

**Extracting Identities and Value from Nature: Power, Culture, and Knowledge in the
Contested Politics of Mining**

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Abstract

Global capitalism's accelerating consumption of natural resources and new technologies are driving development of new riskier forms and sites of extraction. These developments create conflicts around socio-ecological hazards and perceived trade-offs between economic growth and environmental protection. I take proposed copper-nickel mines in Northern Minnesota as an illustrative case study of the contentious politics that arise around ecological risks, environmental governance and land-use decisions. Northern Minnesota is an emblematic case of the tensions around resource use in a rural mining region, but also has a distinct history of progressive politics and militant unionism, American Indian sovereignty, and ethos of environmentalism. I examine how class and place-based identities and collective memories inform how people make sense of environmental hazards and construct different visions for the future. I investigate how social actors (unions, mining companies, environmentalists, American Indian Tribes and local politicians) legitimize their positions, create competing truth claims, and engage in environmental decision-making. I situate these discourses and actions within the particular socio-ecological histories of Northern Minnesota and broader relations of power and political-economic and ideological processes. I contribute to environmental and natural resource sociology by integrating interdisciplinary theories of political ecology to address the interconnections between class, race, and indigeneity in environmental governance.

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Chapter 1 – Introduction

Increased demand for natural resources, depletion of existing reserves, and development of new technologies are leading to new, and often riskier, sites and forms of resource extraction (Schaffartzik et al. 2016; Zheng et al. 2018). These new locations, types, and methods of extraction often pose risks to public health, biodiversity, clean water, and climate change as well as violating Indigenous rights and disrupting social relations in rural communities (Alario and Freudenburg 2003; Burns 2007; Finkel and Hays 2016). However, these projects also create the prospect of jobs and development in what are often rural regions struggling with economic and social dislocation from uneven development. Global mining corporations and investors see these new resource frontiers as a way to generate profits and provide materials for the global economy. Thus, development of resource extraction is a highly contested political issue driven by tensions between environmental protection and job creation, and capitalism and environmentalism. Decisions about where, or if, to extract natural resources raises complex problems of addressing global environmental issues of climate change and protecting clean water as well as how to supply society’s increasing resource demands and promote rural community development.

I use the case of conflicts over proposed copper-nickel mines in the Iron Range – a rural mining region in Northeastern Minnesota – as a site to study the cultural and class politics of resource extraction. In Northeastern Minnesota, mining companies, investors, and local politicians envision a new resource boom around the supposedly “world-class” copper and nickel reserves in the region, and the ability of new technologies to economically and safely extract and process these ores. The Iron Range, like other rural

and mining regions, is dealing with a lack of jobs and economic opportunity and a shrinking and aging population. The copper-nickel mines are presented as a way to breathe life into these struggling communities by providing good paying jobs. However, opponents, including environmentalists, outdoor recreation groups, and American Indian Tribes, claim that the mines would threaten the environment, tourism, public health, and Indigenous rights. These would be the first copper-nickel mines in the state, which is a riskier form of mining than existing iron mines due to different chemicals in the rocks that could create hazardous water pollution.¹ The proposed sites are also located near socially and ecologically important lakes and rivers, wilderness areas, and Native American lands.

Thus, copper-nickel mining has become one of the most contentious political issues in Minnesota and a tension between two central aspects of Minnesotan identity: the land of 10,000 lakes and mining. The conflicts over copper-nickel mining are indicative of broader class, regional, and socio-political divisions around environmental issues, like climate change, that have contributed to political shifts and divisions in Minnesota and the U.S.

Inquiries

In my dissertation, I examine four interrelated issues: 1) why extractive development becomes a site of contestation; 2) how different communities, groups, and institutions assign meaning to nature and socio-environmental risks through identities,

¹ Copper-nickel mining, and nonferrous (metals that do not contain iron) more generally, are in ore that contain sulfides which create acidic water and leach heavy metals when exposed to air and water. Chapter 2 provides detailed discussion about the risks of copper-nickel mining and differences with iron mining.

histories, and ideologies; 3) how different social actors participate in and struggle over environmental policy; 4) how conflicts over mining are enrolled in broader socio-political conflicts. Throughout, I assess dynamics of power shaped by processes of capitalism, racism, colonialism, and patriarchy, and the inequalities in who has legitimacy and authority in making environmental policy. I situate the contemporary politics of resource extraction in Minnesota across temporal scales by examining regional histories, collective memories, and visions of the future, and across spatial scales by assessing interconnected local, national, and transnational political-economic processes and discourses.

I argue that socio-cultural dynamics of identity, memories, and future imaginaries influence how people interpret hazardous industrial development as a form of environmental justice or injustice and how the hegemony of extractive industries is reproduced and contested. I find that future resource extraction is interpreted through different class and regional cultural frameworks shaped by place-based identities, collective memories, and experiences of labor and outdoor recreation. Emotional appeals to place and nostalgia are powerful mobilizing frames used by a range of social actors including environmental movements, corporations, and right-wing politicians. How and why different discourses emerge and are effective depends on local histories and cultural narratives, broader ideologies, and political-economic conjunctures. Opponents and proponents assert different forms of legitimacy to speak for the place, and struggle over how the place is constructed and who has a right to make decisions. Dominant discourses and regulatory processes privilege benefits to white and male workers while silencing the voices of multiply marginalized groups and the intersectional forms of risk created by hazardous extraction. I argue that jobs versus the environment conflicts are not simply

about material benefits but emerge through different perceptions of risk and emotional connections to place. These conflicts also contribute to wider political shifts of working class and rural regions towards right-wing populism.

Contributions

Through my empirical case and theoretical approach, I make several scholarly contributions. *First*, I make new interdisciplinary connections among environmental justice, political ecology, and cultural sociology to analyze the role of discourse, place, and collective memory in the contested politics of resource extraction. My approach renews sociological scholarship on resource extraction that has typically been in the empirical and applied fields of natural resource and rural sociology (Dunlap and Catton 2002) or in political-economic and world systems scholarship (Bunker 1985; Bunker and Ciccantell 2005; Freudenburg 1992) by engaging broader critical theories and contemporary debates in environmental justice and political ecology. Drawing on political ecology I focus on power and discourse, and meanings of place and nature (Ekers and Loftus 2013; Moore, Kosek, and Pandian 2003; Peluso 1993c). Through an environmental justice lens and concepts from cultural sociology, I analyze multiple forms of social difference, and explore how emotions, identities, and collective memories impact how people perceive environmental injustices and engage in political mobilization (Meier 2016; Norgaard 2011; Norgaard and Reed 2017).

Second, I advance environmental sociology by examining why communities mobilize for potentially hazardous development, even if it seemingly creates environmental injustices, and why mining issues motivate working class support for authoritarian populist movements through cultural processes. Dominant explanations for

why communities accept environmental risks have focused on material benefits and the political-economic power of industry (Feagin 1990; Freudenburg and Gramling 1998; Frickel and Freudenburg 1996; Schnaiberg and Gould 1994). I engage cultural sociology (Clarke 2006; Goodwin, Jasper, and Polletta 2009; Norgaard 2006, 2011) and political ecology (Kosek 2006; Moore et al. 2003) to show that cultural, discursive and biophysical processes are also key dynamics, particularly place-based and class identities, collective memories, and emotions. These same cultural processes are helpful for making sense of why mining and natural resources are key motivating and symbolic issues in the contemporary rise of right-wing populism and anti-environmentalism in the U.S.

Third, I contribute to emerging directions within environmental justice studies to study procedural and representational justice (Carruthers 2007; Holifield, Porter, and Walker 2009; Holland 2017; Schlosberg 2003, 2013) and rural, class, and Indigenous environmental struggles (Holifield 2012; Malin and DeMaster 2016a; Masterman-Smith et al. 2016; Pellow 2016a; Perreault, Wraight, and Perreault 2012). I analyze how intersections of social difference and power influence whose concerns and knowledges are legitimated in environmental decision-making and risk assessments. I also emphasize class and indigeneity in conflicts over rural extractive development, which have not been a central object of study for environmental justice scholarship focused on urban pollution and race.

Fourth, I provide new empirical information and analysis on the understudied Minnesota Iron Range region which contributes to renewed scholarly and political interest in the Upper Midwest (Cramer 2016; Lauck 2013). Research about the social and political-economic dynamics of resource extraction has focused on coal mining in

Appalachia (Austin and Clark 2012; Bell 2016; Gaventa 1980; Scott 2010) and logging in the Pacific Northwest (Foster 1993; Prudham 2005; Salazar 2009). But these regions and materials have unique characteristics, and other contexts and industries need to be studied to develop theoretical and empirical knowledge.

My dissertation also has *practical applications* for addressing global challenges of protecting clean water and creating sustainable and just communities. An environmental justice and sociological lens raises questions of inequality, power, and social perception that are often neglected in environmental policy but are necessary for engaging diverse communities to effectively implement policy. My research provides insights for improving communication about jobs, environmental regulation, and natural resources that can help bridge social and political divides. I offer insights for ways of bridging labor-environment divides and critically reflecting on environmental advocacy strategies.

This introductory chapter provides a brief overview of the empirical case, the research inquiries and questions, the theoretical approaches, and methodologies I use in the dissertation. In the following section I explain my logic for selecting the Iron Range and contested politics of copper-nickel mining as my case. I then discuss my theoretical framework that draws on environmental justice and political ecology. The final section of this chapter explains my research methodology and ethical concerns.

The Case: Proposed Copper-Nickel Mines in Northeastern Minnesota

Defining the Case

I conceptualize my case as a temporally and spatially bounded series of events that constitute the contemporary contested politics over proposed copper-nickel mining in Northeastern Minnesota. Spatially, I focus on the Iron Range region in Northeastern

Minnesota which is a social and geological region that spans over 100 miles from Grand Rapids, MN in the southwest to Ely, MN in the northeast. Several multi-national mining companies are exploring mineral deposits and proposing mine projects in the Duluth Complex, which is a geological formation estimated to contain one of the world's largest reserves of copper and nickel and other base and precious metals (Marcotty 2013a). The Duluth Complex abuts the iron ore deposits of the Iron Range, the Mesabi, Vermillion, and Cuyuna ranges, that have been mined since the late 19th century and been the principal source of iron ore for the U.S. steel industry (Anon 2018d; Manuel 2015). The Iron Range supplied 99% of U.S. iron ore in 2005, but only 2% of global production—a percentage that has declined since the 1980s (Yellishetty, Ranjith, and Tharumarajah 2010). Some of the proposed copper-nickel mines would be next to existing or closed iron mines, and are near Iron Range towns like Babbitt, Hoyt Lakes, Aurora, and Ely that originally developed around iron mining. Currently, the area is economically-depressed with higher unemployment and lower wages than the rest of Minnesota and has a shrinking and aging population.²

Temporally my case is bounded by the first project that was proposed by PolyMet in 2004 and goes through 2017 as conflict accelerated and the projects went through long and contested regulatory, legal, and political review processes. The PolyMet NorthMet proposal began as a relatively uncontroversial mining proposal in a mining region but

² For St. Louis County unemployment was 4.5% in July 2017, compared to 3.7% for the state at-large. Although it is below the national rate of 4.3%. The region also has a lower median income – in 2015 it was \$47,564 compared to \$67,019 for the state. Data is from the Minnesota Department of Employment and Economic Development. Accessed at: <https://mn.gov/deed/data/current-econ-highlights/state-national-employment.jsp>.

gained public attention and became embroiled in an over-decade-long legal and political battle. Copper-nickel mining became a major political issue in the 2016 election and in 2017 the Trump Administration took steps to advance mining development and renew projects that had been stalled by the Obama Administration. However, none of the projects has final approval and all are still in the exploratory, proposal, or permitting stages.

I focus on the PolyMet NorthMet and Twin Metals projects which are the most advanced of at least five mining projects being explored within the Duluth Complex. PolyMet is a junior mining company from Canada that has no other projects or mines but is financially supported by Glencore, which is one of the largest global mining companies based in Switzerland. Twin Metals is also a junior mining company but owned by Antofagasta PLC a large mining company from Chile that operates several of the biggest copper mines in the world. I include both projects because they have been the focus of public debate and social mobilization and are often discussed in relation to each other by journalists, environmentalists, industry groups, and policy-makers.

The copper-nickel mining proposals have generated contradictions between two of Minnesota's core collective identities – mining and sky-blue waters – and two major industries – mining and tourism. Thus, it has become one of the most contested political and environmental issues in the state (Marcotty 2015). Mine proponents assert that the new projects would create much-needed jobs and revenue while using the latest technologies to prevent pollution. Opponents contend that copper-nickel mines raise new and grave environmental risks. The copper-nickel mines would extract small amounts of metal from low-grade ores that contain sulfides, which create hazardous sulfuric acid

when exposed to air and water. The proposed sites are in the ecologically and socially important watersheds of Lake Superior and the Boundary Waters Canoe Area Wilderness (BWCA). The projects are also on land taken by the U.S. government through the 1854 treaty with Ojibwe bands (also known as Chippewa and part of the broader Anishinaabe peoples) which provides tribal members with indefinite rights to hunt, fish, and gather resources across the area that would be threatened by potential copper-nickel mining pollution.

An Emblematic and Unique Region

The Iron Range is a productive site to study the politics of mining because the region is emblematic of resource-dependent communities and is also distinct in theoretically and empirically important ways. Similar to other rural extractive regions in the U.S., like Appalachia and the Powder River Basin of Montana (Bell 2016; Marley 2016; Rolston 2014), the region is marked by geographic isolation, a large and powerful mining industry, a predominantly white population, and uneven development. The Iron Range is currently struggling with unemployment and population loss largely due to shifts in the global steel industry and increased mechanization (Manuel 2015).

The Iron Range is also distinctive given the unique history of radicalism and militant unionism, a strong regional identity, an avid outdoor recreation culture, a significant Native American presence and several reservations, and relatively robust state environmental regulations (Landis 1997; Manuel 2015). The geography of mineral deposits and the history of extraction has created a distinct socio-cultural region. The Iron Range has a strong cultural and place-based identity of being a “Ranger” which is based on pride of surviving in a harsh climate and white European ethnic traditions developed

from earlier generations of Eastern European, Italian, and Finnish immigrants. In the late 1800s to early 1900s employment in the logging and mining industries brought thousands of European immigrants (Lamppa 2004). There is a long history of labor struggles in the region and militant union organizing in the iron mines (Kaunonen 2017). Organized labor continues to be strong in the region and remains an important political and social institution. Partially due to this immigrant and labor history, the region has been a Democratic stronghold and is a major reason that Minnesota has been a politically progressive state through a Democratic coalition of Iron Ranger labor and Twin-Cities progressives. Minnesota has relatively strong environmental protections and a large environmental movement, particularly compared to other states with large extractive industries like Montana, West Virginia, or Nevada (Manuel 2015; Proescholdt, Rapson, and Heinselman 1995). The possibility of the first copper-nickel mine in Minnesota raises questions about how risky forms of extraction spread to new areas and how dynamics in Minnesota compare to other places.

The Politics and Materiality of Copper

Copper is the primary metal that mining companies hope to extract from the Duluth Complex. Copper has unique chemical and physical properties that create distinct environmental impacts and economic uses which shape the socio-political dynamics of copper mining. Copper has been mined and used for centuries, but became particularly crucial for industrial society because copper's chemical composition makes it an excellent conductor of electricity as well as malleable and strong, and became the main material used in electrical wires (Carter 2012; LeCain 2009; Martinez-Alier 2001). Copper is often described as a bellwether of the economy because it is essential for

electricity infrastructure and used in nearly all consumer and industrial goods from buildings to cars to cellphones to solar panels (Carter 2012; LeCain 2009). Copper use and extraction rates have continued to increase in the past several decades, which counters claims about the dematerialization of the new post-industrial economy (Martinez-Alier 2001). For example, copper exploration accelerated rapidly from the late 1990s to mid 2000s (Wilburn 2016) and worldwide copper extraction and production increased from 15.1 million metric tons in 2006 to 19 million metric tons in 2017 (Anon 2018a), meanwhile global consumption of copper increased 38% from 2005 to 2015 (Brininstool and Flanagan 2017). The International Copper Study Group estimates that in 2018 copper mine production and usage will grow around 3% worldwide (International Copper Study Group 2018).

Yet, copper mining, particularly in the U.S., has been relatively under-studied by social scientists who have focused on other resources, such as coal and oil (Gaventa 1980; Mitchell 2013; Scott 2010). Much of the research on copper mining in the U.S. is historical and focused on development of company towns (Eisen 1975; Hoagland 2010; Huggard and Humble 2012; Lankton 1991; Rosenblum 1998), and social science scholarship has primarily focused on the Global South and few studies have examined the particular socio-political and biophysical aspects of copper (Burawoy 1972; Ferguson 1999; Frederiksen 2013). Martinez-Alier (2001) demonstrates that copper mining has long been a source of conflict and environmental injustices by tracing the global history of opposition to copper mining due to water pollution and damage to workers' health. However, this paper does not provide in-depth analysis of these cases or contemporary conflicts and does not explore the socio-cultural meanings of copper mining. One major

work on copper mining in the U.S. is LeCain's (2009) book that examines how copper is central to development of modern industrial society and part of capitalism's logic of destruction in which low-grade ores are torn from the earth to provide value to capital. I build on LeCain's macro historical account by examining the contemporary socio-ecological and discursive dynamics around a particular contested site in a potential new copper mining region. I also provide a comparative analysis of copper mining with the legacy iron mines in Minnesota to show how different geochemical factors contribute to different socio-political responses.

Copper mining is particularly risky because the metal is found in sulfide-bearing ores that produce acid mine drainage and leach heavy metals when exposed to air and water, and the refining processes involves toxic chemicals and smelting that creates air pollution (Anon 2018c). Therefore, copper mines, dating back to the Roman empire, have been a source of water pollution and other negative environmental impacts (Gestring 2012). The large copper mines in Butte, Montana are the largest Superfund site in the U.S. and have left a legacy of toxic pollution (Quivik 2017). But, the politics and social movement responses to copper mining projects are distinct from fossil fuels and precious metals. The environmental impacts of copper mining are primarily near the mine site, unlike the more diffuse effects of fossil fuels on climate change, which leads to place-based activism. Copper is also not a direct consumer good, unlike fossil fuels and diamonds that have been the target of social movement campaigns to increase consumer awareness, organize company boycott and divest campaigns, and implement ethical and environmental certification standards (Ayling and Gunningham 2017; Billon 2006; Healy and Debski 2017; de los Reyes 2017; Spiegel 2015). Thus, environmental activism

around copper mining has to develop other methods and tactics, such as working through regulatory and legal channels.

Theoretical Framing

In this section, I briefly lay out my overarching theoretical framework. This is not meant to be an exhaustive theory section, and my theoretical engagements will be developed in later substantive chapters where I delve into how I use particular theories and contribute to different literatures.

Broadly, I take an interdisciplinary approach that engages environmental justice, political ecology, and cultural sociology to examine the complex dynamics of power, discourse, and culture in environmental politics. Drawing on political ecology scholarship that uses Gramscian and Foucauldian approaches to power, discourse, and ideology, and Marxian analysis of capitalism (Bakker and Bridge 2006; Castree and Braun 2001; Ekers and Loftus 2013; Huber 2013a; Smith 1998) as well as sociological approaches to identity, emotion, and collective memory (Goodwin et al. 2009; Jacobson 2016; Norgaard 2006), I integrate micro-political and macro-structural analysis, and cultural and political economic theories. Thus, I investigate the role of place-based identities, ideologies, and political-economic conditions in why groups support or resist potential environmental risks. I examine how intersectional dynamics of power shape decisions-making about potentially hazardous development and who has legitimacy and authority in these political processes. I situate these dynamics in different spatial scales of regional, national and transnational political and economic processes, and temporal scales of the socio-ecological history of the Iron Range and competing environmental imaginaries of the future.

Political economy approaches to natural resources provide a framework to analyze macro and historical forces and to situate rural regions within national and global processes. This scholarship has shown how regions with large amounts of natural resources often become underdeveloped and dependent on a single extractive industry leading to a lack of alternative development and volatile booms and busts (Bunker 1985; Bunker and Ciccantell 2005; Freudenburg 1992). This process creates an “addictive economy” in which these communities believe that resource extraction will bring prosperity and development, but this rarely occurs, instead leading to dependency and poverty (Feagin 1990; Freudenburg and Gramling 1998; Frickel and Freudenburg 1996). The booms and busts of extractive industries creates instability and social disruptions (England and Brown 2003; Freudenburg 1992; Freudenburg and Frickel 1994; Freudenburg and Wilson 2002).

However, this scholarship has not engaged theories about the relationships between human society and nonhuman nature and the production of nature (Freudenburg 1992; Gellert 2010) and largely overlooks questions of culture, discourse, and power that shape how and why extractive development becomes hegemonic. Processes of commodification and exploitation matter, but a strict historical materialism and structuralism overlooks the role of discourse, nonhuman nature, knowledge, and other categories of social difference (Braun and Castree 1998; Forsyth 2003; Mascarenhas 2014; Pulido 2000). Thus, scholarship on natural resources needs to address the discursive dynamics of capitalism, subjective meanings of nature, and interrelated forces of colonialism, racism, and patriarchy (Forsyth 2003; Peet, Robbins, and Watts 2011; Peet and Watts 1996; Robbins 2012). This does not imply taking a strong constructivist

or immaterial approach. Rather, discourse is a material process in which people understand nature through everyday social practices that are material and historical (Castree and Braun 2001; Macnaghten and Urry 1998) and have material effects in shaping how nature is used (Bridge 1998).

Therefore, I draw on environmental justice, political ecology, and cultural sociology to examine the cultural politics of mining and questions of justice and power in how, when, and why extractive development occurs (Appel et al. 2015; Harvey 1996; Huber 2013b; Neumann 2005). Connecting political economy of natural resources with political ecology and environmental justice theories points towards the ways in which environmental problems are understood, created, and legitimated through multiple forms and scales of power (Goldman and Schurman 2000; London 2016). This perspective can help explain how and why the exploitative socio-ecological relations of extractive capitalism remain hegemonic or are resisted and transformed.

I build on several new directions in the field of environmental justice studies: dynamics of rural, class, and Indigenous struggles, and the meanings of justice. Foundational environmental justice research documented unequal distribution of environmental pollution and hazards for people of color and lower-income communities (Bullard 1994; Mohai, Pellow, and Roberts 2009; Mohai and Saha 2007). This scholarship has been critiqued for a lack of deeper theoretical engagement with ideology, political economy, and power (Carter 2016; Pellow 2016b; Sze et al. 2009; Sze and London 2008). Environmental injustice is not simply the distribution of environmental hazards, but the ideologies, multi-faceted dynamics of power, and historical processes that mark certain bodies and places as less valuable, silence marginalized voices, and

legitimate ecological degradation (Holifield 2012; Pellow and Brulle 2005; Pulido 2000; Scott 2010). Some research has used an environmental justice lens to examine rural, class, labor, and Indigenous struggles (Dreiling 1998; Hooks and Smith 2004; Hoover 2017; Lewin 2017; Malin and DeMaster 2016b, 2016a; Pellow 2016a; Perreault et al. 2012; Savage 2011), but these sites and social locations remain understudied in the field.

A growing area of scholarship interrogates the meaning of justice. Scholars drawing on political theories of justice argue that justice is more than distribution of harms but also procedural and representational (Forsyth 2008; Schlosberg 2007). Participation means that communities have a role and authority in decision-making about environmental risks which also depends on them having visibility and legitimacy so their voices and lives are valued (Camacho 1998; Dhillon 2017; Holland 2017; Parris et al. 2014; Schlosberg 2013, 2007). Environmental justice struggles are also about how people define socio-ecological conditions as environmental injustices, or not (Malin 2015; Sze et al. 2009). Mining in particular creates complex injustices and privileges as nearby rural and poor communities may get jobs but also must live and work near pollution. Whether mining development is perceived as an injustice or not depends on cultural, social, ideological, and political-economic processes (Malin 2015; Malin and DeMaster 2016b).

Political ecology emphasizes the spatial, ideological and discursive processes that shape the production of socio-natures and social meanings of nature, which is productive for studying the meanings of justice and the cultural politics of resource extraction. By combining Marxian political economic and post-structural theories, political ecologists theorize capitalist exploitation of the environment as being sustained through social meanings of nature, everyday practices, and discourse shaped by racism, nationalism,

colonialism, and patriarchy (Forsyth 2003; Peet et al. 2011; Peet and Watts 1996; Robbins 2012). Political ecology goes further than environmental justice scholarship in disrupting society-nature binaries by theorizing how society and nature are intertwined in socio-natures that are materially and discursively produced through struggle across intersections of race, gender, and class (Braun 2002; Moore et al. 2003). Socio-natures are constructed in particular historical forms and within socio-political contexts and places (Braun 2002; Prudham 2005; Swyngedouw 2004). Political ecology approaches also point to the ways in which these local dynamics are shaped by national and transnational structures, networks, and discourses. This framework is helpful for studying how the development of extractive regions and environmental conflicts are shaped by both social and geophysical processes.

