign was as it approached the ultimate ban on fracking. Thus, organizers in each state are optimistic that California will ban fracking in the relatively near future. This is in spite of the campaign differences in motivations and frameworks – both of which are influenced by the political and environmental conditions unique to that state. Therefore, though there are differences in the campaigns, the fundamental organization of the message, strategy, and tactics used in each movement are similar. In order for California's campaign to be successful, it does not need to adopt anything it hasn't already adopted from the campaign in New York.

Instead, what California's grassroots movement against fracking needs is time to mature, develop, and become increasingly organized, as did New York's campaign against fracking. This time to strengthen as its own movement, combined with the increasingly hostile political environment for fracking within the state, will likely ensure a ban against fracking in the near future.

Chapter 6: Conclusions

Well-Procured Power

The anti-fracking grassroots movements in New York and California are conscious efforts to showcase the dynamism of people-derived power. On opposite coasts of the country, people organized in response to the multi-faceted threats from the development or increasing presence of fracking. Despite the geographic distance between these movements, the grassroots actions taken in both New York and California are inextricably linked in their mutually explicit goal to ban fracking, and in doing so, reclaim their rights to human health, environmental health, and the democratic process. These goals are grounded in the body of grassroots organizing literature, in which many scholars emphasize that the inherent purpose of local organizing efforts is to address the issue as well as the root cause of that issue (Bettencourt, 1996). Through articulating the motivations and frameworks that inform the strategy and tactics used in each of these

campaigns, organizers in New York and California are accomplishing this task, demanding that their rights to health and representation are respected. The campaign victory in New York and what is predicted to be a soon-to-be victory in California are predicated on the people-derived power forming the backbone of these distinct but united campaigns.

The geographic, political, and environmental differences between the two states and movements within these states are responsible for the distinct motivations and subsequent frameworks of the campaigns in each state. The urgent threat to New York's aquifer and drinking water system that would come with the introduction of fracking to the Southern Tier region inspired the initial organization of the campaign. This also framed the campaign as a fight for public health. In California, the already established fracking operations throughout the state do not immediately threaten drinking water supplies, but instead present a threat to the need for water conservation in the midst of the worst drought in the state's history. This has shaped the environmental framework of the campaign. These distinctions are indicative of the grassroots nature of the anti-fracking movements in New York and California, which grew from the unique circumstances of each state. These distinctions are also indicative of the nature of grassroots organizing itself, which is powerful in its flexibility and the ability of its participants to unite across these geographic, political, and environmental boundaries in their fight for the common goal of banning fracking.

The similarities between the campaigns are also illustrative of the adaptability of grassroots organizing as a tool for social change. Though there were motivation and framework differences between the campaigns, the common goal to ban fracking made the campaign message, strategy, and tactics of each movement nearly identical. In New

York and California, the message was clear: call on the Governor to ban fracking. Both campaigns used the long-term strategy of building grassroots strength in order to wield political influence. In order to carry this strategy, organizers in each state used the short-term tactics of public outreach and education, building diverse statewide coalitions, pitching stories to media outlets, and keeping pressure on the Governor to ban fracking. In New York, the structure of the campaign helped result in the successful statewide fracking ban. It is therefore suspected, that since the current state of California's campaign is similar that of New York's in the months leading up to Governor Cuomo's December 2014 announcement to ban fracking, that the Golden State's campaign will soon be similarly victorious.

This being said, there is room for improvement within California's campaign. Due to the environmental orientation of the movement in California, it is important for organizers to contextualize the current movement against fracking within the problematic history of American and Western environmentalism. This traditional environmentalism has a history of explicitly and implicitly excluding certain groups based on race and socio-economic status, despite the high correlation between environmental and civil rights issues (Bullard, 1994). This correlation is visible in California's movement to ban fracking, since the vast majority of fracking occurs in the Central Valley, which is among the most economically, educationally, politically, and socially disenfranchised region in the state (Wozniacka, 2012; California Department of Education, 2013; Guzik, 2014). Organizers of California's anti-fracking campaign therefore have an opportunity and a responsibility to recognize the problematic history of traditional environmentalism and combat it with the organization of this movement. While the campaign is currently inclusive of environmental justice organizations and perspectives, as visible in the large

number of environmental justice groups in the statewide coalition Californians Against Fracking, these narratives should be at the forefront of the campaign since these populations are the most threatened by the increasing development of fracking in California.

This necessity to not only include, but to prioritize environmental justice activism within environmental movements also opens an opportunity for future research within the field of environmental grassroots organizing. This research could connect the histories of “natural” spaces in California and the environmental movements of the past within the contemporary, often interdisciplinary nature of environmentalism today. Understanding these histories can help academics and activists alike guide the future of environmental movements in America, of which anti-fracking grassroots organizing is a part.

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