Environmental justice and political ecology are useful frameworks for studying rural issues and natural resource extraction in the U.S., and that both fields benefit from greater integration (London 2016; Pellow 2016b; Perreault et al. 2012). Environmental justice scholarship has traditionally focused on urban pollution, siting of hazardous facilities, and dynamics of race in the U.S. (Bullard 1990; Sze and London 2008) and less on issues of resource extraction, labor and class, indigeneity, and rural conflicts. Yet, as Pellow and Park (2002) argue, resource extraction is a form of racial domination that creates environmental injustices. An emerging area of research is applying environmental justice frameworks to resource extraction (Rodríguez-Labajos and Özkaynak 2017, 2017; Temper et al. 2018; Urkidi and Walter 2011), but thus far this scholarship is focused on resistance to extraction and not the complex ways in which some social actors accept, and others opposes hazardous development. Malin's (2015) study of uranium mining in Utah

and Colorado is an exception and examines how some of the communities most negatively impacted by mining pollution support expansion of the industry while other, often wealthier, communities resist development.

Political ecology research has focused on rural and Indigenous struggles over resources and livelihoods and questions of class and labor, but largely in the Global South (Blaikie 1987; Escobar et al. 2006; Moore 2005; Peet et al. 2011; Peet and Watts 1996; Peluso and Watts 2001). However, a growing body of research uses theories, questions, and methods from political ecology to develop in-depth case studies of the micro-politics of environmental conflicts in the First World (Castree 2007; McCarthy 2002; Robbins 2002; Schroeder 2005; Schroeder, Martin, and Albert 2006). This scholarship has examined struggles over the production of nature in the U.S. and competing notions of property and land ownership and livelihood struggles, such as ranching rights, fisheries management, and subsistence use of wild plants (Emery and Pierce 2005; Martin 2006, 2005). Others have used the U.S. as a site to examine settler colonialism and Indigenous claims to land, resources, and sovereignty (Braun 2002; Ishiyama 2003). I draw on political ecology's analysis of capitalism, discourse, and socio-natures as well as environmental justice's focus on unequal pollution and procedural and participatory justice to study the complex dynamics of power in how nature is understood and contested. This advances both fields to analyze micro and macro-level scales and how inequities and power are resisted and reproduced. This approach is productive for understanding how and why rural and working class communities come to accept hazardous development, without simply presenting them as

being duped by capital, as well as the political, ideological, and social implications of community's identifying with extractive industries.

I also use concepts of emotion, collective memory, and nostalgia from cultural sociology (Zerubavel 2004) to examine the micro-politics of natural resource and environmental justice struggles. These concepts are useful in assessing how people assign meaning to natural resources and environmental issues, and why people do or don't understand hazardous development as an environmental injustice. A growing literature in environmental sociology examines the role of emotions in shaping environmental concerns and social mobilization or acquiescence in response to environmental problems (Norgaard 2006, 2011; Norgaard and Reed 2017). This research builds on broader scholarship on the role of emotions in social movements and political mobilization (Goodwin et al. 2009; Polletta 2006). I use these approaches to examine how and why environmentalists, workers, and rural residents mobilize for and against copper-nickel mining, and the different cultural frameworks used to make sense of copper-nickel mining.

Methodology and Data

I develop a qualitative case study that uses multiple forms of qualitative data including in-depth interviews, primary and secondary documents, and ethnographic observations (Yin 2003). Case studies are useful for studying ongoing events and processes by tracing how and why events unfold and change over time (Ragin and Becker 1992; Yin 2003). The researcher can observe in real-time how social and political dynamics unfold. I am able to observe how the political and regulatory processes changed and developed over time, how different social actors interact, and how the frames,

strategies, and attitudes of people and organizations shift. The focus on a single case creates in-depth knowledge of socio-political dynamics (Ragin and Becker 1992).

Therefore, a common method in political ecology is to deeply engage with site-specific cases in order to explore socio-ecological and cultural contexts of place (Neumann 2010; Peluso 1993c; Robbins 2002).

Multiple forms of data also allow me to triangulate my findings and develop deeper insights into social dynamics through observations of real-world interactions, conversations with people, and reading textual sources (Holstein and Gubrium 2003). Therefore, I can contrast what someone tells me in an interview with what their organization writes on their website and what actions they take in public. I observe how mining supporters and opponents interact on social media and in person at government hearings, and then assess how these relationships are covered in the news media. In my analysis, I assess how different types of evidence and data fit together into an interpretation based on my analytic frames of environmental justice and political ecology (Ragin and Amoroso 2011).

Ethnographic Observation

The ethnographic aspect of my research includes two major components: 1) observations at public events such as government hearings and events organized by environmental and pro-mining groups, and 2) a summer of full-time fieldwork in the Iron Range town of Ely, MN in 2017 along with several other shorter trips to the region, including a week in Babbitt, MN in March 2016.

To observe interactions between the public and government regulators, and between mine supporters and opponents, I attended public events held by government

agencies about the review and permitting processes for the mining projects. Direct observations provide nuanced insights into how groups are engaging with the political and regulatory process, and how people interact in real-world settings. Attending these events helped me understand how public discourses are articulated, how people engage in bureaucratic decision-making, and how different groups are mobilizing for and against the mines. I attended events from January 2014, when the draft PolyMet environmental impact statement (EIS) was released, to August 2017, when hearings were held on scoping of an EIS for mining in the watershed of the BWCA and renewal of Twin Metals' federal mineral leases. These events included public comment sessions where people could give oral comments on the proposed projects and information sessions to update the public on the projects and regulatory process. I went to all five official meetings for the PolyMet project which included three events held in St. Paul, MN (the state capitol) as well as two events held in Northeastern Minnesota. I also attended regulatory hearings about the Twin Metals project in the summer and fall of 2017 held in Duluth, St. Paul and towns on the Iron Range, including Hoyt Lakes and Ely. I was able to compare hearings in the major metropolitan area with those in rural towns near the proposed mine sites.

I also attended events organized by environmental groups related to copper-nickel mining from 2014 to 2017, which included lectures and presentations by environmental activists and experts, fundraisers, film screenings, and rallies. Many of these events were held in the Twin-Cities area because this is where most of the environmental organizations are located and where their supporters live. Through these events I gained

insights into the culture of different environmental groups and interacted with staff, supporters, and volunteers.

During events I paid attention to who attended, what voices and perspectives dominated, how people interacted, and dynamics of the social atmosphere. I wrote initial jottings in a notebook at listening sessions and lectures which I later developed into longer field notes (Emerson, Fretz, and Shaw 1995). Observing and recording at these types of events was not out of the ordinary and most people did not react to my presence except occasionally asking if I was a reporter. However, during social and informal events, like fundraisers or receptions, I was not able to write notes and instead would record observations afterwards. In my jottings at government hearings, I took notes on interactions between attendees and agency staff, who spoke and what they said, how I perceived people's class, race, age, and gender, and people's physical appearance, such as their style of dress (Emerson et al. 1995). Distinguishing between supporters and opponents at hearings was usually easy because people wore clothing, pins, or stickers identifying their position – I stood out because I did not visibly identify with either side. I then wrote these jottings into full field notes that document details about events and engage in initial analysis and reflections on emerging themes and concepts (Rossman and Rallis 2017). During analysis, I reviewed my notes to distinguish common themes, identify emblematic anecdotes and interactions, and assess how the atmosphere and discourses at events changed over time.

During two months of fieldwork in Ely, MN and several shorter trips to the region, I used ethnographic observations to learn about the broader physical and social geography of the place, and the nuances of the social context that give meaning to the

conflicts over mining (Bell 2016; Malin 2015). While living in Ely, I attended social and cultural events, visited local history and mining memorials, attended meetings of environmental and pro-mining groups, and spent time in public spaces. By regularly attending the same social and cultural events and going to places where residents socialized, I created relationships and developed trust and credibility with people. For example, I attended a weekly luncheon and lecture organized by a group of retirees and as people recognized me I was invited to other events and was able to recruit interview participants. I went on weekly group nature walks and got to know the regulars who would talk with me about copper-nickel mining and the social and environmental history of the area as we drove to hiking trails.

The ethnographic insights from daily interactions, such as shopping at the small-town grocery store, developed my understandings of the social and cultural tensions in the community. I observed social patterns and interactions and learned the social geography of the town, such as which bars were frequented by a pro-mining crowd. When I did not have interviews or other appointments, I would work in one of the two coffee shops and got to know some of the staff and would have casual conversations with regulars and summer tourists.

I visited cultural and historical sites, such as regional history museums and mining memorials, and toured closed and operating iron mines. This provided historical information and insights into public narratives about community identity. Museums and other formal memorial sites are important sites to study how collective memories and notions of industrial and rural heritage are constructed and maintained (Jones and Garde-Hansen 2012; Riley and Harvey 2005; Smith and Campbell 2017). For example, the

Minnesota Mining Museum was a source of information about development of the region's mining industry as well as data about the discourses used in telling local histories and dominant cultural representations of mining. I went to many of the mining memorials that are common throughout the region which include small plaques commemorating former mine sites, statues of miners, and old mine buildings and equipment. These "industrial remains" are one way that place-based identities and collective memories of the industrial past are reproduced and woven into everyday experiences (Wheeler 2014).

I also visited the locations for the proposed copper-nickel mines to understand the physical geography and to see these contested landscapes. The PolyMet site is inaccessible to the public, but I attended an open house organized by the company where the public could take tours of the old iron ore processing facility and tailings basin that PolyMet plans to reuse. The Twin Metals site is publicly accessible on U.S. Forest Service land. Staff of an environmental organization gave me a driving and walking tour of the area. They showed me areas where Twin Metals had conducted exploratory drilling, and the campgrounds, cabins, and resorts that would be displaced if the mine was built. We also canoed on the Kawishiwi River where potential water pollution would flow and go into the BWCA. This allowed me to observe the area that would be directly impacted by mining and experience the places that environmentalists are mobilizing to protect while engaging in active interviews and conversations (Anderson 2004; Wheeler 2017).

Living in Northeastern Minnesota and traveling around the region helped me gain a sense of the cultural and physical landscape of the region and the broader context for

conflicts over mining and environmental conservation. Hiking in the woods and kayaking on lakes provided me with a physical sense of the place and further appreciation of how and why people develop emotional connections to the place. I went to many of the lakes and rivers that are discussed in debates over potential impacts from mining and went on a three-night canoeing trip in the BWCA. These experiences provided me with some insider knowledge and helped me interact with people in Northeastern Minnesota, both mine supporters and opponents, who regularly talk about their favorite places to canoe or fish. Asking people for canoeing, hiking, and fishing suggestions was helpful in starting casual conversations and connecting with people. Through this I learned some of the local jargon, terminology, and place names.

During fieldwork I wrote daily logs that included surface level observations and documented what I did, who I spoke with, and where I went. I focused on details of interactions, such as a conversation I had with a clerk, and the physical observations of places and people (Emerson et al. 1995). When feasible, I would take handwritten jottings during the day and then type up notes in the evening. I then developed these observational records into field notes and reflective memos that involved deeper analysis and critical reflections to process my feelings and reactions, identify themes and patterns, and develop initial theoretical interpretations. I also took photos of places to document where I went and what I saw, and to help refresh my memory when I went back to my data for analysis.

Interviews

I conducted in-depth interviews because they are useful for answering questions about how and why people articulate motivations and cultural meanings (Pugh 2013).

Extended conversations allow me to listen to people in order to get a sense of their social world, understand their perceptions of environmental and socio-cultural issues, and learn about their biographies (Rubin and Rubin 2005). Interviews with experts and policy-makers also provide useful information about the scientific, legal, and political aspects of the mining projects, and history of the region. My goal was not to capture representative public views, but instead to analyze organizational and institutional responses, and assess dominant discourses.

From spring 2015 to summer 2017, I conducted 101 in-depth semi-structured interviews with representatives of multiple groups and institutions, including environmental and conservation organizations, labor unions, local and state politicians, pro-mining groups, small businesses in Northeastern Minnesota, mining industry groups, scientists and experts, and government agencies. I spoke to a wide range of social actors in order to capture a diversity of perspectives, and to understand how different types of people and organizations understand and mobilize around mining. I also sought to maximize variation in participants to facilitate comparison (Rossman and Rallis 2017). Therefore, I interviewed people in different positions within organizations, such as multiple staff members of environmental organizations ranging from senior leaders to young field organizers, and different organizations in the pro and anti-mining movements, such as large state-wide groups and small local grassroots groups.

I used theoretical and referral sampling and selected participants based on their involvement in the copper-nickel mining issue and their experience in relevant institutions and communities (Glaser and Strauss 1967; Rossman and Rallis 2017). I recruited participants by identifying key leaders and members of organizations, and then

contacting them via publicly available email addresses and phone numbers. I also sought out experts who had relevant scientific, historical, engineering, or legal expertise and experience. I used personal and professional networks to establish connections, such as an environmental lawyer who was an adjunct teacher at University of Minnesota and a family friend who was active in the labor movement in Northern Minnesota. I also met people at events, such as volunteers for an environmental group at an information booth during a summer festival or Ely residents at Sunday church services, who I then followed-up with to conduct formal interviews. While living in Ely, people started to know me and would offer to do interviews.

In addition, I used referrals from research participants and key informants to make new connections and identify informal community leaders and activists (Gilchrist and Williams 1999; Rossman and Rallis 2017). This was essential for developing relationships with Iron Range residents, union members, grassroots environmental activists, and current and former mine workers because I could not identify these people through organizational websites and needed to establish trust and credibility. For example, I interviewed a local community leader and pro-mining advocate in Ely who then introduced me to several people who had worked in the iron mines and were now active in promoting copper-nickel mining. They were willing to talk with me partially because I had been vetted by a leader in the community.

I classify interviewees into ten categories (*see Table 1*) which can include both mine supporters and opponents, for example, local residents could be pro or anti-mining. Environmentalists are staff or active members and volunteers of environmental non-profit organizations. Experts and scientists include independent and academic scientists,

lawyers, and environmental and engineering consultants. Some of the experts were involved as advocates, such as an ecologist who submitted a technical report on the impacts of mining pollution for an environmental group, while others were observers with relevant knowledge. The mining industry representatives include people from industry groups like Mining Minnesota, state and local chambers of commerce, and industry consultants. Twin Metals and PolyMet either denied or ignored requests for interviews. Local small business owners are outdoor guiding companies, clothing and gear retailers, restaurants, and hospitality companies in the Iron Range, particularly Ely that has a large tourism industry. Politicians are state and local elected officials ranging from State Congressional representatives to County Commissioners to City Councilmembers. Pro-mining activists are leaders of smaller grassroots groups that were not run directly by industry. Government regulators are staff of agencies including the Minnesota Department of Natural Resources (MDNR), the Minnesota Pollution Control Agency (MPCA), the Minnesota Department of Health (MDH), and the U.S. Forest Service (USFS). I spoke with technical and scientific staff as well as several managers. Residents are people who live year-round in the Iron Range and do not have a formal role or position in organizations. This includes mining supporters and opponents, and people from families who have lived in the region for multiple generations and people who recently moved to the area. I selected residents who have unique experiences and perspectives on mining and the region's history, such as retired miners, and who are active in the community and informal leaders. Union representatives are staff and elected leaders of labor unions. I spoke with other former and current union members but classify them based on other social locations, such as local residents or politicians. Tribal

representatives are natural resource management staff of the 1854 Treaty Authority, an inter-tribal organization that manages natural resources on treaty protected lands in Northeastern Minnesota. I do not attempt to represent the range of Indigenous perspectives and did not develop the relationships of trust and accountability necessary for a white academic to engage in research with Indigenous communities. However, I did interview the 1854 Treaty Authority because they were involved with the PolyMet EIS process and submitted extensive technical comments.

I approach interviews as conversations and relationships in which I seek to create a welcoming and comfortable atmosphere and actively listen to participants' experiences (Bellah et al. 1985a; Rubin and Rubin 2005). Interviews lasted 45 minutes to two hours and were semi-structured directed conversations guided by pertinent topics and open-ended main questions as well as follow-up and clarifying questions. To build trust and accountability, I also shared about my own background and motivations for studying the topic, and answered participants' questions about my research (Rubin and Rubin 2005). I developed interview guides for each group or type of interviewee – i.e. representatives of environmental organizations – but also asked key questions to all respondents to facilitate comparisons. I began interviews by asking people about their personal backgrounds and history, and connections to Northern Minnesota. I then asked questions addressing participants' opinions about mining, how and why they were involved in copper-nickel mining issues, perceptions of risks and benefits from mining, and assessments of the regulatory and political process (*see Appendix 1 for sample interview schedule*). I also asked specific questions based on an interviewee's experience, expertise or organizational position.

The setting of interviews impacts interactions and how conversational relationships are created (Elwood and Martin 2000). The majority of my interviews were conducted in-person, usually in public places, like coffee shops, or participants' offices if they invited me, which was most common for staff of environmental organizations and government agencies. Meeting people in public locations helped create a casual and social atmosphere. Yet this also created potential limitations, especially in small Iron Range towns where most people know each other and would notice someone talking with an outsider. Other people in a coffee shop could overhear our conversations, thus participants may have been wary of talking about a controversial topic in public. Occasionally people invited me to their homes for interviews which provided a more private and personal space and gave me insights into their life. However, this only happened in Northeastern Minnesota, not in the Twin Cities, where the norms around social interactions and personal space were different. Also, both mine supporters and opponents invited me to their homes, which shows the ways in which I was able to build rapport with people on different sides of the issue. When face-to-face meetings were not possible, I conducted nine interviews over the phone.

I took written notes during all interviews and recorded the audio for the majority. I then had interview audio transcribed verbatim to enable an interpretive approach to thematic coding. I also wrote post-interview memos in which I typed up hand-written notes and wrote a biographical sketch of the person, summarized their involvement in the copper-nickel mining issue, and recorded details about where and when the interview occurred. In the memos I highlighted key themes, new topics, and unique perspectives that arose in the conversation, and assessed the interaction, particularly successes and

challenges in establishing rapport and reflections on my positionality. Writing memos helped me process the interviews, conduct initial analysis, and improve my interviewing strategies and techniques during the research process.

In several instances I did not record interview audio because it was not feasible or was inappropriate and would have been disruptive (Rubin and Rubin 2005). For example, I did not record an interview with a man who worked as a mechanic at a company that manufactured mining equipment. He invited me to his house in Ely and we talked for several hours in his garage while we drank a beer and his brother stopped by to work on a car repair project. Using an audio recorder would have disrupted our conversation and made it more difficult for me to develop rapport. In another interview, the participant asked that I not record because he was nervous about how the material would get used. He was a city council member and a former miner who was very active in pro-mining groups and was wary of meeting with an academic from the city. I think that not recording audio actually helped me create a more personal connection and overcome some distrust which led to a more easygoing and forthright conversation.

In addition to my formal interviews, I also had casual conversations with people at events and in public which ranged from a few minutes to 20-minute discussions. While living in Ely I had regular interactions with clerks and patrons of cafes, and often people wanted to know what I was doing. When I mentioned my research, they would often share their thoughts and opinions about copper-nickel mining or the region's history. These naturalistic and organic conversations provided useful insights and candid perspectives about mining development and environmental conservation that might not arise in the setting of a formal interview (Johnson 2001).

Document and Textual Data

To assess public debates, cultural representations, and framing of copper-nickel mining, I analyze textual data from newspaper articles, public documents, and organizational materials (Altheide and Schneider 2013). These textual documents and linguistic representations construct social perceptions of copper-nickel mining and environmentalism, and shape the dynamics of social action (Fairclough 1989).

I use newspaper articles to follow how the copper-nickel mining issue has developed and to create timelines of events as well as to analyze discourse, framing, and public debate (Earl et al. 2004; Entman 1993; Gamson and Modigliani 1989; Polletta 1998b). Newspaper data is from the Minneapolis Star Tribune, the largest and most circulated newspaper in the state, and then three regional and local newspapers, including the Duluth News Tribune, The Mesabi Daily News, and The Timberjay, which are popular local newspapers that have extensive coverage of mining. For these four publications, I collected all articles that mention PolyMet, Twin Metals, and/or copper-nickel mining from 1999, when PolyMet began exploration, thru January 2017. I focus on news articles to assess how supposedly neutral journalistic accounts are constructed and frame issues. I also review op/eds and letters to the editor to capture voices of different social actors and public opinions. National news coverage, such as the New York Times, and other state blogs and online news sources were used to provide further context but were not part of my systematic discourse analysis.

I examine organizational documents (such as websites, e-newsletters, press releases and public comments) from environmental groups, mining companies, and pro-mining groups to assess how groups are framing issues, creating policy positions, and

developing advocacy tactics (Donges and Nitschke 2017; Milkman 2017; Mix and Waldo 2014). Communications materials show the types of narratives, evidence, and rhetoric groups use to justify and legitimize their positions to the public (Bell and York 2010). I systematically collected data from the most active environmental groups (Campaign to Save the BWCA, Friends of the BWCA, MCEA, and Mining Truth), the two companies (PolyMet and Twin Metals), and pro-mining groups (Jobs for Minnesotans, Up North Jobs, and Minnesota Miners). I also collected social media posts and discussions (Twitter and Facebook) for environmental and pro-mining groups who were active on social media – Campaign to Save the BWCA, Friends of the BWCA, and Jobs for Minnesotans. Social and digital media are an increasingly important source of data for research on social movements, political mobilization, and public opinions (Golder and Macy 2014). Facebook discussions in particular provide a way to observe how group members interact with each other, and how opponents and proponents engage in conversation through an online public forum (Bail, Brown, and Mann 2017; Kozinets 2010).

Public and legal documents (such as environmental impact statements, government reports, legal and regulatory decisions, and written testimony from environmental, public health, tribal, and industry organizations) are used as evidence to create a record of how and when official decisions are reached and to critically assess government discourses. I examine what evidence, rationales, and logics are used, and what voices, knowledges, and values are dominant and silent in the official record.

Secondary Data and Statistics

I collected industry data, demographic statistics, and secondary historical sources to provide information about the social, political, economic, and ecological context of the

region. This includes economic and demographic data from the Minnesota Department of Employment and Economic Data, the U.S. Census Bureau, and the U.S. Bureau of Labor Statistics. I also collected voting data from the Office of the Minnesota Secretary of State. I relied on secondary sources for history about mining, community development, politics, and environmental conservation in the Iron Range and Northeastern Minnesota, such as (Backes 1991; Bartlett 1980; Lamppa 2004; Manuel 2015; Proescholdt et al. 1995).

Analytical Approach

To analyze textual data (interview transcripts, news articles, and organizational documents), I use a qualitative discourse analysis approach that examines the details of language and the broader social and political meanings and implications of discourse (Hajer and Versteeg 2005). I take a critical perspective to interrogate how power operates by questioning what perspectives are privileged, what perspectives are left out, and what language is used, and how language and cultural representations have ideological implications (Jørgensen and Phillips 2002). I draw on methodologies from critical discourse and sociological frame analysis (Fairclough 2013; Gamson 1992, 1985; Gamson and Modigliani 1989) to examine the language, rhetoric, metaphors, and symbols, and to assess dominant themes and frames. I pay attention to the ways in which different social actors attempt to legitimize their positions through appeals to identity, moral arguments, and expert knowledge. I assess what is said and what is not said in order to explore taken-for-granted knowledge and common-sense assumptions that can reveal cultural norms and the ways that power operates (Jørgensen and Phillips 2002).

I read documents and transcripts for dominant themes and used an iterative process of inductive and deductive coding in which I applied theoretically driven codes

and identified emergent codes from the text (Merriam 2009). I identified passages relevant to my research questions and theoretical sensitivities to issues of class, culture, emotions, and identity. I began by conducting a detailed reading to find preliminary open codes at the level of sentences, phrases, and paragraphs. I also assessed passages within the context of the interview participant or publication, and the broader political and social context. I then analyzed how preliminary codes were related into broader analytical codes and themes. These coding categories were refined through a process of reading and rereading the interviews and articles (Weiss 1994). Finally, I assessed dominant themes and patterns, and identified emblematic quotes. I also made comparisons across different types of interviewees and between state-wide and local newspapers. I used Atlas.ti software to help manage and organize data and codes.

I analyzed newspaper articles and public documents separately from interview transcripts and created different sets of codes but followed a similar analytical process. For newspaper articles, I selected a random sample for detailed qualitative coding and then conducted more general content analysis for all the articles. For public documents, I focused on key important texts for detailed analysis and read others for general information. For interviews, I focused on key informants and for different chapters focused on the relevant type of participants for the research questions.

Ethics and Reflexivity

As a researcher I seek to collect and analyze data but recognize that knowledge is never objective, absolute or neutral, and is inherently embedded in power, social relations, and the subjectivity of the researcher (Peshkin 1988; Scheman 2011). As feminist theory argues, knowledge is embodied and produced from somewhere through

people's social positions and engagement in the world (Haraway 1991; Harding 1991; Hartsock 1998). Navigating these power dynamics is particularly challenging in fieldwork and when the researcher comes from a different social location and position of privilege than participants (Wolf 1996). I seek to make my interpretations more reliable and accountable by reflexively acknowledging my perspectives and assessing how my social position effected my relationships and observations. Throughout the research and analysis process I sought to critically assess my assumptions to avoid prefiguring my analysis and validating my preconceived notions.

My research interests and analysis are not separable from by personal biography and politics (Finlay and Gough 2003; Scheman 2011). Therefore, my interest in the project and topic is motivated by my involvement in both the labor and environmental movements, and my family connections to Northern Minnesota. Before graduate school I worked for a labor union and have been involved in labor organizing and workers' rights groups as well as environmental organizations. Both of my parents were born in Minnesota but moved away after college. My father grew up near Minneapolis, but his family is from Hibbing, MN, a city in the Iron Range, and my great-grandfather and other relatives were Finnish immigrants who worked in the iron mines. I grew up hearing stories about the "Range" and visited Hibbing several times as a child. My father also spent his career working for unions on issues of occupational health and safety. My mother was born in Duluth, MN which is the largest city in Northeastern Minnesota and a major shipping port for iron ore. Her family was active in the labor movement – my grandfather was a leader in the union at the factory where he worked – and involved in radical politics. I think my experiences and social position gives me unique insights into

the worldviews and milieus of the labor and environmental sides of the mining issue, and a sense of the history and culture of Northeastern Minnesota. However, I make no claims of being an insider and did not try to represent myself as an “authentic” Iron Ranger or an environmental activist.

My position as a graduate student at the University of Minnesota, and being a young, white, heterosexual, middle-class, and cisgender male shaped my interactions and how people perceived me, which opened up some networks and relationships, but also created other challenges. How people reacted to me was necessarily shaped by my race, gender, and class while what I saw as pertinent or remarkable in my observations was also a product of my social location, personal history, theoretical framings, and politics (Bonner 2001; Finlay and Gough 2003). My social position helped me establish connections with white male small business owners, Iron Range residents, and union members, and white middle-class environmentalists. Being connected to the university assisted in getting interviews with experts and policymakers and provided a sense of legitimacy and objectivity to my project. I shared a similar social position and cultural milieu with many of the environmentalists who were college educated and lived in urban areas. Environmentalists often assumed that I was supportive of their position because I was an academic studying environmental issues.

On the other hand, residents of the Iron Range and workers were skeptical of my motives and suspected me of being an environmentalist opposed to mining because I was a young graduate student from the city. I clearly came from a different cultural, regional, and class location. For example, a male retiree in Hoyt Lakes, MN suggested that I come to his coffee group that met weekday mornings at the diner in town. However, when he

asked the other men – mostly retired miners – if I could join them, they said no. They were worried about what I would do with the information and how I would represent their views. However, for the most part, people in the Iron Range were receptive, especially when I was able to talk with them and explain my project. I expressed my desire to understand and listen to diverse perspectives to understand the complexities of the issue. I also mentioned that I was interested in addressing issues of rural community development and had personal connections to the region and labor issues and was concerned about the future of the Iron Range community and environment.

During fieldwork and interviews, I presented myself as being neutral on the mining topic and did not express a strong opinion as to whether or not the mines should be developed. I was not an active participant in organizations and did not do volunteer work or collaborative research. I did this in order to access all sides and meet people from different groups, which necessitated remaining an observer and non-participant. If people inquired about my opinions, I would focus on why I thought the issue had become controversial and offer my observations about the regulatory decision-making process.

I view research and interviewing as a mutual relationship that is shaped by power (Rubin and Rubin 2005; Scheman 2011). Therefore, I sought to establish rapport and social connections with my participants and to share information about myself and my research. I would tell participants about my personal background and answer questions about what I was finding in my research. However, not taking a position on the issue made it difficult to develop more meaningful relationships and collaborations with either side. I did try to relate to people's interests and find shared connections, such as asking people about their work experiences, family immigration history or fishing, which was

particularly important for establishing rapport and trust with mine workers and Iron Range residents. Yet, I tried to do so without performing a false rural or working-class authenticity. I developed casual relationships with people in Ely, especially local environmentalists, but also some pro-mining activists, who I would see around town at social events and at stores. I have shared my research and writing with participants, and will do so more in the future, by sending them journal articles and blog posts that I publish. I also tried to give back to participants in other ways, such as sharing digital copies of newspapers from the 1950s-1970s that I collected with the Ely-Winton historical society.

Confidentiality

To protect participants' identities and confidentiality, I do not use interviewees' names or their specific organizational affiliations or titles. I told interviewees that their responses would be confidential and anonymous, although many said it was ok to use their name. In the dissertation, I use pseudonyms when attributing quotes and telling anecdotes. I have tried to ensure anonymity while maintaining pertinent details about people such as their age, race, and type of organizational affiliations. People involved with copper-nickel mining in Minnesota might be able to identify some of my interviewees, particularly key leaders, but my interviews were not about private or sensitive issues, and the opinions they expressed in interviews were usually consistent with their public statements. I do use people's real names and affiliations in quotes that are taken from newspapers, public testimony, social media, and other publicly available documents. I use the actual names of mining companies, towns, government agencies,

community organizations, and environmental groups because it is not feasible to anonymize these groups and places given the small number of social actors involved.

Outline of the Dissertation

In chapter 2, I provide background on the social, political, economic, and environmental history of the region that provides important context to the contemporary issues and shapes different social actors' environmental imaginaries and collective memories. I describe the current socio-political and economic context of the Iron Range and the towns near the proposed PolyMet NorthMet and Twin Metals mines. I then give a detailed account of the contemporary conflicts over proposed copper-nickel mining and assess some of the factors and turning points that have made this into a contested issue.

In chapter 3, I examine how place-based identities, emotions, and collective memories mobilize opponents and proponents of mining, and the competing claims to the place. I show how different groups make sense of proposed mining through different environmental imaginaries and seek to legitimate their claims through emotional and cultural connections. This chapter explores how mining is symbolic of broader social identities.

In chapter 4, I focus on the political and ideological implications of how Iron Range residents, unions, politicians, and other mine supporters make sense of proposed mines. I analyze how the recent rightward political swing in this historically leftist region was mobilized by right-wing populism that connected to the symbolic, emotional, and cultural dynamics of copper-nickel mining. I highlight the role of nostalgia, environmental imaginaries, and place-based identities in right-wing extractive populism and anti-environmentalism.

In chapter 5, I turn to the regulatory decision-making processes and how the environmental and social impacts of copper-nickel mining are assessed and measured. I explore issues of procedural and representational justice in how different groups participate in decision-making processes that are shaped by intersectional dynamics of power, particularly class, gender, indigeneity, and whiteness. This chapter provides an analysis of environmental justice dynamics that are often excluded in the dominant framings of local support for mining jobs and the impacts to Indigenous communities. I interrogate how decision-making is enacted through bureaucratic and regulatory mechanisms which are an important site of environmental politics.

Chapter 2 – Legacy of Conflicts Over Extraction and Conservation in the Iron Range

Introduction

New resource extraction projects in the U.S. often create contentious and drawn-out conflicts between environmental protection and economic development, such as the Pebble Mine in Alaska or uranium mining near the Grand Canyon. Similarly, copper-nickel mining in Minnesota is a highly controversial and divisive issue, and the proposed projects are undergoing long regulatory, legal, and political processes. Since initial proposals in the early 2000s, copper-nickel mining has gone from a routine regulatory decision to a major political issue in the state with national implications and attention. While contention over mining in Minnesota reflects national and transnational patterns in resource extraction politics, the particularities of the conflict are shaped by local socio-ecological factors. Therefore, I situate the contemporary struggles over copper-nickel mining and environmental protection within the regional histories of extractive development, settler colonialism, and wilderness conservation, and the biophysical, cultural, and political-economic contexts of the Iron Range and Minnesota.

In this chapter, I provide an overview of the region's history, current socio-political dynamics, and contemporary copper-nickel mining development and politics. This provides important background on the Iron Range, and details about the PolyMet and Twin Metals project for the subsequent analytical chapters. I focus on the legacies of extractive capitalism, Indigenous dispossession, labor organizing, and struggles over protecting the Boundary Waters Canoe Area Wilderness (BWCA). These histories are important for understanding the collective memories, environmental imaginaries, and

place-based identities that shape how social actors make sense of copper-nickel mining and attempt to legitimate their claims and mobilize supporters. After discussing this background, I give a detailed account of the current copper-nickel mining debate. I assess major events and turning points in how the Twin Metals and PolyMet projects have developed, gained public attention, and mobilized opponents and proponents.

Brief History of the Minnesota Iron Range

The Iron Range in Northeastern Minnesota is a rural mining region defined socially by a strong cultural identity and collective history of mining, and defined geologically by a series of mineral complexes rich in iron, copper, and nickel. The region of around 150,000 people is in the far Northeastern corner of the state, around 200 miles from the Twin Cities metro region and 80 miles from Duluth, MN—the fourth largest city in the state and a shipping hub on Lake Superior.³ The Iron Range spans over 100 miles from Grand Rapids, MN, in the southwest to Ely, MN, in the northeast. Ely is on the edge of the BWCA—a federally-protected wilderness area with thousands of lakes and rivers along the U.S.-Canada border (Proescholdt et al. 1995). The region’s geography is shaped by resource extraction as cities and towns arose near mine sites, and mine pits and piles of waste rock shape the landscape. The largest cities on the Iron Range are Hibbing, MN, (population 15,000) and Virginia, MN, (population 8,000) are near large iron mines and became regional commerce hubs. Smaller towns are scattered throughout the area located near former or current mines (Brown 2008).

³ Data from U.S. Census Bureau Annual Community Survey (ACS) 2012-2016 for the Iron Range Resources & Rehabilitation Service Area. Accessed at: (<https://www.mncompass.org/profiles/service-area/iron-range-resources-rehabilitation>)

The Iron Range includes several geological deposits, including three iron deposits (the Mesabi, Vermillion, and Cuyuna ranges) and the adjacent Duluth Complex with deposits of copper, nickel, and platinum group elements (PGE) as well as small amounts of gold, silver, and other precious metals. The iron deposits date back to the middle Cambrian period as iron, silica, and oxygen from an inland sea combined in the sediment. When the sea emptied, pressure and erosion formed iron ore deposits. Glaciers then deposited earth and other debris on top of the iron, creating what the mining industry refers to as “overburden” covering the iron (Manuel 2015). The Duluth Complex is an older geological formation of volcanic and sedimentary rocks created 1.8 billion years ago in the Precambrian era. In this formation, base metals of copper, nickel, and zinc combined with sulfur to create sulfide-ore minerals. Exploration has identified large amounts of low-grade deposits of copper and nickel sulfides in the Duluth Complex (Minnesota Department of Natural Resources 1973).

In the rest of this section I provide an account of the region’s political, economic, and social development. I describe how the region developed through extractive industries and displacement of Indigenous peoples, how workers struggled to improve working conditions in the iron mines, and how the Iron Range community identity has been constructed.

Extractive Economies and Colonial Dispossession

Resource extraction from trapping to logging to mining has driven capital investment, European settlement, and Indigenous dispossession in the Iron Range and Northeastern Minnesota. National and international political and economic processes have shaped this seemingly isolated and rural region, influencing when, where, and how

extractive development occurs. Yet local biophysical factors, such as expansive water transportation routes and large deposits of minerals, are what have provided a source of value and mobilized capitalist accumulation. This area is also the homeland of many American Indian Tribes and development of extractive industries relied on displacing Indigenous communities and using military force and legal measures to acquire land and resources from Ojibwe (part of the larger Anishinaabe peoples) and Dakota Tribes in the region (Stark 2012; Treuer 2010).

European colonial involvement in the region began in the 16th century during the fur trade, which reached its height in the late 18th century and early 19th century (Lamppa 2004). French and British trading companies created alliances with Ojibwe and other Native American Tribes and used their trade routes across rivers and lakes in what is now Minnesota and Ontario Canada to transport beaver pelts to Lake Superior and then across the Great Lakes and the Atlantic Ocean, supplying European markets (Anon 2018b; Doerfler and Redix 2016). The fur trade dwindled by the 1830s and was largely over by 1870. It did not bring extensive settlement and industrial development to the region as the companies were focused on trade, not acquiring land, but it decimated the beaver population and altered relationships among Tribes and between Tribes and European countries (Doerfler and Redix 2016; Staff 2018).

In the mid-19th century, desire for natural resources – particularly timber and minerals – drove European settlement, colonial land acquisitions, and Indigenous displacement through military and legal efforts of the U.S. government. Capitalist demand for resources motivated the U.S. government in the mid-to late 1800s to sign treaties with Ojibwe, Potawatomi, Menominee, Ho-Chunk, and Dakota Tribes in order to

acquire land in what is now Minnesota, Wisconsin, and Michigan (Doerfler and Redix 2016). Treaty processes were often coercive as Tribes were pressured into negotiations and terms they did not fully agree with or understand, particularly given language barriers. Tribes viewed treaties as a ceremonial exchange and the basis for creating lasting relationships based on reciprocity and mutual goodwill (Stark 2010). However, the U.S. government saw these treaties as simply a way to acquire land and natural resources and pacify Indigenous communities. Treaties would be violated when convenient for the needs of the state and capital. Tribes were forced onto small reservations with marginal and relatively unproductive lands while private companies acquired ownership over thousands of acres of forest (Doerfler and Redix 2016).

The 1854 Treaty of La Pointe was signed by Lake Superior Chippewa (Ojibwe) Bands (including Fond du Lac, Grand Portage and Boise Forte bands from Minnesota; the L'Anse, Vieux de Sert, and Ontonagon bands from Michigan; and the La Pointe, Lac du Flambeau, and Lac Court Oreilles from Wisconsin) and Mississippi River Chippewa (Ojibwe) bands from Minnesota. The Treaty covered more than two million acres in Northeastern Minnesota, including the current day Iron Range and BWCA, and created the Fond du Lac, Grand Portage and the Boise Forte reservations in Minnesota as well as several others in Wisconsin and Michigan (Stone 2014). The Tribes also negotiated for payments and continued access to hunt, fish and gather in the ceded territory beyond reservation boundaries. The 1854 Treaty also contributed to establishing that Northeastern Minnesota was Ojibwe and not Dakota territory. Dakota and Ojibwe Tribes had struggled over lands in the area for several centuries.

The logging industry expanded rapidly in the mid-1800s, spurring growth of the newly formed state of Minnesota and turning the state into one of largest timber producers in the U.S. Logging camps and small towns of white settlers formed in Northeastern Minnesota to house timber workers who were transforming the large pine forests into an industrial landscape. The logs were transported to sawmills and ports in growing cities along Lake Superior and the Mississippi River (Lamppa 2004). By the 1900s the forests were depleted, and production began to slow—by 1930 most of the mills closed (Barzen 2011). While logging continues in the Iron Range, it is a much smaller industry. In 2016, around 500 people in Northeastern Minnesota were employed in forestry and logging, and that number is expected to decline over the next decade (White 2017).

The region known today as the Iron Range did not really form until the development of mining in the late 1800s and early 1900s. Mining led to rapid growth in the white settler population, creation of larger towns and cities, and construction of industrial infrastructure. In the 1860s there was a short-lived gold rush near the current town of Tower, MN and the Boise Forte reservation, but little gold was found—although prospectors found large iron deposits (Lamppa 2004). However, iron mining did not take off until the deposits became valuable in the 1870s and 1880s due to increased demand for steel, advancements in the steel-making process, improvements in rail transportation, and legal changes to federal mineral rights (Lamppa 2004; Manuel 2015). The first commercial iron mine in Minnesota was established in 1883 in Tower on the Vermillion Iron Range. By the 1890s several underground mines in the area, including Ely, were shipping iron ore on newly-built railroads to the ports in Duluth (Lamppa 2004). The

industry expanded in the 1890s and 1900s to the adjacent Mesabi Iron Range, where geological conditions enabled larger and more profitable open-pit mines. Industrialists, including John D. Rockefeller, Andrew Carnegie and J.P. Morgan, invested in the area building new mines and consolidating small mining companies to create large vertically integrated companies, like U.S. Steel, that owned mines in Minnesota and steel foundries in the Midwest (Manuel 2015).

The Iron Range became one of the world's largest producers of iron and was integral to the industrialization of the U.S., supplying the iron for steel mills and factories across the country (Manuel 2015). The expansion of iron mines through the 1930s drove the development of towns and cities in the Iron Range. The region grew quickly and by 1920 had a population around 100,000 (Manuel 2015). Jobs in the mines attracted thousands of European immigrants, largely from Finland, Slovenia, Croatia, Italy, and other parts of Southern and Eastern Europe. In 1910, nearly 80% of the region's population was foreign-born (Lamppa 2004).

The region has endured the booms and busts of the mining industry driven by unstable global market forces and prices, technological changes, geopolitics, and geophysical conditions. National and global economic downturns, such as the Panic of 1893 and the Great Depression, led to decreased production and high unemployment, reaching 70% in the 1930s (Manuel 2015). In turn, periods of economic growth, such as World War I and II and the postwar era, created booms on the Iron Range with increased demand for iron to be used in steel to produce planes, automobiles, and appliances. Geophysical and technological factors have also shaped the region's prospects. The iron industry struggled in the 1950s and 1960s due to decreased production as high-grade

natural iron ore deposits were depleted and the global market shifted. This led to a regional economic recession and cuts in employment. But development of new methods to process low-grade iron, called taconite, deposits led to a boom in the early 1960s through the 1970s as new mines opened and production increased (Manuel 2015). The taconite boom also went bust in the 1980s with a downturn in the global steel market and a drop in steel prices (Lamppa 2004). Distinct from the effects of the market and prices, employment in Minnesota's iron mines has dropped since the 1970s due to automation and mechanization that has allowed companies to increase production while employing fewer workers (Manuel 2015). Currently, unions and politicians do publicly discuss the role of mechanization in job loss, such as remarks in my interviews about larger haul trucks reducing the number of drivers, but they tend to focus blame on other forces such as trade policies and China dumping steel, and critique new environmental regulations they view as too costly and a risk to the industry. Mechanization often appears inevitable, but changing trade policies, reducing regulations, or implementing new technologies are something tangible to change that offer a vision of hope.

Labor Struggles

The regional history of extractive capitalism is also one of conflict between workers and mine bosses. Labor activism in the Iron Range followed broader patterns in U.S. labor history and was affected by national and international politics and global economic conditions as well as local strategies of labor and capital (Manuel 2015). Work in the early iron mines was dangerous and low-paid, and after decades of long and brutal organizing efforts, mineworkers created strong unions that transformed mining into a good job with decent pay, benefits, and safer working conditions. Unions have also

shaped the socio-political landscape by becoming important cultural and political institutions in the region.

Union organizing in the early 20th century was met with violence and repression on the part of the mining companies. The first major strike, in 1907, was led by the militant industrial Western Federation of Miners; it was ultimately unsuccessful, and the mine companies broke the strike without significantly changing conditions (Lamppa 2004). A decade later, workers walked off the job at several mines, sparking the 1916 Mesabi Range strike, supported by the anarcho-syndicalist Industrial Workers of the World (IWW). It was a long struggle in which mine companies used violence and force to stifle the strike—several miners were killed and many more were arrested—but workers were able to gain some concessions to improve pay and conditions (Eleff 1998). However, workers would not get union representation for several more decades. The mining companies maintained a vehemently anti-union stance through the 1920s and prevented organizing and strikes through control, repression, and paternalism (Eleff 1998). The 1930s brought another wave of industrial union activism with Congress of Industrial Organizations (CIO) led drives to organize workers in the steel industry “from mill to mine.” There was some union success, but weak national labor laws, company opposition, and the onset of World War II stymied efforts (Lamppa 2004).

During the postwar period, mineworkers across the Iron Range finally established industry-wide unions and collective bargaining, in part due to a tight labor market, high demand for steel, and New Deal-era changes to labor law. The United Steel Workers of America (USWA) led renewed organizing efforts in the 1940s and by 1943 won recognition at many of the iron mines on the Iron Range (Manuel 2015). Through strikes

in 1946, 1949, and 1952, the USWA gained higher wages, pensions, and other benefits (Lamppa 2004). By the 1950s, the mines were all unionized and the USWA and mining companies entered a period of relative peace.

The histories of radical labor struggles are remembered and retold on the Iron Range, but these conflicts and radical ideas are often presented as a thing of the past. For example, the Minnesota Discovery Center, a large regional museum and tourist center, had a special exhibit in 2017 on the 1916 Mesabi Range strike that discussed violence against workers and radical politics. But this exhibit appeared alongside other exhibits sponsored by mining companies that celebrated the contemporary iron industry and the ingenuity of modern technologies. The radical past was disconnected from the contemporary moment and ongoing forms of exploitation. Today the mining and construction unions, much like other industrial private-sector unions in the U.S., have adopted a more reformist approach and seek a collaborative relationship with industry. Nevertheless, the USWA is one of the more progressive unions nationally, advocating for broader economic justice and taking a lead role promoting worker health and safety, labor environmentalism, and new organizing strategies (Bronfrenbrenner and Juravich 2001; Dewey 1998).

A Democratic Stronghold

Labor struggles and immigration have shaped the political climate, making the Iron Range a stronghold of rural and working-class leftist politics. Conflicts with mining companies contributed to a popular critique of corporate power and economic injustice, and unions have mobilized their members to vote Democrat (which is called the Democratic Farmer Labor (DFL) Party in Minnesota) in large and consistent numbers. In

addition, many of the early Finnish, Eastern European, and Italian immigrants were active in anarchist, communist, and socialist politics in Europe and brought those ideas and traditions to Minnesota. Socialist halls and radical leftist newspapers, often in European languages, were once common across Iron Range towns (Nemanic 2007). Today, it is considered common sense that the Iron Range always votes DFL. Aaron Brown, a writer, blogger, and community college instructor in the Iron Range, captures this sentiment saying that, “the Iron Range has elected Democrats as reliably as the orbit of the moon,” (Brown 2008:184). Active and unified political participation has meant the Iron Range has a powerful influence on state politics. For example, Iron Range politicians have been successful in passing legislation to support the region, and according to conventional wisdom, candidates cannot win state-wide office without Iron Range support.

Ranger Identity: Hard work and Ethnicity

The histories of extractive capitalism and immigration, along with the geophysical landscape, have produced a unique socio-political formation in the Iron Range. A sense of shared experience and solidarity against outsiders and mine bosses helped to create a collective regional identity from the disparate immigrant groups. People in the region came to identify strongly as “Rangers” which today means coming from a European immigrant family that has lived in the region for multiple generations (Hemphill 2005). The Ranger identity was constructed through cultural narratives about labor and hard work in the mines that generates a sense of pride (Backes 1991; Manuel 2015). Northeastern Minnesota is extremely cold with long and snowy winters, and the soils are poor for farming, which made the region a challenging place to survive and created

dependence on unstable extractive industries (Nemanic 2007). Brown describes it this way: “it’s a boom and bust place where mining still anchors our economy. Most folks committed to living here long term know that they may have to dig up some other way of life if their current gig runs out, as most gigs eventually do. That creates resourcefulness and a strong work ethic,” (Brown 2008:45).

While immigration slowed by the 1920s and 1930s, European ethnic identities became part of ongoing Iron Range traditions and customs, such as Croatian potica bread, Finnish saunas, and polka music and dancing (Brown 2008). Nemanic (2007) suggests that people on the Iron Range have maintained values and customs from Europe longer than in much of the U.S. and resisted Americanization while creating a unique form of American regional identity. But, this has become a pan-European identity in which being an immigrant and a Ranger, rather than from being from a particular European country, become more salient. I found that Rangers often identify with a European ethnicity and know where each other’s families came from based on surnames and where in town a person’s family lived, since towns used to be segregated by nationality. Older residents recognized my surname as Finnish and even corrected me on how to pronounce it. People seemed to trust me more when they heard my grandparents were from the Iron Range town of Hibbing, often wanting to chat about my Finnish family and cultural practices.

The Ranger identity has created a strong sense of local solidarity and cohesion, but the region is also known for its hostility to outsiders (Backes 1991). Political and union leaders have used the insider-outsider ethos to unify people against outside enemies, initially East coast mine bosses and more recently urban environmentalists (Backes 1991). Brown describes the region’s complicated history of insularity and

immigration, noting that “the area is deeply skeptical of outsiders, but at one time, it housed one of the most diverse immigrant populations in the country,” (Brown 2008:6). Today, the region remains relatively insular and has not experienced new migration or demographic changes beyond a small flux of retirees and teleworkers relocating to live near outdoor recreation opportunities. Unlike other rural agricultural and industrial areas that have had recent growths in Latinx immigrants, the Iron Range remains homogenous and white—about 94% of the population was white in 2017.⁴

The dominant cultural narratives and public histories of the region exclude Indigenous peoples. The Ranger identity of white settlers draws on claims about authenticity, local ownership, and lineage that naturalize colonialism and render invisible Indigenous presence. Current debates about economic development and land use also largely leave out Ojibwe Tribes’ continued claims to the land and assertion of sovereignty. Indigenous forms of labor and livelihoods based on using natural resources are typically excluded from discussions about work and economies in Northern Minnesota, and the imagery of white masculine labor (Norrgard 2014).

A Snapshot of the Iron Range Today

Economic Struggles

The Iron Range currently faces a lack of good paying jobs, high unemployment, and economic insecurity, largely due to shifts in the global steel industry and underdevelopment of rural areas (Manuel 2015). The region has slightly higher

⁴ Data from U.S. Census Bureau Annual Community Survey (ACS) 2012-2016 for the Iron Range Resources & Rehabilitation Service Area. Accessed at: (<http://www.mncompass.org/profiles/service-area/irrrb>)

unemployment and a lower household median income than the rest of Minnesota.⁵

However, the Iron Range does not face the same levels of economic hardship seen in other mining-dependent communities. For example, Appalachia had a poverty rate near 20% in 2014 compared to 13.5% in the Iron Range.⁶

The Iron Range continues to mine large quantities of iron with a capacity in 2016 to extract 40 million tons annually, which is about 75% of total U.S. iron ore production. However, this production now requires fewer workers due to mechanization. There are around 4,500 mining jobs in the six operating iron mines, but this is a large drop from a peak of 16,000 in 1979. Mining does create additional spin-off jobs providing supplies, conducting repair work, and operating infrastructure necessary for large-scale mining. The iron mines in Minnesota are still almost all unionized, unlike other mining areas including Appalachia, where coal companies have busted unions, or Nevada, where most of the mines were never unionized. Thus, the remaining mining jobs are coveted because they are unionized with decent benefits, retirement, and pay around \$80-90,000/year (Kraker 2016b).

⁵ For St. Louis County unemployment was 4.5% in July 2017, compared to 3.7% for the state at-large. Although it is below the national rate of 4.3%. The Iron Range region also has a lower median income. In 2015 it was \$47,564 compared to \$67,019 for Minnesota. Data is from the Minnesota Employment and Economic Development Department. Accessed at: (<https://mn.gov/deed/data/current-econ-highlights/state-national-employment.jsp>). And ACS Data compiled by Minnesota Compass. Accessed at: (<http://www.mncompass.org/profiles/service-area/irrrb>)

⁶ Data for West Virginia is from the Appalachian Regional Commission (ARC) compiled by Fahe. Available at: (<http://fahe.org/appalachian-poverty>). Data for Minnesota is from the U.S. Census Bureau Annual Community Survey (ACS) 2012-2016 for the Iron Range Resources & Rehabilitation Service Area. Accessed at: (<https://www.mncompass.org/profiles/service-area/iron-range-resources-rehabilitation>)

Mining is now a relatively small portion of employment and revenue in the Iron Range which has shifted towards a service economy, similar to the broader U.S. economy, and increasing numbers of residents work in healthcare, retail, and food services. In 2016, nearly 20% of workers in the Iron Range were employed in the healthcare industry compared to 7.6% in mining.⁷ The tourism and hospitality industry has grown in the region, which is a popular destination for fishing, hunting, boating, and camping – Minnesotans colloquially refer to going “up North” to describe weekend visits and vacations. In 2016 the leisure and hospitality industry in Northeastern Minnesota had over \$900 million in sales and employed over 17,000 people (Explore Minnesota 2018).

Population Loss and Aging

The population of the Iron Range has declined largely due to a lack of jobs and economic opportunity as well as a younger generation’s desire for different experiences and lifestyles. In the counties that include the Iron Range (Lake, St. Louis, and Itasca), the population declined at least 30% from 1960 to 2014, while the population increased over 75% in Minneapolis and the surrounding metro counties (Center for Rural Policy and Development 2016). Mine closures and slow-downs in the mid-2000s contributed to some people moving away and led to an outcry from politicians about the shrinking population. However, population loss has been a much longer trend that began in the 1930s when labor-intensive natural iron mining reached its peak. Mechanization has simply meant fewer people are needed to operate the mines. For example, the town of

⁷ Data from U.S. Census Bureau Annual Community Survey (ACS) 2012-2016 for the Iron Range Resources & Rehabilitation Service Area. Accessed at: (<https://www.mncompass.org/profiles/service-area/iron-range-resources-rehabilitation>)

Eveleth lost a third of its population from 1930 to 1970 (Manuel 2015). Even the development of new taconite mines in the 1950s and 1960s did not bring back earlier employment and population levels because the process was less labor intensive.

The population is also aging as younger generations leave the region for school and employment and are not staying to raise children, and few new young people are moving to the area. The Iron Range is getting older; the median age in Lake County went from 42.9 in 2000 to 48.4 in 2012 and in St. Louis County increased from 39 to 40.8. The region is also older than that the rest of the state. The statewide median age was 37.1 in 2012.⁸ In 2016, 15% of the Minnesota population was over 65 compared to 22% in the Iron Range.⁹

A smaller and older population has led to decreasing school enrollment and has created funding problems for Iron Range schools that were once a source of pride. For example, Hibbing has an elaborate high school building that cost \$4 million to construct in 1940 and garnered national attention as an example of how mining could contribute to community development (Manuel 2015). Yet, enrollment is now dwindling along with funds to pay for upkeep of the building. In 2015, enrollment at Hibbing High School was 676 students, a steep drop from 1,239 in 1998 (George 2016). In my interviews, many Iron Range residents and leaders talked about the high-quality schools as one of the region's assets but were worried about the future of the schools.

⁸ Data from U.S. Census Bureau. Compiled by Headwaters Economics' Economic Profile System. Accessed at: <https://headwaterseconomics.org/tools/economic-profile-system/#demographics-report-section>.

⁹ Data from U.S. Census Bureau Annual Community Survey (ACS) 2012-2016 for the Iron Range Resources & Rehabilitation Service Area. Accessed at: (<https://www.mncompass.org/profiles/service-area/iron-range-resources-rehabilitation>)

Today the Iron Range resembles many other resource extraction and industrial regions in the U.S. that are experiencing a lack of economic opportunity, a smaller and older population, and financial strains on public services like education. Yet, the identity and pride of being a Ranger remains strong.

Struggles over Extraction and Conservation in the BWCA

Contemporary debates about copper-nickel mining development are part of a longer history of conflict over environmental conservation, particularly protecting the Boundary Waters—the region of thousands of lakes and streams West of Lake Superior between the U.S. and Canada in Minnesota and Ontario. The Boundary Waters Canoe Area (BWCA) wilderness—the federally designated wilderness area that was established in 1964—is an internationally renowned place for canoeing and fishing with 1,200 miles of canoe routes, and one of the most visited wilderness areas in the country (Lavanger 2018).

However, the BWCA is also one of the most socially contested wilderness areas. The region, particularly the town of Ely, has been a site of tension between extraction and conservation, and different ways of experiencing nature (Backes 1991; Proescholdt et al. 1995). Some locals and industry want the BWCA to be open for logging, mining, and motorboat use while wilderness proponents want all commercial and motorized activity banned. The area is also on Indigenous lands where Ojibwe, Anishinaabe, Dakota, and other Indigenous peoples have lived for millennia and used the intricate network of lakes, rivers, and streams as a vital transportation route and area for hunting and fishing (Norrgard 2014). Brenda Child (2011), an American Studies professor at University of Minnesota and Red Lake Tribal member, describes the impact of conservation in the

Great Lakes, “From an Ojibwe perspective, the creation of national parks and forests within our homeland was part of a broader colonial history of appropriating Indigenous lands and resources.” The BWCA is within the 1854 Treaty ceded territory, thus Ojibwe Tribes that are signatories have ongoing rights to hunt, fish and harvest in the area, practices which are not necessarily aligned with white settler ideas about protecting wilderness by excluding human use (Freedman 2002). These dynamics are emblematic of tensions between environmental conservation and Indigenous land claims and resource rights (Chapin 2004; Spence 1999). Conservation efforts, what some call “coercive conservation,” have a complex history intertwined with Indigenous dispossession and colonial expansion in the U.S. and globally (Chapin 2004; Dowie 2009; Peluso 1993a).

The first official conservation actions in the Boundary Waters were taken in the early 1900s. In 1902 the U.S. government withdrew 500,000 acres of land from settlement and in 1909 the Superior National Forest was established including parts that would eventually become the BWCA (Backes 1991). By the 1940s, the area, particularly the town of Ely, was a booming tourist destination attracting people from across the country who came for canoeing and fishing trips, and to stay at remote fly-in resorts. Ely at the time had the largest inland float plane base in North America (Proescholdt et al. 1995).

However, conservationists and environmentalists were opposed to the planes and motorboats that they saw as disrupting the idyllic area and harming the ecosystem. They thought the area should be reserved for non-motorized use and experienced through less disruptive forms of recreation like canoeing, hiking, and cross-country skiing. In 1948, federal legislation created a roadless area where planes were prohibited and private fly-in

resorts would be removed (Proescholdt et al. 1995). People who owned cabins in the protected area and tourism companies that used planes and motorboats were vehemently opposed to the new law, which they thought would hurt the regional economy. The law authorized federal funds to purchase and demolish many of the resorts and cabins. Some working-class families owned cabins in the area, but many of the resort owners were part of the local small business class and relatively well-off financially. The loss of private property through federal seizures, often with paltry compensation, created a legacy of local anger towards federal interventions and wilderness protections (Backes 1991). Resort owners appealed to local identity and recreation culture based on motor vehicles and fishing, which framed their interests as aligned with working class residents against outsiders.

In the late 1950s and 1960s, conservationists pushed for the creation of a national wilderness system. The Boundary Waters would be a major source of contention and political maneuvering in the eventual passage of the 1964 U.S. Wilderness Act (Searle 1977). The two sides disagreed over what activities should be allowed in the area and how its barriers should be determined. Conservation groups wanted stringent restrictions that would ban all commercial and extractive activity and use of motorized vehicles. Many Iron Range politicians and residents opposed restrictions on logging and mining and wanted areas to remain open for motorboats and snowmobiles. Eventually legislators reached a compromise that included continued mining and logging in the adjacent national forest, and exceptions for the use of motorized vehicles in certain zones and on designated lakes – the only wilderness area in the U.S. with such an exception (Kelleher 2003). Thus, the Boundary Water Canoe Area (BWCA) Wilderness was created in 1964

as part of the newly formed federal wilderness system. However, the exceptions meant that mineral exploration continued along the edge of the BWCA and several proposals to develop copper-nickel mines in the watershed of the BWCA were made in the mid-1960s and companies acquired federal mineral leases—some on the same sites proposed for development in the 2000s. Yet, none of the projects would move past the exploration stage as public concern grew in the 1970s.

Conservation and environmental groups continued to demand further protections due the exceptions for motor vehicles and commercial exploration which led to renewed conflicts in the mid-to late 1970s over banning motor vehicles, logging, and mining in the BWCA. Federal legislation was introduced in 1975 and 1976 to expand restrictions, which triggered several years of political fighting, popular mobilization, and social tensions. The issue split the DFL, as leaders from Northeastern Minnesota opposed the strong protections and introduced legislation with weaker protections, while DFL politicians from other parts of the state championed legislation with the strict bans on motor and commercial use.

Conservation and environmental groups formed a state-wide and national coalition to raise public awareness and generate political support for tough restrictions in the BWCA. They framed motorboats and snowmobiles as an affront to the wilderness experience and tapped into rising public concern about environmental protection. Opponents to wilderness protections also mobilized to maintain “multiple use” – motorized vehicles – in the wilderness area and to allow limited mining and logging, which they portrayed as vital to region’s economy and culture. U.S. Congressman Jim Oberstar (DFL) from the 8th District in Northeastern Minnesota described the proposed

new wilderness protections as a “Pearl Harbor attack on northern Minnesota,” (Proescholdt et al. 1995:164). Opponents staged protests, marches, and rallies, such as illegal snowmobile rides through the BWCA or nailing a wooden board on the office of the U.S. Forest Service to symbolize how locals were being locked out of their own backyard (Proescholdt et al. 1995). Emotional and nearly violent confrontations occurred in the area, such as the hanging of an effigy of Sig Olson, a well-known conservationist, before a public hearing in Ely, where government staff were worried about a mob breaking out (Proescholdt et al. 1995).

In what was largely a victory for conservationists, the U.S. Congress passed the federal Boundary Waters Canoe Area Wilderness Act in 1978 after a series of negotiations and compromises. The legislation included a ban on mining, logging, and motorboats (except on a few lakes) in the BWCA (Proescholdt et al. 1995). A partial buffer zone was created around the BWCA where mining would also be outlawed. However, some areas in the BWCA watershed were left out of the buffer zone, which is where Twin Metals and other companies are now conducting mineral exploration in the 2010s.

The implementation of the bans left lingering resentment among some residents of the Iron Range who felt that outsiders – environmentalists and the federal government – unjustly imposed these restrictions on local activities. The outcome also had political ramifications. For example, Don Fraser was endorsed by the DFL caucus in the 1978 U.S. Senate campaign, but he then lost in the primary to Bob Short. Short gained support in Northeastern Minnesota by opposing the wilderness protections and claiming to

support the Iron Range. In turn, he framed Fraser as an urban elite who supported the BWCA against the interests of the Iron Range (Bierschbach 2015).

The creation of a protected wilderness also limited Ojibwe people's use of the area and has sparked conflict between Tribes, environmentalists, and government agencies. Tribal members are supposed to follow BWCA regulations that restrict motor usage and collection of natural resources, although tribal members no longer need permits to enter the BWCA. Yet, Ojibwe tribal members cannot drive their canoes or motorboats to lakes in the BWCA to harvest manoomin (the Ojibwe word for wild rice). Carrying canoes, equipment, and large quantities of rice long distances is often not feasible which means areas in the BWCA are no longer actively used for manoomin harvesting. Still, wilderness protections have some potential benefits for Indigenous communities by reducing motorboat fishing by white tourists that contributed to depletion of fish populations and created other environmental disruptions, such as spreading invasive species that impair manoomin growth.

Tribal members have contested restrictions on their treaty and subsistence rights. In the late 1990s, four Bois Forte members were arrested for using motor vehicles in the BWCA. They challenged the legal basis of their convictions in an effort to assert treaty rights for tribal members' to use motor vehicles for hunting, fishing, and harvesting in the BWCA (Freedman 2002). They argued that restrictions constrained their treaty rights and that Tribes have the sole authority to regulate their members actions, not state agencies or the U.S. government. In the landmark *U.S. v. Gotchnik* case, the first litigation over American Indian treaty rights in a federal wilderness, a federal district judge in Minnesota ruled against the Bois Forte members. The judge argued that U.S. government

had the right to regulate activities in a wilderness area and that 19th century treaties did not protect the use motorboats and ATVs (Freedman 2002). The judge did affirm that tribal members could use other motorized tools, such as an electric drill for ice fishing, and that the formation of the BWCA did not abrogate treaty rights. The ruling and convictions were upheld by the 8th Circuit Court of Appeals and the Supreme Court turned down an appeals request (Freedman 2002).

The BWCA continues to be a controversial place. In the early 1990s there was conflict over a truck portage between two motorized lakes in the BWCA, which was finally resolved after years of litigation when a federal court ruled that the portage should be closed (Proescholdt et al. 1995). More recent debates have arisen around placing cell towers near the BWCA and the process for getting permits to enter the BWCA (Kennedy 2018; Marcotty 2012b). Conflict over environmental preservation and development accelerated in the late 2010s with debates over copper-nickel mining and the nearby Twin Metals project.

Animosities over these past conflicts linger. During my fieldwork in 2017, I found that people on both sides of the wilderness conservation issue continued to be angry at individuals on the other side and would recount stories about confrontational interactions. I interviewed people who lamented a family property that was lost to the federal government in the 1950s. Others complained about federal overreach restricting planes and motorboats that hurt the region's economy by stopping the wealthy tourists who came for fly-in resorts and extravagant fishing trips. This is contradictory as locals complained about currently relying on canoe tourists and retirees but were nostalgic for the older tourism economy. I think this is partially due to a sense that the resort tourists

had a shared outdoor recreation culture with local residents based on motorboats and fishing, and a perception that the newer canoe and wilderness tourists are judgmental of how locals' use the land. In addition, the older resorts and guiding companies were often locally owned while some of the newer companies that specialize in wilderness canoe trips are owned by newcomers.

An Economic and Cultural Conflict

Contestation over the BWCA is a political-economic and cultural struggle over competing environmental imaginaries. The logging and mining industries want access to the land and resources, viewing the region as a source of value to be extracted. Many Iron Range residents want jobs in extractive industries and see the area as an industrial working landscape. The outdoor recreation and tourism industry also views the region as a source of value, but value that is generated through experiencing and preserving the place rather than extracting natural resources. Many tourism companies and businesses are supporters of wilderness protections. They worry that mining and motor vehicles will spoil the pristine area and detract from the region's appeal. Yet, the tourism industry is divided over how to properly experience the area. Some resort owners and guiding companies oppose restrictions and want to use motorboats and snowmobiles in the BWCA, which they think will bring in more tourists and revenue.

Fights over canoes and motorboats is a cultural and emotional conflict between different ways of viewing and experiencing nature (Backes 1991). Supporters of mixed-use tend to be from Northeastern Minnesota and working class, although there are wealthy people who want to use motor vehicles and eliminate restrictions on fishing and hunting. For them, motorboats and snowmobiles are part of how they relate to the place

which they view as their backyard; restrictions are seen as dictated by outsiders who judge their way of life. On the other hand, wilderness supporters tend to be from across Minnesota and the Twin Cities and come from different social milieus and class backgrounds than working-class opponents. They see wilderness protections as a way to defend a place that is a spiritual sanctuary and an oasis from the ravages of industrial development.

Public debates over the BWCA largely exclude the voices and worldviews of Indigenous communities. Creating a wilderness area and the imaginary of a pristine place untouched by humans involves erasing the legacy of how Indigenous people have managed and used the area (Backes 1991). The idea of wilderness is premised on a particular Western view in which humans are separate from ecological systems and “wild” places are seen as an escape from society. For Ojibwe, humans interact with nonhuman nature in ethical relationships in order to create their livelihoods by using the land, water, plants, and animals that are understood as family. This contradicts white settler understanding of conservation as separating humans from nonhuman nature. Different worldviews and priorities mean that conservation organizations and Indigenous people are not necessarily “natural” allies. Some white conservationists see Indigenous people as a threat to wilderness because they think decisions should be based on Western science and management principles. Indigenous groups on the other hand often prioritize establishing their land rights and maintaining livelihoods through using the land (Chapin 2004; Dowie 2009). Other local white settlers who oppose wilderness protections also reject what they see as special protections for Indigenous people and want Tribal

members to follow the same regulations as white anglers and hunters (Loew and Thannum 2011; Nesper 2002).

Today's Conflicts over Copper-Nickel Mining

My research is focused on the contemporary conflicts over proposed copper-nickel mining in the Iron Range within the Duluth Complex, a geological formation that is projected to be one of the world's largest reserves of copper and nickel. The prospect of a new mining future that will create jobs and economic development has brought hope for an economically struggling region. On the other hand, the projects create risks of environmental pollution that could disrupt socially and ecologically important ecosystems, particularly the BWCA. The acquisition of land and mineral rights by companies on Indigenous lands also perpetuates settler colonialism and violations of tribal sovereignty as mining pollution could harm treaty protected resources like manoomin (Deloria and Lytle 1984). Thus, copper-nickel mining has become, as one journalist describes, "one of the most controversial environmental projects ever proposed in Minnesota," (Marcotty 2011a).

I focus on the two most developed and controversial proposals, PolyMet's NorthMet and Twin Metals' project. Both corporations are what the industry calls junior mining companies that are small and typically do initial exploration and development to attract investors and purchase by a large mining company. Both companies are financed by multi-national mining companies that are attracted by potential profits, new spaces for capital investment, and the possibility of creating a new resource frontier in the U.S. Industry analysts and environmentalists presume that other companies are waiting to move forward until regulatory decisions about NorthMet and Twin Metals have been

resolved. But the decisions are entangled in contested politics driven by mobilization of mining supporters and opponents, and complex regulatory and legal processes.

These would be the first copper-nickel mines in the state, but it is not the first-time this type of mining has been proposed in Minnesota. The copper-nickel deposits were first identified in 1948, and in the 1950s, researchers and mining companies studied the extent of the reserves (Minnesota Environmental Quality Board 1979). In the 1960s exploration activities increased with growing commercial interests in developing the deposits. However, proposed development created public concern, particularly around potential impacts to the BWCA. In response, Minnesota Governor Wendell Anderson created an inter-agency task force in 1972 to examine the implications of copper-nickel mining. The study was completed in two years and concluded that mining was feasible (Anderson 1975). Shortly afterwards, in 1974, two companies—International Nickel Company and Amax—prepared initial environmental review documents to develop copper-nickel mines. In response, the Minnesota Legislature commissioned a comprehensive social and environmental impact assessment of the regional impacts of mining, rather than reviewing the specific proposals. This essentially put a moratorium on mining development until the study was completed and the state could develop appropriate legal and regulatory frameworks for copper-nickel mining. The Minnesota Regional Copper-Nickel Study took five years to complete and concluded that mining could be done in ways that adhere to environmental regulations but carried social and environmental risks (Minnesota Environmental Quality Board 1979). By the time the report was completed in 1979, the prices of copper and nickel had dropped. After a few more years of assessing feasibility, the companies sold off their mineral leases and

abandoned their development plans, largely because the low-grade ore deposit was not profitable given low global prices and high costs of construction and operation (Rebuffoni 1982). Copper-nickel mining largely dropped from public debate until high global prices for copper and nickel in the early 2000s brought a boom in exploration and investment aimed at developing the Duluth Complex.

Next, I describe the differences between copper-nickel and iron mining generally. I focus on the central environmental concerns and the groups that have mobilized for and against development. Then I provided a detailed account of PolyMet's NorthMet and Twin Metals' projects and how and why they have become controversial. I then assess some key differences between the projects.

A Different Type of Mining and Greater Environmental Risks

Copper-nickel mining raises new, complex environmental and regulatory concerns because Minnesota has no nonferrous¹⁰ hardrock mines, which are potentially more hazardous than the existing ferrous (iron) mines due to the potential for acid mine drainage and leaching of heavy metals. I use the term copper-nickel mining which refers to the specific nonferrous metals that would be mined in the Duluth Complex. Nonferrous mining in general has created environmental degradation around the world and in other parts of the U.S., such as Colorado, Nevada, and Montana (Gestring 2012; Jacobs, Testa, and Lehr 2014). Twin Metals and some of the other exploration sites are also in the more

¹⁰ Nonferrous metals are those that do not contain iron, including copper, nickel, platinum, palladium, gold, silver, cobalt, chromium, zinc, and lead. Hardrock mining is also used to distinguish from coal mining.

ecologically sensitive and protected watershed of the BWCA than the existing iron mines that are all outside of the BWCA.

The Mining Process

The nonferrous hardrock mining process involves underground or open-pit surface mining to extract sulfide-bearing ores that contain copper, nickel, gold, platinum group elements (PGE), and other precious metals. In open-pit mines, the overburden of soil and rock is removed and dumped in nearby piles, exposing the valuable ore deposits. In underground mines, shafts are drilled through the overburden and tunnels are built to access the deposits. Explosions are used to dislodge rocks that are scooped up by large mechanical shovels and put into trucks that transport the materials to a processing facility. The ore is crushed into a powder and mixed with water to create a slurry. The slurry is then suspended in liquid to separate the valuable metals and create a concentrate (a procedure called flotation). The concentrate is then refined into a marketable product through additional processing techniques, such as smelting or hydrometallurgy, that can be done on- or off-site (Minnesota Environmental Quality Board 1979). PolyMet, for example, has proposed to conduct some processing on-site via a hydrometallurgy process that uses chemical reactions, pressure, and electrical currents, rather than smelting (The Minnesota Department of Natural Resources, U.S. Army Corps of Engineers, and U.S. Forest Service 2015b). Smelting is a potentially more polluting process that uses heat and combustion which creates air contaminants. The 1970s nonferrous mining proposals for the Iron Range were controversial partially because the companies planned to build smelters that could have been a significant source of air pollution (Anderson 1975).

The nonvaluable material that remains after processing and refining—tailings—is waste that must be stored and treated for pollutants and toxics (The Minnesota Department of Natural Resources, U.S. Army Corps of Engineers, and U.S. Forest Service 2015b). The deposits in the Duluth Complex are low-grade, ranging from 0.25% to 0.66% copper, which means large amounts of tailings will be generated. As much as 97% of the ore can be left over as tailings after processing (Minnesota Environmental Quality Board 1979). Tailings are typically dumped into a basin and then covered with water, soil, or synthetic covers.

Environmental Impacts and Regulatory Protections

Major environmental impacts from copper-nickel mining include water pollution, destruction of wetlands, disruption of wildlife habitat, loss of public lands, and occupational and human health hazards; the source of greatest concern in Minnesota is water pollution. Copper-nickel mining, and nonferrous mining more generally, is more hazardous than iron ore mining because the rocks contain higher amounts of sulfides that create sulfuric acid when oxidized through exposure to air and water. This acidic water, called acid mine drainage, leaches heavy metals and sulfates out of the surrounding rocks (Anderson 1975; Center for Science in Public Participation 2014). Analysis of Duluth Complex ores has found that leachate would likely contain heavy metals including copper, nickel, cobalt, and zinc, and runoff from test sites has exceeded water quality standards (Conservation Minnesota, Friends of the Boundary Waters Wilderness, Minnesota Center for Environmental Advocacy 2012; Lapakko, Olson, and Antonson 2013). Seepage, spills, and run-off from tailings basins, waste rock piles, pipelines, and water treatment facilities could contain this leachate and acidic water that would pollute

ecosystems and impair human health. The potential toxins include many identified by the World Health Organization as public health concerns, such as arsenic, cadmium, lead, and mercury, and several of the heavy metals are neurotoxins (Onello et al. 2016). Mercury, in particular, bioaccumulates in fish which leads to health problems when consumed by humans, disproportionately impacting pregnant women and children (The Minnesota Department of Natural Resources, U.S. Army Corps of Engineers, and U.S. Forest Service 2015b). Spills of acidic water also damage aquatic ecosystems because elevated pH can disrupt the reproductive systems of aquatic animals, and even kill plants and animals (Onello et al. 2016).

Mining companies have proposed technical solutions to treat water and prevent spills, but the adequacy and financial feasibility of these methods is a matter of debate. For example, PolyMet has suggested they would construct a reverse osmosis water treatment system but building and operating this expensive technology might be cost prohibitive (Marcotty 2013b; The Minnesota Department of Natural Resources, U.S. Army Corps of Engineers, and U.S. Forest Service 2015b). Water treatment systems rarely work exactly according to plan and often have spills and malfunctions. A study by mine engineering consultants for Earthworks, an environmental organization, found that the actual amount of water pollution and acid mine drainage from hardrock mines in the U.S. was often underestimated in environmental assessments and that mitigation efforts often failed (Kuipers et al. 2006). The tailings and wastewater need to be stored and treated for hundreds of years, if not in perpetuity, since there is no known technology to reverse the potential to generate acids and leach heavy metals (Center for Science in Public Participation 2014; Conservation Minnesota, Friends of the Boundary Waters

Wilderness, Minnesota Center for Environmental Advocacy 2012). Regulators and environmental advocates are concerned because this timescale is beyond the lifetime of a single company or the operating span of a water treatment system (Center for Science in Public Participation 2014).

The amount of potential acid mine drainage is contested and variable. Some scientists, state agencies, and industry representatives claim environmentalists exaggerate the threat of acid mine drainage because the ores in the Duluth Complex have a relatively low potential to generate acids compared to mines in other regions (The Minnesota Department of Natural Resources, U.S. Army Corps of Engineers, and U.S. Forest Service 2015b).¹¹ Still, the copper-nickel ores in Minnesota have more acid-creating potential than the irons in Minnesota which contain less sulfides and minerals that buffer acid generation (Lapakko 1989). There is also variability in different copper-nickel deposits, thus the ores at the NorthMet mine could create different amounts of acid than at the Twin Metals mine (Lapakko and Antonson 2012; Minnesota Environmental Quality Board 1979). Another factor in the environmental impact of acid mine drainage is the buffering capacity of receiving waterbodies to lower pH levels and mitigate the effects. The lakes and rivers in the BWCA are very high quality and have a low buffering capacity due to geochemical conditions and low acidity levels, and thus are at a heightened risk compared to waterways in the St. Louis River and Lake Superior watershed (Minnesota Environmental Quality Board 1979).

¹¹ Interview with Dan Jones, Professor of Geobiology at University of Minnesota. May 11, 2017.

Another water pollution issue is the potential release of sulfates that could damage manoomin and accelerate mercury methylation—the process of turning nontoxic mercury into methyl mercury that is toxic to human health. Minnesota is the only state with a regulatory standard on sulfate levels—10 milligrams per liter—which was created in 1973 to protect manoomin. The rule was adopted to protect manoomin that is vital to Ojibwe culture and livelihoods and protected by treaties with the U.S. government. Manoomin has also become important to white settlers who have taken on manoomin as part of the state’s identity, for example it is Minnesota’s state grain. Researchers have found that manoomin does not flourish in waters with sulfate levels above 10 mg/L and that bacteria in sediment where manoomin grows convert sulfate from the water into sulfides which limits manoomin growth (Moyle 1945; Myrbo A. et al. 2017). Leachate from the copper-nickel mines is expected to have sulfate levels much greater than 10 mg/L and companies would have to install expensive water treatment systems to comply with state sulfate regulations. High sulfate levels can also hasten mercury methylation by accelerating the rate of methylmercury production by bacteria (World Health Organization 2018).¹² These interactions often occur in sediment, bogs, and peatlands, which are common in Northeastern Minnesota (Onello et al. 2016). Elevated mercury levels in fish is already a public health concern in Minnesota and many waters in Northern Minnesota have elevated mercury levels (Minnesota Department of Health 2017).

¹² Information is also based on personal interviews with scientists and physicians at University of Minnesota-Twin Cities, and University of Minnesota-Duluth.

Tailings basins are complex engineering projects that have to operate in perpetuity but often leak or even, in rare cases, collapse. The walls of tailings basins are essentially dams that are constructed out of soil and rock, or tailings themselves, to hold back thousands of gallons of water and sludge. These walls are prone to erosion, weakening, and shifting. There is evidence that the rate of tailings basin failures has accelerated in the past 30 years, despite developments in technology and engineering (Davies 2002). Environmental groups often cite the 2005 Mount Polley disaster in Canada when a tailings basin collapsed at an operating copper mine which led to a massive spill of toxic water and downstream flooding (Minnesota Center for Environmental Advocacy 2015). Large storms can also overwhelm and flood tailings basins leading to spills of contaminated wastewater. As climate change contributes to stronger and more variable weather events in Minnesota, the risk of storms and large precipitation events increases (Davies 2002; Minnesota Department of Health 2015).

The wet climate of Northeastern Minnesota also increases the risks and challenges of water pollution compared to arid climates like the Southwest U.S., where many hardrock mines are located. Containing the large amounts of water and precipitation at a mine site through water collection and treatment systems is a challenge (Gestring 2012; Kuipers et al. 2006). Then, any pollution would have diffused and large impacts. Northeastern Minnesota has shallow groundwater that is susceptible to contamination. The streams, rivers, and lakes in the region are highly interconnected, thus pollution would spread rapidly and widely, and be difficult to contain (Myers 2013). Waters in the BWCA are also largely unpolluted, thus any new industrial pollution would be a marked disruption. For example, parts of the Kawishiwi River that is near the Twin Metals site

are designated as the highest level of water quality and as “outstanding resource waters” which triggers stronger environmental standards (Myers 2013).

Additional occupational and human health hazards are related to amphibole fibers that exist in the Duluth Complex ores and have similar properties to asbestos and are released as dust during mining and processing. The health risks are uncertain, but physicians and public health professionals are concerned about potential long-term health impacts (Onello et al. 2016). Particles and dust, created by trucks or open-air trains carrying ore, can have negative impacts on workers’ health. These particles also travel through the air beyond the mine site and could impact nearby communities. Occupational health advocates also argue that copper-nickel mining raises new and uncertain hazards from other airborne particles, silicates, and other chemicals, and that the current safety regulations are outdated and do not reflect the latest science (Onello et al. 2016).

Other environmental impacts, including soil erosion, destruction of wetlands, and disruption of wildlife habitats and population, are largely the result of industrial mining and construction, and not unique to copper-nickel mining per se. However, the specific location of the proposed mine sites raises unique issues. For example, the PolyMet project would impact or destroy 16,000 thousand acres of wetlands, which would amount to the largest single permitted impact to wetlands in Minnesota history (Conservation Minnesota, Friends of the Boundary Waters Wilderness, Minnesota Center for Environmental Advocacy 2012). Environmental groups and Tribes are also concerned that the PolyMet project would disrupt some of the best wildlife and plant habitat in the area, destroy peatlands, and result in the loss of lands in the 1854 Ceded Territory (Conservation Minnesota, Friends of the Boundary Waters Wilderness, Minnesota Center

for Environmental Advocacy 2012). In addition, the Twin Metals site is on U.S. Forest Service land that has never been actively mined beyond exploratory drilling. The mine site is part of a large expanse of undeveloped boreal forest—a unique ecosystem that is an important habitat for wildlife, such as lynx, wolves, and moose (Frelich 2014).

The potential environmental impacts of copper-nickel mining are shaped by the particular geographic, biochemical, ecological, and hydrological terrain of Northeastern Minnesota which demonstrates the importance of material and nonhuman factors in understanding the politics and social meanings of mining. The biophysical landscape of Northeastern Minnesota generates opportunities for capital accumulation from the rich ore deposits but also generates frictions due to the environmental and public health hazards and the technical challenges in extracting and processing ores. The chemistry of copper ores and the hydrology of the BWCA create unique environmental threats that mobilize opposition and raise regulatory and engineering challenges for companies.

Threats to Tribal Treaty Rights

The copper-nickel mines are a threat to the livelihoods of Indigenous communities and tribal treaty rights. The proposed mines are on territory ceded in the 1854 Treaty that includes much of current day Northeastern Minnesota (Doerfler and Redix 2016). Also, the Fond du Lac reservation is near Cloquet, MN is located along the St. Louis River downstream of the PolyMet mine site, and thus particularly at risk from potential water pollution or a tailings basin failure. The 1854 Treaty provided Ojibwe Tribes and tribal members with perpetual rights to harvest natural resources, hunt, and fish beyond reservation boundaries across the ceded territory (what are called usufructuary rights). Tribes argue that pollution and land-use changes from mining could

reduce manoomin populations, harm fisheries, and damage habitat for deer, moose, and other animals. This would be a treaty violation because they cannot adequately practice their usufructuary rights if the fish, plants, and animals do not exist. Thus, pollution and land-use changes from industrial development could disrupt cultural practices that sustain livelihoods, identities, and spirituality. Of particular concern is the impact to manoomin which is found in lakes and rivers across the region, and is a nutritionally, culturally, and spiritually important food for Ojibwe and the broader Anishinaabe people (Raster and Hill 2017). Manoomin is part of Anishinaabe prophecies and migration stories, and understood as a relative and part of interconnected relationships and responsibilities between human, non-humans and the creator (LaDuke 2011).

Ojibwe Tribes have pushed to exercise their treaty rights to use and manage natural resources which have been successfully upheld in U.S. courts. The Voight Decision in 1983 by the U.S. Court of Appeals for the 7th Circuit upheld tribal rights to hunt, fish and gather in the territories ceded in the 1837, 1842, and 1854 treaties (which cover parts of Minnesota, Wisconsin, and Michigan). The ruling stated that state governments could not prosecute tribal members for violating state hunting and fishing laws. The ruling also stipulated that Tribes should create policies to manage treaty rights in the ceded territories. Yet, Ojibwe Tribes in Minnesota are still struggling to meaningfully enforce and assert those rights because state and federal agencies resist recognizing tribal authority. The ability of Tribes to set policies for resource management and for tribal members to hunt and fish according to tribal practices, rather than state laws, is still an ongoing area of litigation and activism.

Different Regulations

Minnesota has some specific regulations for nonferrous mining that are different from ferrous mining, particularly around mineral leasing and permitting, which were developed to address the additional environmental hazards and costs of environmental cleanup from nonferrous mining (Minnesota Department of Natural Resources 2018b). However, Minnesota has never issued a permit for a nonferrous mine and thus has never actually implemented the complex regulatory system addressing design, construction, operation, reclamation and remediation. Minnesota began leasing state mineral rights for nonferrous mining in 1966, which was much later than the development of state iron (ferrous) mineral rights and is done through a separate approval process (Minnesota Department of Natural Resources 2018a). The Minnesota Mineland Reclamation Act was passed in 1969 to provide rules for reclamation of mine sites and was updated in 1993 to include specific rules for nonferrous mining. Minnesota has financial assurance laws and requirements for nonferrous mining which were developed to ensure companies provide resources to pay for the long-term storage and monitoring of waste and the costs of clean up and mitigation. However, environmental groups and some lawmakers are concerned that Minnesota's laws on financial assurance have never been tested and the current regulatory framework may be inadequate to accurately estimate future financial costs of cleaning-up copper-nickel mining.

The proposed mines also raise complex jurisdictional issues; environmental reviews, permitting, and other decision-making procedures are governed by overlapping local, state, and federal agencies. For example, the environmental review process (triggered by the National Environmental Protection Act of 1969 and the Minnesota

Environmental Protection Act) for the PolyMet mine was jointly led by three agencies – the Army Corps of Engineers, the U.S. Forest Service, and the Minnesota Department of Natural Resources. The subsequent permitting stage involves over 20 permits from various state and federal agencies and local governments. The proposed mines include state, federal, and private mineral leases and are located on a mix of private, state, and federal lands, which means multiple scales of government have authority.

Supporters and Critics of Copper-Nickel Mining

Environmental organizations, and outdoor recreation groups and businesses have mobilized in opposition due to the environmental, health, and economic risks of copper-nickel mining. Opponents have pushed the issue onto the political agenda. Some groups want greater scrutiny of the environmental impacts and stricter enforcement of standards while others want an outright halt to development. The major mainstream environmental groups in the state – the Minnesota Center for Environmental Advocacy (MCEA), Sierra Club Northstar Chapter, the Izaak Walton League, and Conservation Minnesota – have been active along with smaller and locally-focused groups such as the Friends of the BWCA, Waterlegacy, and Northeastern Minnesotans for Wilderness. Three organizations – MCEA, Conservation Minnesota, and Friends of the BWCA – formed a coalition called Mining Truth in 2012 that focuses on raising public awareness through online communications and advertising (Marcotty 2012a). Another coalition, the Campaign to Save the Boundary Waters (CSBW), formed in 2013 around protecting the BWCA from copper-nickel mining. CSBW is led by Northeastern Minnesotans for Wilderness but includes many supporting organizations at the state and national level. However, copper-

nickel mining has generated less attention from environmental justice and other progressive groups, and has mainly been from mainstream environmental organizations.

Ojibwe Tribes and Indigenous groups have also raised concerns about Indigenous rights and environmental damage from copper-nickel mining. This is part of broader Indigenous activism in Minnesota and across the U.S. to resist ongoing colonial dispossession through extractive development by asserting their sovereignty and exercising treaty rights to manage natural resources and stop pollution (Silvern 1999; Stark 2010, 2012). The Fond du Lac, Grand Portage, and Boise Forte bands along with inter-tribal organizations, including the 1854 Treaty Authority that manages natural resources within land covered by the treaty and the Great Lakes Indian Fish and Wildlife Commission (GLIFWC) that represents 11 Tribes in exercising treaty rights across several ceded territories, have been involved in decision-making about mining. Tribal governments have been formally involved in the review and permitting processes and provided testimony and reviewed technical documents. Activist Indigenous groups like Honor the Earth have also spoken out against the mines due to potential impacts on treaty rights and manoomin. However, Indigenous mobilization in the region has thus far focused more on proposed oil and gas pipelines. In contrast to pipeline protests in other parts of the country, activists have not used direct action or disruptive tactics to stop copper-nickel mining.

Although both environmentalists and American Indian Tribes are involved and are broadly critical of the projects, there has been limited environmental-indigenous collaboration and the groups have different priorities and strategies. Most of the struggle has been through formal regulatory and legal channels rather than protest and direct

action which is less conducive to solidarity actions between white settler and Indigenous activists. Tribes are sovereign nations that interact with the U.S. federal government on a government to government basis, thus they've had a formal role in the PolyMet review process. Therefore, it is not always appropriate or feasible for Tribes to work with environmental NGOs. However, there is growing Indigenous activist and environmentalist collaboration around PolyMet. For example, in 2017 environmental and Indigenous groups held a joint press conference and rally before a hearing about PolyMet and coordinated public speakers. Several white environmentalists testified and spoke about the need to protect Tribal sovereignty and manoomin.

The dynamics in Minnesota are part of a long history of fraught relationships between environmental and conservation movements, and Tribes and Indigenous rights movements in the U.S. particularly because they often understand nature through different epistemologies and ontologies. Indigenous groups often want to protect ways of using and interacting with nonhuman nature rather than preserving wilderness areas from humans (Ishiyama 2003; Shriver and Webb 2009). Exercising treaty rights to hunt and fish can conflict with white conservationists' perceptions of proper environmental preservation (Deloria and Lytle 1984; Ranco and Suagee 2007; Raster and Hill 2017). Environmentalists often operate within the ideologies of settler colonialism and fail to recognize ongoing forms of dispossession, meanwhile Indigenous people may be wary of white environmentalists (Barker and Pickerill 2012; Suagee 1998). Yet, Indigenous activists and environmentalists have successfully built coalitions in the U.S. to oppose pipelines and mining projects (Gedicks 1993; Preston 2013).

Support for copper-nickel mining has grown from the public relations efforts of a few mining companies to broad social mobilization from politicians in Northern Minnesota, construction and mining unions, industry and business groups, and Iron Range community organizations. A new coalition – Jobs for Minnesotans – was formed in 2012 as an alliance between the Minnesota Building and Construction Trades Council, and the Minnesota Chamber of Commerce to promote copper-nickel mining as well as other contested development projects– mainly oil and gas pipelines (Jobs for Minnesotans 2012). The coalition has grown to include other companies and industry groups, local unions, cities, and community organizations. The organization has a small staff and budget to create PR materials, host events, maintain an active online presence, and submit technical comments on legislation and regulatory decisions. Grassroots pro-mining groups have also formed such as Up North Jobs, Fight for Mining Minnesota, and Minnesota Miners. These groups are not connected to existing institutions and do not have staff; instead they have organized through social media and personal networks. Anti-federal wilderness groups that formed during the 1970s BWCA conflicts, such as Conservationists with Common Sense, are also working with the pro-mining groups.

In the following subsections, I describe the PolyMet and Twin Metals projects. I review some of the key issues and turning points with each, and examine why the projects have become controversial.

PolyMet's NorthMet Project: New Mining on Top of Old Mining

PolyMet's proposed NorthMet project would cover 30 square miles and include a 700-foot-deep open-pit mine to extract copper, nickel, and PGE about six miles south of Babbitt, MN. NorthMet would also include a processing facility six miles north of Hoyt

Lakes, MN, which would be connected to the mine site with a seven-mile train track. The company plans to repurpose an iron ore processing facility and tailings basin previously owned and operated by LTV Steel. The \$650 million project is projected to take 18 months to construct and operate for 20 years, producing 72 million pounds of copper, 15.4 million pounds of nickel, and 720,000 pounds of cobalt and other metals, and removing 533 million tons of ore and waste rock (The Minnesota Department of Natural Resources, U.S. Army Corps of Engineers, and U.S. Forest Service 2015b). PolyMet plans to store the most reactive tailings in a 4-square-mile basin flooded with water while less reactive tailings and waste rock will be stored in piles (The Minnesota Department of Natural Resources, U.S. Army Corps of Engineers, and U.S. Forest Service 2015b). PolyMet would also construct a new wastewater treatment plant as well as a water containment system to capture seepage into groundwater and run-off from the site (The Minnesota Department of Natural Resources, U.S. Army Corps of Engineers, and U.S. Forest Service 2015b).

PolyMet is a small company based in Canada that was formed to develop the NorthMet project and has no other operations. In the early 2000s, PolyMet lost investment from Rio Tinto, one of the largest multinational mining companies, but the company has attracted other financial backers (Bloomquist 2000). Glencore Xstrata – a global mining and commodities company based in Switzerland – currently owns about one-third of PolyMet and holds rights to purchase minerals once operation begins. The other two-thirds are owned by private investors and individual stockholders—the company is traded on Toronto and New York stock exchanges. In 2016 Glencore

provided an additional \$33 million in debt purchases to fund operating costs (Ramstad 2016).

Babbitt, Hoyt Lakes and Aurora are small towns near the NorthMet site that were built by iron mining companies in the 1940s and 1950s. The towns are currently struggling as iron mines have closed and slowed down. In 2001, LTV Steel closed and laid-off 1,400 workers which had a major impact on the area and eventually led to the closure of local grocery stores and consolidation of area schools (Oakes 2001; Ross 2016). The Northshore Mine near Babbitt, which is just a mile from the proposed NorthMet site, is still in operation but has gone through recent ups and downs and closed for part of 2015 and 2016. Local politicians and leaders are strong supporters of the project, but state-wide and regional environmental groups and the Fond du Lac Band have raised concerns and demanded scrutiny of the environmental impacts. The Tribes and environmental organizations are largely working separately but have some similar critiques and environmentalists have relied on the technical and scientific analysis of Tribal resource managers. Yet, there is one smaller grassroots environmental group, Waterlegacy, that is collaborating with Tribes and Indigenous groups.

Delayed Regulatory Process and Rising Public Concern

The NorthMet project began as routine exploration and development. In 1998, PolyMet bought mineral leases in the Duluth Complex and started exploratory studies. By 2004 the company submitted preliminary environmental review documents to state agencies, which determined the NorthMet project needed to develop an environmental impact statement (EIS) under the NEPA and MEPA. An EIS is conducted if a proposed action has a potentially significant impact on the quality of the environment and is

intended to evaluate the potential environmental impacts, assess potential alternatives, and discuss plans for mitigation and monitoring (US EPA 2013). The EIS does not determine whether or not a project should be approved but is used as source of information to guide permitting decisions. PolyMet publicly predicted that they could have permits by 2006 and begin production by 2007 (Anon 2004). However, these early projections proved mistaken, as the project became delayed and hotly contested. As of 2017, the project is still undergoing a now-13-year process of environmental assessment, permitting, and litigation.

Initially, environmental groups expressed concerns about the project and by 2006 newspaper coverage began to mention the potential environmental impacts, but public attention to these impacts was limited (Myers 2006). A major turning point was in 2010 when the EPA took the unusual action of deeming the initial draft EIS inadequate and "environmentally unsatisfactory," which legitimated and reiterated critiques from environmentalists and Ojibwe Bands (Shaffer 2010a). The EPA raised concerns about major environmental risks, particularly acid mine drainage, and shortcomings in the analysis of water pollution and the implications of a losing federal lands. The EPA's rejection of an EIS is rare – one staff member of an environmental organization claimed that only 3% of EIS's receive an unsatisfactory rating. According to an EPA staff member who reviewed a rejected EIS for a mine in California, the regional EPA deemed only 4 EIS unsatisfactory over a 23 year period during which they reviewed nearly 3,000 EIS (Abby 2014). After the EPA action in 2010, opposition to NorthMet grew and copper-nickel mining received more public scrutiny and news coverage (Shaffer 2010b). Over 3,500 people submitted public comments on the draft NorthMet EIS, a large

increase from the few hundred comments typically submitted (Meersman 2010).

Newspaper coverage in the state's two major publications, *The Star Tribune* and *Duluth News-Tribune*, spiked in 2010 around the EPA decision and again in 2013-14, coinciding with another public comment period and state elections (*see Figure 1*).

The EPA's rejection of the EIS led to further regulatory scrutiny and slowed the permitting process because PolyMet had to create a supplemental EIS that involved additional agencies. The U.S. Forest Service (USFS) joined the Minnesota Department of Natural Resources (MNDNR) and U.S. Army Corps of Engineers (Army Corps) as co-lead agencies in conducting the environmental review, which is not atypical but did add additional layers of bureaucratic approval (Shaffer 2010c). The USFS was included because the mine site is in the Superior National Forest, where mining is not allowed. PolyMet owns private mineral rights, but the surface land is publicly-owned by the USFS. In Minnesota and much of the Western U.S., the subsurface mineral rights can be owned separately from the surface land. Thus, PolyMet proposed a land swap giving the USFS 6,722 acres of private land in other parts of Northeastern Minnesota in exchange for 6,650 acres of USFS land above the ore deposit (The Minnesota Department of Natural Resources, U.S. Army Corps of Engineers, and U.S. Forest Service 2015b). During the supplemental EIS process, the EPA also took a more engaged and active role as a cooperating agency which indicated the agency's concern about the potential for pollution and put greater scrutiny on the project. The Bois Forte, Grand Portage, and Fond du Lac Bands, and GLIFWC and the 1854 Treaty Authority were also included as cooperating agencies. The Bands and inter-tribal groups received early drafts for review and were consulted in a semiformal process, although they had no decision-making

authority. PolyMet also brought on new staff – including a former commissioner of the Minnesota Pollution Control Agency – and put more resources into collecting and analyzing data for the supplemental EIS (Shaffer 2011).

As PolyMet and government agencies revised the EIS, public attention and scrutiny accelerated as environmental groups mobilized opposition and highlighted the risk of a new type of mining to Minnesota’s clean waters. Mining opponents initiated public information campaigns and held protests, such as rally in 2011 outside of the Minnesota Chamber of Commerce office in Duluth during a meeting with PolyMet officials (Myers 2011). In May 2012, the Mining Truth coalition was formed to raise public awareness about copper-nickel mining, what environmentalists pejoratively call “sulfide mining” because of the sulfide-bearing ores. The coalition built a website, wrote reports, and sponsored advertisements online, in newspapers, and on billboards along the major interstate connecting the Twin Cities and Duluth.

A supplementary draft EIS was completed in November 2013 after several extensions and delays, partially because the EPA critiqued the lack of data on existing water conditions and flaws in PolyMet’s water models. In January 2014, the supplementary draft EIS was released to the public for a 90-day public comment period—twice the length required by law due to the high level of public scrutiny (Staff 2014). A record-setting 52,000 comments were submitted, which was 10 times the previous state record for public comments and dwarfed the 3,500 comments on the first PolyMet EIS in 2010 (Marcotty 2014). Three packed public comment sessions were held in the Twin Cities and Northern Minnesota where the public could make verbal statements and ask agency staff questions about the project. The historic amount of public

input led state and federal agencies to develop new procedures for dealing with the volume of comments.

The 3,500-page preliminary final EIS was completed and released for 30 days of public comment in November 2015 (Hana 2015). This sparked another round of widely-attended public hearings and another record-setting number of public comments – nearly 60,000 (Marcotty 2015). Despite critiques from environmental groups, public health professionals, and Ojibwe Bands, the co-lead agencies approved the final EIS in March 2016. PolyMet then began the process of applying for over 20 state and federal permits in July 2016. As of December 2017, the NorthMet project is still undergoing review of permit applications.

Copper-nickel mining became a well-known and controversial issue during the PolyMet review process. Polling by the *Star Tribune* found that support for PolyMet decreased during 2014 from 46% of Minnesotans who approved of the project in February to 40% in September (Mitchell 2014). Polling by the Minnesota Environmental Partnership showed increased public awareness and opposition to copper-nickel mining – 66% supported copper-nickel mining in 2009 which dropped to 35% in 2017, while opposition rose from 19% in 2009 to 52% in 2017. More people also reported being aware of the issue; survey respondents with no opinion on the issue dropped from 22% in 2009 to 9% 2017 (Myers 2017b).

PolyMet's Prospects for Development

The NorthMet project appears increasingly likely to get the necessary approvals, but the projects' future is still uncertain and is several years away from construction and operation. In a major milestone, the MNDNR deemed adequate the application for the

Permit to Mine, the largest and most complicated permit, and released the application for public comment. Yet a major controversial issue remains with the permit – the amount of financial assurance. Financial assurance is insurance for the state to cover the costs of environmental cleanup in case there is an accident, or the company goes bankrupt. In December 2017, PolyMet offered \$65 million in credit or bonds and \$10 million in cash to cover liabilities during construction. But according to the initial estimates in the draft permit, liability during the initial years of operation would expand to \$544 million—the amount increases during production because the costs of closing and cleaning up the site would be higher. State regulators are requiring that the company provide bonds, but there is some doubt as to whether PolyMet can secure this financial backing as a junior mining company with few assets (Helmberger 2017c). The MNDNR is currently reviewing PolyMet’s latest offer, and final approval of the Permit to Mine is expected but not finalized.

PolyMet also needs a permit to construct and maintain a tailings basin which is permitted by the MNDNR like other dams. Environmental groups and some mine engineers have expressed skepticism about the long-term stability of the reused tailings basin and are pushing the state to require further safety measures in the permit. Environmentalists argue that the proposed tailings basin does not use the safest procedures and methods, such as liners or a dry storage basin, and that building a new tailings basin would be more secure. However, thus far, regulators have concluded that PolyMet’s design will meet industry standards and have a high Factor of Safety—a quantitative measurement of stability (Minnesota Department of Natural Resources 2015).

Lawsuits by environmental groups over other issues could further delay and potentially block the project. A major point of contention is the federal land exchange that is necessary for PolyMet to be able to build the mine. Environmental groups sued the USFS arguing that the land was undervalued and the exchange violates other federal laws. To circumvent the litigation, Minnesota Congressional Representatives have introduced federal legislation that would approve the sale of USFS lands to PolyMet. The bill passed the U.S. Congress in November 2017 and a companion bill is pending in a Senate committee as of the end of 2017 (Helmberger 2017b).

Distinct from the regulatory mechanism, both industry supporters and opponents concede that a major deciding factor in whether the mine is constructed is the projected profitability of the project, which depends largely on global copper and nickel prices. The price of these commodities will determine whether extracting the low-grade ore deposits is profitable and the engineering and pollution control technologies are cost effective (Myers 2018b). The estimated costs of the NorthMet project have continued to rise; in early 2018 PolyMet projected it would cost \$945 million, up from \$650 million in 2015, which creates additional challenges in attracting investors and capital (Helmberger 2018). The fate of the project may come down to global finances and markets, regardless of what regulators decide. Opponents find some hope in this and think that the finances are precarious and that further delays could lead the companies to pull-out. Proponents express less concern and assert that international companies would not continue to invest if the projects were not profitable, but accuse the environmentalists of using delay tactics to block development.

Twin Metals Project: Mining on the Edge of the BWCA

Twin Metals is also exploring extraction of copper, nickel, gold, and PGE in the Duluth Complex. The potential site is nine miles from Ely and 11 miles from Babbitt near the South Kawishiwi River, which flows into the BWCA, and is only about 20 miles from PolyMet's NorthMet site. A 2014 pre-feasibility document revealed initial plans for a \$2.8 billion large underground mine with over 27,000 acres of mineral leases that could process 20,000 tons of ore per day—larger in both area and volume than NorthMet (Bjorhus 2016; Twin Metals Minnesota 2018). Twin Metals says it will construct a basic processing facility on-site but will likely ship concentrates elsewhere for further refinement. The company plans to backfill the underground mine with some of the tailings and then transport the rest of the tailings to a waste storage facility close to Babbitt (Twin Metals Minnesota 2018).

The Twin Metals project is at a much earlier stage in development than PolyMet; the company has not submitted formal proposals to government agencies. Therefore, the design and scale of the project could change. As of 2017, the project still needs to go through environmental review and permitting, a process that has already taken PolyMet over 13 years. However, many predict that Twin Metals will move relatively quickly if PolyMet is approved because the latter would set a precedent for developing nonferrous mines in Minnesota.

Twin Metals is a junior mining company that was incorporated in Canada in January 2010 as a partnership between Duluth Metals Limited and Antofagasta plc, a large multinational mining company based in Chile and one of the largest global producers of copper (Schaffer 2010; Twin Metals Minnesota 2018). Twin Metals

expanded in 2010 by taking over Franconia Minerals Corporation and acquiring their mineral leases in Northeastern Minnesota, which are predicted to be worth more than \$1 billion (Shaffer 2010d). In 2015, Antofagasta bought Duluth Metals, making Twin Metals a subsidiary of the Chilean mining company (Twin Metals Minnesota 2018). Antofagasta has played an important role in the project by providing funding as well as political support. For example, in 2010, Chairman Jean-Paul Luksic, the son of Chilean billionaire Andronico Luksic, joined the Chilean ambassador to the U.S. in a meeting with Minnesota Governor Tim Pawlenty and state legislators to discuss the project (St Anthony 2010).

The closest town and where Twin Metals has their local office is in Ely—where the dual histories of resource extraction and outdoor recreation converge (Backes 1991). The Chandler Mine in Ely began producing iron in 1888. Additional mines were constructed during that era with the largest, the Pioneer Mine, operating until 1967 (Kess 2014). Ely is also called “the gateway to the BWCA” and has been a popular tourist destination since the 1920s. The main street is dotted with canoe outfitters, guiding companies, and small hotels. In this way, Ely is similar to other towns near National Parks and wilderness areas, although not as wealthy as skiing towns like Aspen. In 2016, National Geographic Adventure ranked Ely as one of the world’s nine best outdoor towns (Parshley 2016).

Ely confronts many of the same challenges as other Iron Range towns, like a shrinking and aging population, poverty, and unemployment. Ely’s population has declined by nearly a half since the peak of 6,000 in the 1930s, and in 2016 it was a mere 3,400. The remaining population is also aging; 21% of Ely residents were over age 65

compared to 15% for Minnesota.¹³ The median household income in 2016 was \$35,288 compared to \$67,867 for Minnesota. The town's 15% poverty rate is nearly double the rate for the state at large.¹⁴ New mining provides hope for good paying jobs and economic prosperity, but also potential pollution of popular lakes would hamper the tourism, retail, and service industry. Residents and community leaders are split over a desire for jobs and fears of pollution.

Public Concern about Wilderness and Contested Property Rights

Although the Twin Metals mine is far from construction, the project has become a major public and political issue. Most of the targeted ore deposits are federally owned and underneath USFS land in the Superior National Forest adjacent to the BWCA. The potential impacts to the wilderness area elicit greater public scrutiny and trigger additional environmental regulations. Environmental, conservation, and outdoor recreation groups have used concern about damage to the BWCA to generate public awareness and energize political pressure against the project. Meanwhile, mining supporters have mobilized to promote the project, including many of the same organizations that are advocating for PolyMet, as a way to bring jobs and economic development to a rural economy. The issue has grown into a state-wide concern because of the BWCA's popularity, and it even gained national attention in 2016 and 2017 with coverage from news outlets, such as *The New York Times*, *The Washington Post*, *The Progressive*, *National Geographic* and *Sierra* (the national newsletter of the Sierra Club).

¹³ Data from Minnesota State Demographic Center. Accessed at: (<http://www.mncompass.org/profiles/city/ely>)

¹⁴ Data from U.S. Census Bureau American Community Survey (ACS) 2012-2016. Accessed at: (<http://www.mncompass.org/profiles/city/ely>)

The opposition to Twin Metals is led by the Campaign to Save the Boundary Waters (CSBW), which formed in 2013 (Campaign to Save the Boundary Waters 2015). CSBW is focused exclusively on stopping mining in the BWCA watershed and blocking Twin Metals, largely ignoring PolyMet because it is outside of the watershed. CSBW seeks to leverage the special federal protections for and cultural importance of the wilderness area (Campaign to Save the Boundary Waters 2014). CSBW emerged out of Northeastern Minnesotans for Wilderness, a small grassroots environmental organization in Ely that run by volunteers with a minimal budget. CSBW has grown into a state-wide and national campaign with a multi-million-dollar budget and a staff of professionals and experienced political campaigners. CSBW is led by Becky Rom, a retired lawyer who is involved in the national conservation movement and was active in earlier struggles over the BWCA. Rom grew up in Ely where her father owned a canoe outfitting company and was one of the leading figures in advocating for protection of the BWCA during the 1960s and 1970s. Many environmental activists I spoke with credit Rom's leadership, fundraising abilities, strategic thinking, and connections in CSBW's success.

The CSBW is involved in regulatory and political processes through lobbying and submitting technical and scientific comments. The also engage in popular mobilization by running an active social media campaign and hosting public events around the state, such as fundraisers at microbreweries and film screenings at a Patagonia store. The group also organizes adventure advocacy trips to raise awareness and get media attention. These include a couple who paddled a canoe covered in petition signatures from Ely to Washington, DC in 2014 and who lived in the BWCA for an entire year in 2016 and documented their experience through a blog, book, and film (Ode 2017).

CSBW has continued to grow and has contributed to increased public concern about Twin Metals. CSBW expanded in 2015 with the creation of Sportsmen for the Boundary Waters – a coalition of hunting and fishing groups. In 2017, the Boundary Waters Business Coalition (BWBC) was formed and includes over 200 businesses ranging from national outdoor clothing companies, such as The North Face and REI, to local tourism outfitters to small regional businesses like breweries and coffee roasters (Boundary Waters Business Coalition 2018; Drucker 2017). These partner organizations mobilize diverse constituencies and frame copper-nickel mining as a threat to hunting and fishing, the tourism industry, and local small businesses. This message has mobilized concern and opposition beyond traditional environmentalists, including hunting and fishing groups that are often apolitical or conservative, and gained traction with a few Republican politicians from the Twin Cities suburbs. Polling paid for by CSBW found that state-wide opposition to mining near the BWCA increased from 62% in February 2015 to 67% in February 2016 (Anzalone Liszt Grove Research 2016). Public opposition is particularly aimed at mining near the BWCA—only 28% of respondents in 2015 opposed copper-nickel mining in Minnesota at-large compared to 62% in the BWCA (Anzalone Liszt Grove Research 2015).

A Roadblock to Development

The efforts of CSBW and other Twin Metals opponents seemed to pay off in 2016, when politicians and regulators took actions preventing development of the Twin Metals mine. In March 2016, Minnesota Governor Mark Dayton (DFL) declared that no state mineral leases within the BWCA watershed would be sold or used for exploration and denied Twin Metals access to state lands (Myers 2018a). This was largely a political

and symbolic action as most of Twin Metals' leases are federally-owned and would not stop the project from going forward. But the action created logistical barriers because the company planned to use some state lands in construction and operation (Marcotty 2016b).

Later in 2016, Twin Metals suffered a more significant blow when the Obama administration revoked Twin Metals' federal mineral leases (Bjorhus 2016). Federal mineral leases typically have a finite length and must be renewed by the U.S. Bureau of Land Management (BLM) and USFS. The previous lessee – INCO Alloys International – acquired the leases in 1966 which were renewed in 1989 and then sold to Twin Metals and renewed in 2004 (Mouritsen 2016). The leases expired again in 2014 and were up for review because Twin Metals had not begun operation. The USFS decided not to automatically renew the leases because of “deep concerns” about potential environmental impacts to pristine waters in the BWCA. The agencies initiated an assessment process to determine whether or not the leases should be canceled. The government solicited public comments and held a series of crowded public listening sessions that were held in the Iron Range and Duluth (Marcotty 2016a). Opponents and proponents led active campaigns to submit comments, and the CSBW delivered 72,000 comments to the USFS (Drucker 2016). Both sides held press conferences before the hearings and organized buses and carpools to bring their supporters.

On December 14, 2016, the agencies cancelled the leases, arguing that mining did not coincide with management plans for the Superior National Forest and BWCA and posed an unacceptable risk to ecosystems, tourism, and tribal rights (Mouritsen 2016). In announcing the decision, then-U.S. Agriculture Secretary Tom Vilsack said, “The

Boundary Waters is a national treasure, special to the 150,000 who canoe, fish and recreate there each year, and is the economic life blood to local businesses that depend on a pristine natural resource,” (Bjorhus 2016).

The USFS went one step further by requesting that the U.S. Secretary of Interior enact a 20-year mining moratorium on the 234,000 acres of the Superior National Forest within the BWCA watershed—the longest such ban that could be put in place in the absence of an act of Congress (Bjorhus 2016). Before a decision can be made on a 20-year moratorium, the USFS needs to conduct a two-year programmatic environmental impact study (EIS) on the potential effects of mining across the BWCA watershed—not just the impact of Twin Metals. During the two-year study, all exploration and development would stop. The EIS would be used to make a decision about the 20-year moratorium (Mouritsen 2016). Another public comment period was held in late 2017 through early 2018 to solicit input on what issues should be studied in the EIS, leading to packed public hearings and attracting local and national press coverage.

Political Changes and Renewed Leases

The Twin Metals project appeared to be moribund, but in 2017 the newly-elected Trump administration reversed most of the Obama-era decisions. In December 2017, the USFS reinstated Twin Metals’s federal mineral leases claiming the company had the right to automatically renew their leases, giving the project new life (Myers 2017d). A lobbying firm for Antofagasta and Twin Metals had met with top Trump administration officials at the Department of Interior who would go on to issue the legal rationale for reversing the decision and renewing the leases (Tobias 2018). In January 2018, the USFS reduced the planned programmatic EIS to a less stringent and less thorough from of

environmental review – an environmental assessment (EA) – which environmentalists claim will not incorporate adequate data and scientific analysis (Brooks 2018). Decisions to renew the Twin Metals project were part of a broader initiative under the Trump Administration’s Department of Interior, which includes the BLM, to open public lands for resource extraction and roll-back land protections, such as shrinking the size of Bear Ear’s monument in Utah. Conservation groups were initially optimistic when Ryan Zinke was picked to lead the Department of Interior because he was a supporter of hunting, fishing and outdoor recreation, but once in office Zinke and the Administration quickly took steps advancing the interests of the oil and gas, mining, and ranching industries (Lipton and Friedman 2018). Promoting resource extraction was part of Trump’s “Make American Great Again” campaign and efforts to scale-back regulations and renew domestic industries as well as a reflection of the political power of the mining and fossil fuel industries.

The outcome of the project is still uncertain and Twin Metals will have to wait for the EA to be completed before moving forward. Environmental groups are likely to file lawsuits challenging the government’s actions, so litigation could slow down the process and change the outcome. But the company has the necessary mineral leases and it is unlikely that the USFS and BLM under the Trump administration would enact the Obama administration’s contemplated 20-year mining moratorium.

Divergent Socio-ecologies of PolyMet and Twin Metals

While the proposed PolyMet NorthMet and Twin Metals mines are the same type of mining in the same region, there are important geographic, biophysical, social, and political differences. A major difference is that the projects are in two different

watersheds, which has elicited different regulatory, political, and social responses. The two sites are only about 20 miles apart, but the PolyMet site is a few miles south of the Laurentian Divide that separates the watersheds of Lake Superior and the BWCA. Therefore, potential water pollution from the PolyMet site would flow through the St. Louis River into Lake Superior, while water from the Twin Metals site would flow through the Kawishiwi River into the BWCA. The Kawishiwi is a popular canoe route into the BWCA and contains pristine waters that are largely unpolluted. The waterways in the BWCA are highly vulnerable to acid mine drainage due to a low buffering capacity to mitigate and neutralize acids and heavy metals (Baker 2013; Minnesota Environmental Quality Board 1979). On the other hand, the St. Louis River is not an especially popular recreation destination and is already contaminated from decades of industrial development, particularly iron ore mines and paper mills. Many of the lakes and streams in the St. Louis watershed have elevated levels of toxins, like mercury, and deteriorated fish and aquatic plant populations (Minnesota Pollution Control Agency 2018). Since 1987 the U.S. EPA has listed the St. Louis river as one of 43 Areas of Concern (AOCs) in the Great Lakes (U.S. EPA 2015).

Different hydrogeological conditions and geographic locations also implicate different institutions and laws. The wilderness protections for the BWCA place additional regulatory and public scrutiny on Twin Metals and lead to more federal government involvement and stricter pollution standards. Though unlikely under the Trump administration, the proposed moratorium on mining in the BWCA watershed is possible because the minerals are publicly owned, the land is part of the Superior National Forest, and development would impact a federally designated wilderness area that is supposed to

be “unimpaired.” PolyMet is excluded from the two-year programmatic EIS and proposed moratorium because the project is in a different watershed that is not federally designated wilderness and does not have the same level of protection.

Different forms of land and mineral ownership also lead to different decision-making mechanisms and jurisdictions, and in turn different advocacy strategies. The NorthMet site is on federal land, but the mineral rights are privately owned—ownership of subsurface minerals is separate from ownership of surface lands. Therefore, the BLM is not involved in issuing the mineral leases and PolyMet’s ownership of mineral rights is not contested. However, PolyMet needs to implement a land swap with the USFS in order to destroy surface lands—a decision environmentalists have used as a target for litigation. Twin Metals, on the other hand, has federal mineral leases, which means the BLM and USFS make decisions about the leases. Environmentalists have strategically focused on renewal of Twin Metals’ mineral leases to stop, or at least delay, the project.

Different watersheds and socio-natural landscapes also shape social perceptions and political tactics related to the two projects. The NorthMet site is viewed as part of the Iron Range mining landscape because it is near active mines and would reuse an old taconite mining facility. The land for the proposed mine pit is currently inaccessible and does not have recreational uses. On the other hand, the Twin Metals site is farther away from the existing mining landscape—Ely has not had an active mine since 1967. The area is publicly accessible in the Superior National Forest with active recreation, including a nearby USFS campsite and an Outward-Bound camp. I easily drove to a test drilling site located within a few minutes of a boat launch onto the Kawishiwi River. Thus, Twin Metals is framed by opponents as out of place because development would transform a

scenic recreation area into an industrial mining district. In contrast, PolyMet opponents cannot effectively frame the project as a disruption to aesthetics and recreation, and supporters frame the project as routine development in a mining area and an example of industrial reuse.

Divergent political responses based on the locations of the projects contributes to tensions within and between opponents and proponents. Supporters of mining are unified in advocating for all copper-nickel mining projects and frame development of copper-nickel mining as one unified issue. On the other hand, mining opponents are divided over different tactics and priorities. Many of the large established environmental organizations in Minnesota, particularly MCEA, Conservation Minnesota, and the Friends of the BWCA, are active in opposing both PolyMet and Twin Metals and believe all copper-nickel mining projects are pressing threats. These groups started their copper-nickel mining advocacy by targeting PolyMet, which they view as a priority because it would set the standard as the first copper-nickel mine in Minnesota and clear the way for subsequent projects. Yet other organizations and activists, mainly the CSBW, are focused solely on mining in the BWCA watershed and opposing Twin Metals. The CSBW is strategically focused on protecting wilderness, rather than wider environmental issues and broader opposition to copper-nickel mining. Other environmentalists as well as Indigenous groups are frustrated with the single-issue focus of the CSBW, although environmental and Indigenous groups are not coordinating an alternative strategy (*see chapter 3 for more analysis of these dynamics*). This strategy has created a political opportunity for some Democrats and a few Republicans to critique Twin Metals but then support PolyMet. Ojibwe Tribes, public health advocates, and environmental justice

groups contend that PolyMet is actually a greater environmental justice concern than Twin Metals because pollution would impact larger downstream communities, including the Fond du Lac reservation and Duluth, and would have greater negative impacts on human health and manoomin. There is more manoomin habitat downstream from NorthMet than Twin Metals and pollution or a tailings dam failure at NorthMet is a direct threat to Fond du Lac. Public health professionals, doctors, and nurses have raised alarms about the NorthMet project and demanded the state conduct a health impact assessment to examine the complex and holistic health risks. However, this proposal was rejected by state authorities (*see chapter 5 for more analysis of health and risk assessment*).

Conclusion

The socio-natural landscape of the Iron Range is produced through the legacies of extractive capitalism, settler colonialism and Indigenous dispossession, and struggles over wilderness protection. These histories and contested socio-natures shape the contemporary politics of copper-nickel mining and provide the broader historical and cultural terrain for current struggles over natural resources. In the rest of the dissertation, I draw on these histories to analyze why and how copper-nickel mining is contentious, how different social actors make sense of mining in ways shaped by power and culture, and how groups legitimate their claims in order to influence decision-making. How people make sense of the place is linked to mining and outdoor recreation, which shape how the land and resources are imagined, used, and contested. These social dynamics are also constituted in relation to the geography, hydrology, geology, and ecology of the region.

Chapter 3 – Who Speaks for the Land?: Place and Identity in Environmental Politics

On a weekday afternoon in the summer 2017, I visited the Pioneer Mine heritage site and museum, an underground iron mine that operated from 1888 to 1967 in Ely. A group of former miners and community members are working to preserve some of the original structures and several years ago they opened a small museum in the old mine shaft building as part of an effort to document and share Ely's mining history and create tourist attractions. I took a tour with a volunteer, a white man in his 70s who had worked in the mine during the 1950s and 1960s. He showed me around the building and described the displays full of old black and white photos and pointed out how different pieces of mining equipment were used and how the technology had improved over time. Much of the tour involved him recounting personal stories of working in the mine and how it had been a good union job, especially for a young guy who wanted to work hard. But, he remarked that the closure of the mine, on April Fool's Day in 1967, came as a shock to the workers and the town, and some people moved away while others struggled for several years to find new jobs when all they'd done for work was mining. Towards the end of our tour, he mentioned that Twin Metals is now doing mineral exploration in the area but that it'd be hard rock mining (another name for copper-nickel or nonferrous mining), not iron mining. In this way, discussions and memorialization of the past was connected to discussions about the future.

Several months later, I went to a fundraising event and book release celebration held by the Campaign to Save the Boundary Waters (CSBW) at a micro-brewery in Minneapolis for Dave and Amy Freeman's new book about living in the BWCA for a

year. The couple went on the trip to raise awareness about the threat of copper-nickel mining to the BWCA and were sponsored by the CSBW. Hundreds of people were packed into the old industrial building that was refurbished into a brewery and were chatting in groups and perusing the silent auction tables that included canoe gear and paintings of Northern Minnesota. Speakers from CSBW addressed the crowd and talked about why the BWCA needs to be protected. The authors then gave a reading and short talk in which they described being motivated to spend a year living outside in the woods in order to preserve the pristine wilderness and to “speak loudly for this quiet place.” While the event was about opposition to copper-nickel mining, there was little talk about mining. Instead, speakers focused on describing the beauty and tranquility of the wilderness and telling childhood stories about canoe trips and visits to Ely.

I tell these two anecdotes to highlight the different place-based identities and memories that are mobilized by mining supporters and opponents. These interactions show some of the competing discourses around copper-nickel mining that are indicative of how different social actors draw on connections to place and history to make sense of proposed mining and to legitimate their authority to make decisions about Northeastern Minnesota.

Introduction

In this chapter, I examine why people resist or accept the potential risks of industrial development through three interrelated questions. 1) Why do some communities and groups embrace extractive development while others oppose? Particularly, how do people living near hazardous industries reconcile potential risks and injustices? 2) How do people understand proposed development and assess risks through

different cultural frameworks shaped by collective memories and meanings of place? 3)
How do different groups frame their claims to mobilize support and assert legitimacy?

To address these lines of inquiry, I connect environmental sociology, particularly environmental justice (Norgaard 2011; Pellow 2017; Pellow and Park 2002; Scott 2010; Sze 2007) with cultural sociology (Olick and Robbins 1998; Zerubavel 2004), and political ecology scholarship (Kosek 2006; Peet et al. 2011; Robbins 2012) to assess the cultural politics of resource extraction. Through concepts of place, collective memory, and nostalgia, I explore the discursive and affective processes that shape how people understand and frame environmental risks, and how these processes are produced through power. My approach advances environmental justice and political ecology by addressing the role of collective memories and place-based identities in how and why people accept or resist potential environmental hazards, and how people interpret mining as a form of justice or injustice in contradictory ways. My case study is important for understanding why communities respond to polluting industries with “place it in my backyard” or PIMBY, rather than the more typically studied “not in my backyard” (NIMBY) reactions (Aldrich 2008; Dear 1992; Devine-Wright 2009). I also examine how people struggle over who gets to claim a place as their backyard and legitimately make decisions about that place.

I find that despite the focus on technical issues of science and law and potential job creation in public debates over mining in Minnesota, the issue becomes contested because of how it resonates with emotional connections to place and nostalgia, which are explanations often overlooked in sociological research on environmental and class politics. Copper-nickel mining is a symbolic conflict over different class-based

environmental imaginaries and who can legitimately speak for the place – whether it is their backyard or their playground or their homeland. Proponents and opponents of mining have competing visions of the Iron Range as a productive working landscape or an aesthetic consumption landscape. White and working-class Iron Range residents, unions, and politicians interpret new mining as renewing a mining heritage and blocking development as a form of injustice that denies locals the right to jobs and to determine how the land is used. Meanwhile, opponents understand mining as an affront to an emotionally, spiritually, and ecologically important place that is a national treasure. Both sides draw on collective memories of the place—the mining heyday or canoe trips in the wilderness—to mobilize supporters.

Next, I describe my theoretical frameworks and then provide my analysis of interviews, ethnographic observations, and media related to copper-nickel mining. I conclude with thoughts on what my study suggests for research on environmental politics and environmental justice.

Theoretical Frameworks

To address why people do, or do not, resist exploitation and environmental injustices, and how people make sense of socio-ecological problems; I connect environmental sociology and environmental justice with theories of place, collective memory, and emotion from cultural sociology and political ecology. I understand nostalgia and collective memory as productive by influencing how people make sense of the present and motivating action directed towards the future (Armstrong and Crage 2006; Blunt 2003; Gamson 2018; Olick 1999; Zerubavel 2004). This advances the field by engaging with broader theoretical debates about affect and memory, which provides

insights into how the hegemony of extractive capitalism is created in emotionally powerful ways at the community level and how nostalgia and affective connections to place motivate action in defense of place.

In this section I review environmental justice research on conflicts over the siting of hazardous industries and then discuss theories of extractive industries to understand why people support risky industries. I argue that these approaches are incomplete for explaining resistance and acquiescence to extractive development and turn to theories of place and collective memory, particularly the affective dynamics of nostalgia. I finish with a review of how social movement scholars have used concepts of place and collective memory to study movement recruitment, tactics, and efficacy.

Environmental Justice – Site Fights and NIMBY

Environmental justice scholarship has extensively studied why, when, and how communities mobilize against pollution risks and locally unwanted land uses (LULUs) – what has been deemed by some as “not in my backyard (NIMBY)” responses. Environmental justice research began by examining local resistance to polluting and hazardous facilities, primarily from people of color and working class communities (Bullard 1990, 1993). Bullard described environmental racism as a process of Put in Blacks’ Back Yards (PIBBY) in which polluting industries and waste are cited in black neighborhoods. This research also documented the often-overlooked environmental activism from multiply marginalized communities and showed the strategies, tools of resistance, and motivations that drove environmental justice movements. Other research in environmental sociology has looked at how communities mobilize to save a town, park, neighborhood or some other community feature from development (Espeland

1998). Opposition to development has been labeled NIMBYism, partially as a critique of protectionary and selfish politics (Dear 1992), particularly when wealthier communities oppose projects, such as like windmills (Devine-Wright 2009; Larson and Krannich 2016; Phadke 2011). However, the NIMBY framework is critiqued for being reductive and scholars are advancing more nuanced analysis of how people respond to development, land use, and landscape changes through efforts to protect socially, emotionally, and culturally important places (Devine-Wright 2009).

An under examined phenomena in the environmental justice literature is the opposite response of “place it in my backyard” (PIMBY) when communities mobilize for hazardous development, even when it seemingly creates environmental and social injustices. I am interested in how people and social movements mobilize for and against resource extraction, and why the communities closest to potentially polluting industry become some of the strongest supporters. Extractive development is complex and contradictory for nearby communities as it can provide jobs, but the economic benefits are often limited, and cause environmental and public health problems. Research has shown that resource extraction can have negative impacts on the social well-being of communities such as creating social instability and contributing to a lack of community satisfaction (Brown, Geertsen, and Krannich 1989; Gramling 1996; Gramling and Freudenburg 1990). Extractive industries undergo booms and busts, which create disruptions during the boom phase and then depression and destruction during bust phases. The politicians and corporations making decisions about extractive development are often from outside and the profits leave the local community while the negative environmental and social impacts remain (England and Brown 2003). Mechanization also

means fewer people are employed in mining operations, thus new projects will not provide the same amount of jobs as in the past (Dix 1988; Lobao et al. 2016; Marley and Fox 2014; Robbins 2000).

Thus, what accounts for people's continued acceptance for extractive industries and demands of PIMBY? Theories about the relationships between capitalism and the environment, particularly in resource dependent economies, are productive for understanding these PIMBY responses through political-economic processes. Thus, I will explain some of the key theories from sociology about extractive economies, but argue these are incomplete for explaining the ideologies, discourses, and identities that shape why people vehemently defend industry.

The dominant explanation for why workers and nearby residents acquiescence to polluting industries is that they rely on the material benefits of jobs and have few other alternatives. Rural communities become addicted to extractive industries, which paradoxically leads to a lack of resiliency and dependency on a single extractive industry (Freudenburg 1992). Poor and underdeveloped rural regions believe that resource extraction will bring prosperity, but this rarely occurs, instead leading to dependency, poverty and a lack of economic diversity (Feagin 1990; Freudenburg and Gramling 1998; Frickel and Freudenburg 1996). Yet, the hope of future booms remains ideologically powerful (England and Brown 2003; Freudenburg 1992; Freudenburg and Frickel 1994; Freudenburg and Wilson 2002).

Neo-Marxian treadmill of production theories (Schnaiberg 1980) examine relationships of dependence and exploitation more broadly within capitalism and argue that economic growth creates a self-reinforcing cycle in which workers rely on expanding

production for their livelihoods. The drive for profit keeps businesses expanding and searching for new resources and technological innovations that increase productivity, but also increase material and energy use that leads to resource depletion and pollution. The treadmill is also a political process in which the state supports growth due to the power of business, the desire for tax revenue and the need for political support gained by providing jobs and economic growth. Workers are in a contradictory position of being harmed by hazardous production and pollution, but also depending on jobs. Thus, the major social and political institutions become addicted to growth (Schnaiberg and Gould 1994).

Addictive economy and treadmill of production approaches focus on macro and material processes, which are incomplete for understanding how and why people acquiesce and even support hazardous industries. Other scholars examine the ideological and cultural dynamics of power – what Luke’s calls the third dimension of power or Gramsci’s concept of hegemony – to explore how communities come to accept, support and identify with polluting and exploitative industries. A classic work is John Gaventa’s (1980) study of working class consent to injustices in the Appalachian coal fields through industry’s control over politics and media as well as people’s sense of powerlessness. Shannon Bell’s (2016) book also examines inaction in the face of environmental destruction in Appalachia pointing to the lack of social capital, strong community economic identities tied to coal, and the ideological power of the coal industry. However, this research emphasizes the strategic actions of industry and politicians rather than the more diffuse and everyday forms of cultural hegemony, particularly how industry becomes intertwined with people’s class and community identities and sense of history in emotionally powerful ways.

Rather than simply asking why people don't act, I want to understand why people actively mobilize around PIMBY demands, and why some resist and others acquiesce—processes that are underexamined in environmental justice and natural resource sociology. A recent development is Malin's (2015) study of uranium mining in Utah and Colorado in which she develops the concept of sites of resistance and sites of acceptance to explain why some communities oppose and others support hazardous extractive industries. Malin (2015) highlights the role of differential forms of structural violence and dependence as well as community identities and attachments to place that vary by class and race. I build on this work through further theorization and examination of the affective power of place-based and class identities, and the role of collective memory and nostalgia to observe the ways in which dominant ideologies become engrained in every day lived experiences. People's emotional connections to place are also powerful in mobilizing action, which can be used by social movements and politicians to promote and oppose development.

Place and Place-Based Identities

If environmental politics are often local (Rootes 2007), then research must address how people understand the local places in which environmental conflicts occur and how forms of resource and land use are interpreted as just or unjust. Dynamics of place are particularly important for resource extraction because natural resources are located in physical spaces that are largely determined by biophysical factors. This means that mining is often in rural and isolated regions that developed around the industry. Surprisingly, environmental justice scholarship has largely neglected theories of place, despite the attention to local conflicts over land use. One exception is Peña's (2003)

study of placed-based identities and discourses in Chicano/a struggles over land rights in Colorado. Yet, environmental justice research has typically used space, rather than place, as a variable in quantitative analysis and as a measure of proximity to hazards (Daniels and Friedman 1999; Mohai et al. 2009; Mohai and Saha 2007; Ringquist 2005; Sze and London 2008). This does not address the cultural, ideological, and symbolic dynamics of place, such as how people come to define a place as their backyard and why potentially hazardous development is perceived as disrupting or confirming people's sense of place, and therefore, an injustice or not. This gap reflects a broader disciplinary trend as place has been undertheorized in sociology, but as Gieryn (2000) argues, is a concept that is actually central to much of sociology. In this subsection, I explain how concepts of place from sociology and geography are productive for understanding class politics of mining and labor-environment tensions over development and conservation.

Place is a distinct physical location with material attributes that is made meaningful through social relations and culture and constructed through political-economic and discursive processes (Gieryn 2000; Lefebvre 1991). Place is where people's daily lives, interactions, and relationships occur, and is interpreted through collective memories, emotions, and ideologies. People develop emotional attachments to place as well as material dependency on places for livelihoods (Gieryn 2000). While place is experienced at a local level, places are constituted through wider global forces and constructed via processes of capital accumulation and articulated through cultural narratives and discourses (Alkon and Traugot 2008; Massey 1995). The concept of place suggests that how people perceive risks and benefits from resource extraction is shaped

by how development is seen as aligning or conflicting with socio-cultural constructions of place.

Conceptions of place are not absolute, fixed, or homogenous, but are made and remade in collective processes of struggle shaped by power and ideology. According to Massey (1994, 1997), meanings and identities of place are created through power and ideologies and has political implications in reproducing or contesting power relations. Hobsbawm and Ranger (1983) suggest that what appears as a timeless sense of place and tradition is actively constructed for political and ideological ends, leaving other histories silent. How places are assigned meaning is also through dominant narratives, histories, and ideologies of nationalism, racism, and colonialism (Manzo 2003; Moore 2005; Woods et al. 2012). In the U.S., attachments to place and land are inseparable from legacies of Indigenous dispossession, African slavery, and white property ownership (Moore 2005; Moore et al. 2003; Scott 2010).

Lived experiences and embodied corporeal interactions with nature also inform people's meanings of place (Carolan 2009) and the landscape itself is created through labor, whether it's a mining district or a park (Walker and Fortmann 2003). I focus on labor and outdoor recreation. These are important ways people construct place-based identities through physical practices which are particularly relevant for the politics of resource extraction and conservation. People who work, such as logging, farming or mining, outdoors in nature often have different understandings and relationships to land and resources than people who recreate outdoors in nature but whose labor is separated from the outdoor landscape (Davenport and Anderson 2005; Walker and Fortmann 2003;

White 1995).¹⁵ For example, loggers may view the forest landscape through different cultural frameworks than hikers with white-collar jobs due to different forms of physical engagement and material dependencies (Foster 1993; Loomis 2015). Recreating in nature can foster concern for environmental protection and awareness of ecological and biological systems (Berns and Simpson 2009; Dunlap and Heffernan 1975; Theodori, Luloff, and Willits 1998). Some research finds that appreciative outdoor recreation (such as hiking or canoeing) contributes to more environmental concern than consumptive outdoor recreation (hunting and fishing) (Dunlap and Heffernan 1975; Theodori et al. 1998). However, these relationships are complex and other scholars argue that outdoor recreation does not necessarily lead to greater concern about the environment (Jackson 1987; Theodori et al. 1998).

However, experiences of labor and recreation do not determine meanings of place which are intertwined with other social locations of race, class, gender, and indigeneity, and interpreted through ideologies and discourses (Norton 2003; Silva 2018). Working with the earth and land can contribute to an appreciation for ecological systems and interconnections between human labor and non-human nature. Yet, it can also contribute to an instrumental and productivist view of nonhuman nature as a space for extracting value (Barca 2012). Workers also directly experience the environmental injustices of

¹⁵ The dichotomy between working in and outside of nature is actually more complicated and nuanced in practice, but I use this distinction as a useful linguistic heuristic to signal some key differences between types of work. I also recognize that no labor can be done outside of “nature.” However, I am drawing a distinction between manual work largely done outside of the human built environment using relatively unprocessed materials (trees and rocks), and work that is primarily done inside the built environment that does not involve directly transforming natural materials, such as service work done in office buildings.

industrial pollution—they are often directly impacted by the health impacts of toxics—which can mobilize forms of working class environmentalism (Barca and Leonardi 2018; Loomis 2015; Montrie 2000, 2008). However, how and whether critical working class environmental consciousness develops is shaped by a host of other political, economic, organizational, and social factors beyond the physical experience of work.

Tensions over who should determine how land is used arise around competing environmental imaginaries and place-based identities between people who consume nature through labor and see the place as a productive industrial landscape, and people who consume nature through recreation create and see the place as an aesthetic natural landscape (Gosnell and Abrams 2011; Ulrich-Schad and Hua 2018; Walker and Fortmann 2003). These conflicts particularly arise in regions, like the U.S. Southwest or Northern Minnesota, with old extractive industries that are developing new tourism and service industries. This generates tensions between the place-based identities of long-time residents whose families came to the area to work in extractive industries and new residents who don't work in extraction and moved to the area for aesthetic beauty and recreation (Farrell 2015; Ladino 2004; Malin 2015; Walker and Fortmann 2003). Local working class residents are at times viewed as violating wilderness places by laboring in the forests or recreating in the wrong ways – such as using ATVs or snowmobiles (Pruitt and Sobczynski 2016). This class divide arises in environmental conservation efforts that overlook impacts to nearby rural communities, such as the creation of parks that may limit how people use the area for their livelihoods or development of ecotourism that does not provide adequate jobs and contributes to rural gentrification (Che 2006; Darling 2005a).

Class differences, or at least perceived differences, in meanings of place, particularly wilderness and nature, emerges from ideas and writing in U.S. environmentalism about wilderness. Early conservation figures like John Muir saw the outdoors as a place of leisure and spiritual reflection, not work, and envisioned wilderness as separate from human labor and society (DeLuca and Demo 2001). Conservationists have often framed work as destroying nature, which ignores how labor is a way of knowing nature and that all nature is shaped by human labor (White 1995). However, these class divisions have also been exaggerated and produced through capitalist ideologies that divide workers and environmentalists (Barca and Leonardi 2018; Loomis 2015; Mann 2007; Savage and Soron 2011).

The identity of a place can be linked to an industry, which shapes residents' place-based and class identities regardless of whether they work in the industry. Research on gender, race, and class identity formation points to the fluid boundaries between work and home. Workplace identities are constituted through experiences in people's families, neighborhoods, and other social institutions (Kefalas 2003; Kimeldorf and Stepan-Norris 1992; Lamont 2000). Class identity formation does not simply occur in the workplace and in labor relations but is also a spatial process related to place and how people's sense of class solidarity and belonging is connected to a sense of belonging to a place (Meier 2016). For example, community economic and class identities in rural extractive regions are often tied to mining and being part of what is defined as a working class place (Wheeler 2017, 2014). Bell and York (2010) examine how the coal mining community identity in West Virginia is actively created and maintained through the public relations efforts of industry and aligned politicians, despite dwindling jobs in coal and fewer

people being directly connected to the industry. Therefore, although the struggles over copper-nickel mining in Minnesota are often framed as class conflicts, these class identities are inseparable from place and the conflicts are also over competing visions of the place.

Collective Memories and Nostalgia

Place identities are constructed through temporal processes and are made meaningful through collective memories and emotional attachments, particularly nostalgia (Davis 1979; Gray 2010; Jones and Garde-Hansen 2012). Therefore, in this subsection, I review research on collective memory and nostalgia; concepts that I argue can advance environmental sociology and political ecology in understanding how people create often contradictory views about places and environmental issues, what motivates environmental activism, and how dominant ideologies about extractive capitalism are reproduced and reconfigured. I understand memory and nostalgia as active social processes that can mobilize future-orientated action. Collective memories and emotional attachments to place influence who is seen as having authority to speak for a place as their backyard.

Collective memories are shared ideas and stories about the past that are used to make sense of the present and create cultural frameworks (Kubal and Becerra 2014:865). Through collective memories, people relate to experiences and events that are outside of their personal biography and remember their own lived experiences through the framework of these cultural narratives (Olick 2011; Olick and Robbins 1998). Creating collective memories is an ongoing contemporary process of contestation that is carried out through culture, language, and politics (Olick and Robbins 1998). The media,

museums, heritage and memorial sites, physical landscapes and buildings, political rhetoric, and cultural narratives are all important institutions and fields where memory is constructed and passed on (Wagner-Pacifici 1996).

I emphasize the role of collective memories in hegemonic struggles and how they are created through power and have political and ideological implications in the present (CCCS Popular Memory Group 1982; Foucault 1977; Lipsitz 1990; Molden 2016; Swedenburg 1995). Collective memories are constructed through the ideologies and social relations of capitalism, colonialism, racism, and patriarchy that structure what histories are remembered and forgotten, and how historical narratives are told. From a Gramscian approach, memory is a terrain of struggle and a way in which hegemony is reproduced as well as contested (Swedenburg 1995). Narratives about the past and dominant histories can naturalize exploitative social relations and obscure the imposition of state and class power. Collective memories are one of the ways that hegemony becomes ingrained into everyday life and taken for granted ways of understanding the world (Bocock 1986). Popular forms of memory based on “common sense” can create alternative counter-hegemonic histories that envision more just futures. Yet, popular memories are complex and contradictory and are not necessarily progressive, coherent, and transformative (Smith 2004). Foucault (1977) also saw control over the production of memory as a vital form of power that often advanced state projects and authority. Institutional apparatuses, such as the media and academia, construct dominant memories and official narratives about the past that are presented as objective and true. Yet, according to Foucault, people can create counter-memories that are passed on through oral and written forms outside of official institutions that challenge dominant discourses.

For my project, how the history of extractive development on the Iron Range and the creation of the BWCA is remembered is a process of struggle that has political and ideological effects.

Collective memories are not monolithic and are constituted through intersectional forms of difference that vary across social categories of race, class, gender, generation, and indigeneity (Autry 2013; Griffin 2004; Larson and Lizardo 2007). Generations and age cohorts are particularly important in creating different social memories as cohorts have different shared experiences, such as war or an economic depression, which contributes to divergent ways of remembering the past and envisioning the future (Griffin 2004). Shared memories also create boundaries around groups and markers of social categories, which construct insiders and outsiders (Halbwachs 1992). These social processes are important in Northern Minnesota where memories contribute to different visions for the region among older and younger generations and create boundaries between Rangers and environmentalists.

Identities themselves, including racial, national, class and gender identities, are produced through temporal processes of remembering and imagining the future (Autry 2013). I am particularly interested in national and regional identities that are mobilized in resource nationalism and how the physical embodiment of the nation is tied to land and resources. Collective memory is central to the construction of national identities and the development of nationalism by crafting origin stories and myths about the nation and constructing national traditions and heritage (Anderson 1983; Swedenburg 1995; Zerubavel 2004). Narratives about national heritage and history continue to be remade based on the current interests of those in political power (Hobsbawm and Ranger 1983;

Lowenthal 1985). Heritage and collective memories are also used in constructing community and regional identities, which in extractive and industrial regions are linked to the industrial history of the region and immigrant traditions (Blunt 2003; Riley and Harvey 2005; Wheeler 2017).

Collective memories unfold through space and are an essential part of how people construct place-based identities and how the identity of a place is constructed (Degnen 2005; Halbwachs 1992; Meier 2016). The production of collective memory and place are intertwined (Degnen 2005; Misztal 2003). Interpretations of a place depend on how its history is understood and as Massey argues, “the identity of places is very much bound up with the histories which are told of them, how those histories are told, and which history turns out to be dominant,” (Massey 1995:186). People’s interest in the past is often linked to a place and memories can be “stored” in physical places like landscapes and buildings (Jones and Garde-Hansen 2012; Wheeler 2014). Scholars have explored how communities are constructed through shared stories of the past and retelling communal histories (Bellah et al. 1985b), which I extend to thinking about the creation of place-based identities. Place-based identities are created via personal and collective histories through formal institutions (such as museums and memorials) and informal practices (such as folk stories, traditions, and everyday conversations), and physical landscapes and the built environment (Hoelscher and Alderman 2004; Jones and Garde-Hansen 2012; Moran 2004).

In industrial and extractive regions, collective memories of labor and immigrating to remote areas have shaped how these places are defined through industrial histories. For example, museums and mining artifacts and public narratives about mining building the

region have contributed to connecting Appalachia with coal mining (Wheeler 2014). Collective memories of struggle and hard work in mining create a sense of shared class experiences and emotions that are connected to the place (Lewin 2017). How the industrial identity of a place is created and maintained through collective memories is important for environmental politics because these cultural frameworks influence how and why people view development as a rupture or consistent with the place and shape people's emotional and personal connections to industry (Wheeler 2017).

Memories are also important socially because they are emotional. Nostalgia is an affective aspect of collective memory that evokes longing for the past and a sense of home and emphasizes the emotional attachments to history and place (Boym 2001; Davis 1979). Boym (2001) argues that nostalgia is endemic to modern society as people turn to a romanticized past in response to social change and uncertainty. Nostalgia is embedded in power and used for political projects, which has historically been creating legitimacy for the nation-state and mobilizing nationalism and populism (Hodgkin and Radstone 2003; Smith 1987). Romantic and reactionary nostalgia conjures idyllic feelings for a return to an idealized past and problems and injustices in the past are often ignored in the past. Romantic nostalgia has animated right-wing movements that claim to restore tradition (Blunt 2003; Boym 2001; Lowenthal 1985). Yet, nostalgia is not simply backwards looking or resistant to change. Rather, it is productive, motivating social action and influencing how people understand current socio-political issues (Blunt 2003; Bonnett and Alexander 2013; Campbell, Smith, and Wetherell 2017; Wheeler 2017).

Recent scholarship challenges earlier theorizations of nostalgia as simply passive sentimentality linked to conservative desires for lost traditions (Hewison 1987;

Lowenthal 1985) and conceptualizes nostalgia as a complex and diverse emotion that can be hopeful and directed towards imagining new futures (Blunt 2003; Bonnett 2010; Legg 2004; Pickering and Keightley 2006; Smith and Campbell 2017). Thus, nostalgia can be conservative and reactionary as well as progressive and transformational, and these discourses can simultaneously work in both directions (Blunt 2003; Bonnett 2010; Bonnett and Alexander 2013; Boym 2001; Campbell et al. 2017; Ladino 2004; Wheeler 2017). Bonnet (2010) argues that nostalgia is a complex discourse that takes on many different forms and ideological positions and explores how nostalgia has been used in leftists movements. Smith and Campbell (2017) study how labor histories and industrial heritage can use reactionary or progressive nostalgia and suggest that progressive movements can draw on the past to create emotional commitments to social justice.

Longing for a more authentic, equitable, and simplistic past is often a response to social change and upheaval (Boym 2001; Turner 1987). Thus, nostalgia resonates powerfully in rural, extractive, and post-industrial places where people have experienced booms and busts, and the negative impacts of globalization and neoliberalization. Ulrich-Schad and Duncan (2018) find that people who remained living in rural areas in the U.S. through economic declines often long for past economic prosperity and express a sense of cultural loss and decline. The closing of a factory, mine, or industry evokes a sense of loss and a turn to nostalgia (Degnen 2005; Mah 2012; Meier 2016). The transitions from an industrial economy of manual work to a post-industrial economy of service work can generate nostalgia and a sense of lost class and labor identities for former and current industrial workers (Blokland 2001; Nettleingham n.d.). Nostalgia for industrial work can be strong among retired workers (Meier 2016) and, often in rural areas dominated by a

single-industry, extend to people who never worked in the industry (Wheeler 2014). The desire for a return to mining evokes nostalgia for a time when people survived through honest hard work and built strong communities (Wheeler 2014). However, these memories draw on discourses of masculinity and colonial frontier mythologies which silence Indigenous peoples and sexist and capitalist oppression (Hogan and Pursell 2008). However, alternative memories, such as labor struggles, leftist populist movements, and values of solidarity, can form progressive nostalgia that mobilizes social change (Bonnett 2010; Campbell et al. 2017; Meier 2016; Wheeler 2017).

Missing in much of this scholarship is an analysis of the ecological contradictions in industrial heritage and working-class nostalgia, particularly for highly polluting industries like mining. Rudacille (2015) uses the term “toxic nostalgia” to describe the paradox of communities longing for an industrial past after the closure of factories and mines that produced toxics which poisoned workers, created public health problems, and contaminated surrounding ecosystems. This socially toxic nostalgia reproduces the hegemony of industry and naturalizes environmental pollution and occupational hazards. I am interested in how workers and communities remember the environmental and public health damages caused by industry and understand new claims by industry to be “green” and “sustainable.”

Nature and wilderness are also objects of nostalgia. Nature is often represented through nostalgia in American culture (Ladino 2012). The concept of wilderness developed around an idealized imaginary of an Edenic past and places untrammelled by man and modern society (Cronon 1996a; Spence 1999). The environmental conservation movement was motivated by appeals to restoring and maintaining the past of a pre-

industrial golden age and nostalgic myths about the frontier and simplicity of a pre-modern world (Cronon 1996a, 1996b; Slotkin 1981). Similar myths, rhetoric, and narratives are also used to legitimize colonial expansion through creation of wilderness areas to remove Indigenous people who are portrayed as improperly using the area or are constructed as “the noble savages” who are outside of time residing in harmony with nature (Mukta and Hardiman 2000). Yet, nostalgia for nature can also be progressive, such as motivating people to visit parks, rallying support to protect emotionally-resonate places in nature, legitimating environmental protections, and imagining sustainable futures (Acharya, Paudel, and Hatch 2009; Ladino 2012, 2004). Emotional memories and connections to place are a way to make environmental issues tangible and to convince people to protect nonhuman natures and ecosystems. Thus, the nostalgic discourses can contain progressive and reactionary elements and mobilize people in contradictory directions.

Social Movements: Memory, Place, and Emotion

My approach to the cultural politics of resource extraction contributes to growing research on the role of emotions, especially nostalgia, collective memories, and place in social movements (Goodwin et al. 2009; Jasper 2014; Norgaard and Reed 2017; Raynes et al. 2016; Threadgold et al. 2018). Collective memory is an emerging area of study for social movement scholars who are interested in how memories are a resource and repertoire for movements used to establish legitimacy, motivate action, and influence public opinion (Gongaware 2010; Kubal and Becerra 2014; Polletta 1998a). Memories shape cultural frameworks and in turn how the framing of problems and solutions by movement organizations resonates with the public (Kubal and Becerra 2014). Movements

and politicians also draw on memories in order to construct visions of the future and nostalgia to create a sense of hope (Barton 2018; Bonnett and Alexander 2013; Smith and Campbell 2017). Activist identities are also created through memories, such as stories about past victories, and social movement organizations attract participants and build internal solidarity through appeals to social memory (Gongaware 2010). Nostalgia can foster emotional commitment to a movement and sustain activism (Smith and Campbell 2017).

Another growing area of research in social movements and contentious politics is on the role of place and place attachments (Leitner, Sheppard, and Sziarto 2008; Wolford 2010). Escobar (2001) argues that communities often mobilize to defend a place against disruptions and unwanted changes. However, defense of place can be progressive, such as black communities resisting dumping of toxic waste (Bullard 1990; McGurty 2007) or movements against land grabbing and resource extraction in Latin America (Arce 2016; Escobar 2001). Or defense of place can be reactionary, such as wealthy white New England residents opposing offshore wind development (Larson and Krannich 2016; Wilson and Stephens 2009) or white ranchers taking up arms against the federal government to defend their control over land (Inwood and Bonds 2017; McCarthy 2002). Competing meanings and imaginaries of place are often central in conflicts over resource and land use, and how social actors struggle over who has a legitimate claim to decide how the place is used (Boucquey 2017; Gosnell and Abrams 2011; Walker 2003; Walker and Fortmann 2003). Constructions of place influence policy-making and how different social actors and institutions reach positions on policy debates (Alkon and Traugot 2008).

In summary, my approach advances research on environmental justice and resource extraction through engagement with concepts of place, collective memory, and nostalgia to understand the complex socio-cultural processes through which people interpret mining as a benefit or a threat. Debates over mining become emotional conflicts over place-based identities and histories that have ideological and political implications. This framework enables an analysis of the local particularities of culture, history, and ecology while situating them in global forces. I emphasize the social and discursive dynamics of environmental politics without neglecting political-economic forces that create the landscapes and histories that people struggle over.

Place-Based Mobilization and Conflicts over Copper-Nickel Mining

I find that proposed copper-nickel mining in Minnesota becomes controversial through the ways in which it disrupts and/or confirms people's sense of place and connects to collective memories. Activists on both sides are motivated by emotional connections to place that differ by class and region, and struggle over who can speak for the place. Opposition from environmental and conservation groups has mobilized against proposed mining that is framed as a threat to a culturally important place. In their framework, mining development disrupts the vision of pristine wilderness and the sky-blue waters of Minnesota. Environmental groups emphasize connections to place through recreation and memories of experiences like family canoe trips in the BWCA. They assert the authority of knowing the land through recreation which gives them legitimacy to speak for the place.

On the other hand, pro-mining groups frame the proposed mines as continuing the mining heritage of the region and appeal to Iron Range place-based and class identities

connected to mining. Mine supporters reconcile their identities as outdoorsmen with the threat of water pollution by emphasizing experiences with iron mining as a clean industry. They claim to be the true stewards who won't let the place – their backyard – be damaged. The possibility of opponents stopping the mines is framed as an injustice and an affront to their authority to make decisions about their backyard rather than the outsiders who use the place as their playground. This sense of injustice and desire for renewing the past emerges in the contemporary economic conditions of underemployment and uneven development.

A Place Built by Mining

I argue that local support for mining is not simply due to the jobs or people's direct experience in mining. Many of the pro-mining activists are retirees and some never worked in the mines, thus they won't benefit from the potential new jobs. In addition, the estimated jobs—around 300 full-time workers for the NorthMet project—are relatively small at the regional scale. Although the jobs would certainly benefit individual workers and small towns near the mines.

I find that the proposed copper-nickel mines have tapped into place-based and class identities linked to mining and the collective memories of extraction, which have emotional and ideological power that mobilize support for industry. Iron Range residents, construction and mining union members and retirees, and local politicians, connect to the place through labor and economic identities and dominant narratives about mining as a way of life. This provides a framework for interpreting new proposed copper-nickel mines. These cultural narratives tell a story about Iron Range towns being built by mining and the heroic work of immigrant male miners who extracted value from the earth.

Miners fought for better wages and working conditions leading to the heyday of prosperity in the 1940s through 1960s with busy main streets and ornate school buildings paid for by mining royalties. One Ely resident who was in her 60s and involved with a local history center told me that, “Mining has been a tremendous...It's made Ely.”

I regularly heard people talk about their towns being built by mining, which implied that their future was also in mining. Without mining their ability to survive and their identity would be lost. A small-town mayor in her 40s who is a vocal supporter of copper-nickel mining describe her community this way,

It's a mining town. The mine built the town. The houses were all steel. Steel sidings, steel windows, steel garages. Everything was steel. So, yeah, it's literally a mining town.

In this narrative, the town becomes inseparable from mining and the benefits of extraction are highlighted rather than the histories of dangerous and exploitative work, and shoddy housing in company towns. But, this narrative points to the major challenge for places like the Iron Range that developed based on the location of minerals and are now struggling to find alternative futures.

History is very present in the Iron Range and a regular topic of discussion. These stories about the past are then intertwined with pro-mining activists' sense of community identity and their visions for the future. Aaron Brown, a writer from the Iron Range and instructor at Hibbing Community College, describes about the importance of history in the region, “the memory of the ‘old days’ is fresh and often the currency of most conversations,” (Brown 2008:154). In my interviews with community and political leaders we often discussed the history of the town and their family histories and immigration stories. For example, I met Matt, a city council representative and member

of a pro-mining group, at the Aurora city hall. He gave me a tour of the small museum before we sat down for an interview. He beamed with pride showing me the displays about the Aurora's mining history that included black and white photos of men working at the mines or the downtown full of shops in the 1950s – unlike the empty main street today. He pointed to the ornate decorations on the city hall building, claiming how mining built this. He said that he wanted me to understand their history and that mining was their way of life. For him, getting these new mines built would be his legacy for the next generation and bring back the heyday of mining.

Being a mining town and a miner is not simply a job but about a way of life, an identity, and a calling. For example, Randy, a retired miner and community political and civic leader, told me, “I'm a third-generation miner, and a couple of my cousins, their kids are fourth generation miners. It's in our blood. It's what we do.” Mining is constructed as an essentialized and naturalized identity which is linked to a sense of collective history.

A Minnesota DFL state legislator from the Iron Range and a supporter of copper-nickel mining, told me that people were used to being around mining,

People up here [the Iron Range] understand it a little bit more just because we've been in the hotbed of mining for 135 years, and it's something we grew up with and understand very well, just like a farmer understands farming and factory working areas understand manufacturing.

The banality of mining means that people trust the industry and the ability of technology to protect the environment.

There is a contradiction in this contemporary mining labor identity as fewer people currently work in mining—only about 7-8% of regional employment is in the

mining industry.¹⁶ And this is virtually all men. In 2010, 97% of the construction and mining occupations in Minnesota outside of the Twin Cities were held by men.¹⁷ Service and healthcare industries have also become some of the largest industries and employers in the region. Thus, the mining identity is not primarily through direct experience but is projected beyond individual workers to the community. The place itself is made meaningful through labor and industry—what other scholars call a community economic identity (Bell and York 2010). While some towns like Aurora and Hoyt Lakes are near current or recently closed mines, other towns are much farther from the mining history. Ely that has not had an active mine in 50 years. Therefore, the sense of a heritage is something that is constructed and maintained, much like other forms of tradition (Hobsbawm and Ranger 1983).

Production of Mining Heritage

How and where do mining heritage narratives and collective identities get reproduced? I find that they are enacted in cultural and political institutions, including media, historical sites, and industry public relations, as well as the physical landscape and everyday interactions and social practices.

One way this dominant discourse is produced is through strategic communications of industry that frame mining as a natural and beneficial part of landscape, and new projects as continuing the mining legacy. Mining companies present themselves as part of the community, such as the PolyMet website that says, “PolyMet will continue the proud

¹⁶ Data is from U.S. Census Bureau’s American Community Survey 5-Year Data 2006 to 2010 and Decennial Census. Compiled by Minnesota Compass. Available at: <http://www.mncompass.org/profiles/service-area/irrb>.

¹⁷ Data from Minnesota Department of Employment and Economic Development’s Affirmative Action Statistics Data Packet and U.S. Census Bureau’s American Community Survey 5-Year Data 2006 to 2010

mining tradition on the Iron Range. Mining in Minnesota's Iron Range has sustained tens of thousands of families, dozens of communities, schools, commerce and recreation centers." PolyMet and Twin Metals also donate money to local organizations, like youth sports leagues and food pantries, and sponsor community events such as high school hockey tournaments and the Hoyt Lakes Water festival. These strategies are part of making the companies appear embedded in the community and creating the appearance of local connections. This is a typical corporate strategy especially by mining companies that use public relations initiatives to generate goodwill and create "astroturf campaigns" and faux grassroots groups. For example, the Friends of Coal in West Virginia constructed an image of public support to produce community identities tied to mining (Bell and York 2010; Mix and Waldo 2014).

However, these discourses are not simply a form of corporate manipulation and company funded faux-grassroots campaigns but are reproduced through other institutions and cultural narratives. Importantly, the message resonates with people and has authenticity by connecting with place-based and class identities and collective memories about the heyday of mining. Rangers interpret new mining proposals through existing cultural frameworks and memories of past mining. The pro-mining rhetoric also came directly from residents and smaller grassroots groups that have mobilized to promote mining through holding community events, organizing social media campaigns, and writing letters-to-the-editor.

Local newspapers, such as the *Ely Echo* and *Mesabi Daily News*, regularly describe the region's mining history and promote development of new copper-nickel mines. *The Ely Echo* has regular columns on local history, one of which is called

“Window into Yesterday,” that are often focused on mining and logging, and European immigration history. Op-ed articles and editorials in these papers are mostly pro-copper-nickel mining and draw on the rhetoric of mining as a way of life in order to justify future expansion. For example, an editorial in *The Ely Echo* argued that Twin Metals development should be allowed to go forward and that environmentalists, the “anti-crowd,” were simply creating fear and opposed to all development,

we’d [locals] like to be able live, work and recreate here just as we have for over 130 years. Natural resource extraction has been going on here the whole time and yet by some miracle you can drink the water and eat the fish. Even out of a mine pit. Imagine that. (Staff 2017)

Mining is framed as essential to the region’s history and future, and something that is safe and clean that will not pollute the environment.

However, there are alternative voices in the press as environmentalists and people skeptical of mining regularly write op-eds. Some publications also take a more neutral or skeptical stance on copper-nickel mining. One local newspaper that covers the Tower and Ely area, *The Timberjay*, has a strongly critical position on copper-nickel mining. Their editor has written extensive articles and opinion pieces on the financial and environmental risks (Helmberger 2017a). But, different social groups read these different newspapers. In Ely, the old-time residents read *The Ely Echo* while new residents and environmentalists tended to read *The Timberjay*. People on both sides would complain about pro or anti mining editorials in the different newspapers. I found that pro-mining people typically thought the articles in the *Timberjay* were simply anti-mining rhetoric and did not trust them.

Mining heritage is also constructed through regional museums and local history centers focused on mining. The Minnesota Mining Museum in Chisholm, run by a private nonprofit, features a large outdoor display of mining equipment from early mechanical shovels used in the 1930s to contemporary massive haul trucks. Inside are exhibits describing the history of mining production and technological innovations as well as the history of the Iron Range “people.” This creates a narrative linking mining and the community.

Nearby is the Minnesota Discovery Center, which is the largest regional history museum. It was originally formed as the Iron Range Interpretive Center in the late 1970s as a tourist attraction to promote economic development and create a historical archive. The Center focused on resource extraction history and was literally built on top of an underground mine and next to an old iron mine pit. In 1986 the Center was rebranded and expanded as Iron World with more elaborate displays and more focus on white ethnic culture with hopes of driving a renaissance of tourism that would also communicate the importance of mining (Manuel 2015). Iron World closed in 2004 but was reopened as the Minnesota Discovery Center in the 2006. Manuel (2015) describes the Center as being a focal point of nostalgic history of the Iron Range. During my visit in 2017, I found that the museums’ exhibits are focused on social and economic history, particularly immigration and mining, and geology of the region. The displays about mining often emphasized technical progress and the ingenuity of inventions. There was discussion of working conditions and labor organizing, but this was often framed as struggles in the past. These museums rarely mentioned, if ever, the environmental impacts from mining.

Several closed iron mines have been turned into state parks with interpretive centers and guided tours of the mine site, including the underground Soudan Mine and the open-pit Hill Annex Mine. I took a tour of the Hill Annex Mine led by a retired miner, a white man in his 70s, who spent much of tour recounting personal stories of he and his family working in the mine. He described the exact wages and pensions miners earned, which he said was good money. During the tour and in side conversations with attendees, the guide also talked about the hope for a future of mining on the Iron Range. He discussed some of the latest developments in mining technologies.

Mining is also inscribed into the physical landscape of the region through the artefacts of active and former mines, and historical markers. Memorial and historical sites have been constructed at operating and closed mines across the Iron Range. They often have plaques describing technical mining operations and celebrating how mining built the region. A common theme is the massive size and power of the mines and the shovels and trucks used to extract and haul ore, which emphasizes a narrative of progress and development that also overlooks environmental impacts. Viewpoints of old and current mines provide grand expansive views of miles-wide pits that are a testament to the power and ingenuity of modern technology and labor. These views are indicative of how mining represents the technical sublime and is linked to a heroic narrative about mining providing the good life (Bridge 2004). These heritage sites also reproduce the image of the hardworking and noble male miner, exemplified by a large statue of a miner—called Iron Man—that grabs your attention driving on the major regional highway near Chisholm.

In Ely, an old mine shaft building is visible from downtown and a flooded mine pit –called Miner’s Lake – is just steps from downtown and now a trout fishing lake. While I was living in Ely, my apartment was a few blocks from Miner’s Lake and my morning jogs were around the Trezona Trail – named after an early mine boss – that circled the lake. Along the path are bronze plaques about the mine shafts and buildings that had once been there. My route also took me past the current office of Twin Metals which is now the future of mining in the area. This is a visible and daily reminder linking the future of mining to its past.

These heritage sites are produced through political-economic forces and are not neutral as they are shaped by political, economic, and ideological interests. Museums and mine viewpoints are part of an effort to commodify the extractive heritage into a product to be consumed by tourists. Interpretive signs about current iron operations and viewpoints at operating taconite mines in Hibbing and Virginia are part of company public relations efforts to present the industry as modern, clean, and essential to society. Many of the displays are sponsored by the mining industry. For example, the Iron Man statue was paid for by mining companies, and much of the old mine equipment on display are provided by company donations. The Minnesota Discovery Center is run by a private nonprofit but began as a state-run project and has largely been funded through mining production taxes through a state development agency, the Iron Range Resources & Rehabilitation (IRRRB) and other public funding for arts and heritage (Manuel 2015). State officials initially hoped that mining companies would pay for much of the project, but the companies were reticent in the 1970s and 1980s. However, since the 1990s, when the private company took over, much of the funding has come from corporations (Manuel

2015). When I visited in 2017, there were displays and videos sponsored by mining companies, especially about new taconite facilities. The Center is currently a member of the Iron Mining Association of Minnesota whose mission is to “promote the iron ore industry's long-term growth and prosperity” (Iron Mining Association of Minnesota 2018).

A Place for Outdoor Recreation and Wilderness

Mining opponents, particularly to Twin Metals, also appeal to place-based identities and collective memories but through a vision of the landscape as a wilderness area and experiences of outdoor recreation. In this framework, copper-nickel mining is interpreted as out of place and a rupture to wildlife habitats and ecosystems, and experiences of solitude in the wilderness and canoeing on pristine lakes. Tod, an owner of a canoe guiding company and environmental activist, explained the connection to the place, “on a real emotional level I think is important for the people who visit here [BWCA]. It can be a real life changing experience...It's just unique, there's no place like it.” This emotional connection is what motivates many activists and is used to mobilize supporters.

I found that many of the staff and volunteers with environmental groups working against Twin Metals were motivated by their emotional connections to the BWCA and saw copper-nickel mining as a threat to a cherished place. An activist with the CSBW, a retired white male, described his passion for wilderness,

I love wild country, and this [BWCA] is one of the great, intact, more or less, wild ecosystems in North America, in the United States certainly. I love wildlife. I love the idea that there are places that are relatively uninfluenced by current human activity, where the flora and fauna can find their own way, as it were, by and

large.

This expressed love of wilderness shows the affective dynamics of place that motivate activism. While these sentiments are socially constructed, they are also related to the material landscape and the distinct geology and ecology of the BWCA (Heinselman 1999). The experience of being able to canoe for thousands of miles across clear blue lakes, jagged rock outcrops, and pine forests in an area with no development or roads is unique.

Environmental organizations use the language of place to mobilize opposition and connect with collective place-based identities—a CSBW leader described it as a “a value-based campaign.” For example, I stopped at the CSBW’s booth at the Minnesota State Fair in summer 2017 and one of the half-dozen volunteers, a white woman in her 20s, quickly approached me and asked if I’d ever taken a canoe trip in the BWCA. We then talked briefly about canoeing before she brought up the threat of copper-nickel mining and told me that we needed to take action to protect this special place. The primary hook was about protecting an emotionally resonate place. The details about mining or broader environmental politics were secondary.

Activists and leaders described this strategy in my interviews as well. Mark, a volunteer with the CSBW in Ely and a retired professor in his 60s, discussed how the organization frames the Twin Metals mine,

Well I think you start with sense of place. That is just very powerful with the BWCA. I mean that so many people have visited the BWCA and even those that haven’t just recognize it as a very special place and deserving of protection. I think that is the sell.

Passion for the place was also connected to nostalgia for family and youth experiences like a canoe trip vacation or summer camp. Julian is in his early 60s and owns a guiding company in Ely and is a volunteer leader with the CSBW. He recounted experiences in his youth that drove his desire to move to the area and defend the wilderness,

I scored sufficient merit points when I was 10 to do this wonderful mysterious thing and came up here with my fellow Pioneer Boys all in our freshly ironed green Pioneer Boy uniform shirts and our red kerchiefs and all of our merit badges polished and pinned on our chest. And off we went on our canoe trip. It was magical from the get go. The whole thing from start to finish was absolutely life changing. I remember it like it was yesterday. I still draw on it daily, memories of sunset evenings on an island in Basswood Lake playing kick the can with my Pioneer Boy buddies and watching bear cubs camp around the far shore and listening to the loons and the sizzling of walleye filets on the frying pan over the campfire.

Julian draws on these memories daily which create emotional attachments and spur action as vision for the future. Personal memories are also interpreted through collective cultural frameworks that envision outdoor recreation as a place for social bonding and self-discovery, and respite from the stresses of modern life.

Environmental groups draw on nostalgia to tap into people's emotional memories.

For example, in an op-ed for a regional newspaper an environmental activist wrote,

Traveling by canoe and getting off lakes by mid-afternoon, we move slowly enough to see and hear things. A beaver swimming by as we play cards on a granite outcrop...As I plan an August trip to the Boundary Waters...these memories flood back. (Lopez 2017)

This is indicative of the idyllic memories of family and wilderness experiences that are used to make the mining issue meaningful through personal connections.

Appeals to clean water and outdoor recreation tapped into a Minnesotan identity of being the land of 10,000 lakes and a sense of pride in having a clean environment.

Brad is a young white organizer for the CSBW and described Minnesota culture this way,

There's also this outdoor legacy. This nature that people out here just go out and explore, and take to the woods, and take to the canoes, and take to the rivers and streams. And they utilize their outdoor space so efficiently, and so beautifully, here, that it's just part of being here.

The connection to the outdoors is presented as a naturalized and essential component of being a Minnesotan—much like mining as a way of life. However, this ignores how wilderness recreation is a specific class and racial way of relating to the land.

One exception to the dominant wilderness discourse was in my interview with Deborah, a white woman in her 50s who is a staff member of an environmental organization. She talked about a diversity initiative, “We're hoping to look to be changed as well. That we maybe understand nature and wilderness from different cultural perspectives that will help inform the way we message, the way we do our outreach. To be more relevant, more inclusive.” Deborah recognized that rhetoric about wilderness was typically white and upper-class. She wanted to expand access to outdoor recreation and recognized different ways of relating to nature. However, I rarely heard these self-critiques and the CSBW, which was the organization most focused on wilderness, did not express concerns about race, class, or indigeneity.

What Places are Worth Protecting?

The politics and social perceptions of PolyMet and Twin Metals have diverged due to how the projects do, or don't, threaten culturally and emotionally meaningful places. The CSBW is focused on Twin Metals and uses place-based and wilderness

appeals. Meanwhile groups working on PolyMet focus on water pollution, human health, and financial risks—not appeals to defending a place. These differences in organizational approaches have created tensions in the environmental movement and with Indigenous groups, which raises questions about how people determine what places are worth protecting.

The CSBW has mobilized a national campaign against copper-nickel mining in the BWCA watershed, mainly the Twin Metals projects, around the need to protect a special place and ensure a wilderness landscape for future generations. The CSBW is not involved with the PolyMet NorthMet project, which is only 20 miles away, but on the other side of a watershed divide, thus water pollution would likely not flow into the BWCA. In contrast, other environmental groups, including many of the largest and oldest environmental organizations in the state, are involved broadly with copper-nickel mining issues and have been focused on PolyMet's NorthMet project. The NorthMet mine would be closer to existing iron mines and in an area already seen as an industrial sacrifice zone. Thus, groups involved with the NorthMet mine do not use the language of wilderness protection and appeals to nostalgia for outdoor recreation. Instead, they have focused on threats to clean water and taxpayers who would have to pay for clean-up. These different landscapes and framing strategies have contributed to more public concern about Twin Metals and to more political support for PolyMet. Some DFL leaders back PolyMet but oppose Twin Metals because of the potential impacts to the BWCA.

The CSBW has strategically used Twin Metals' proximity to the BWCA to frame the project as a threat to Minnesotan identity and a cherished place. In my conversations, activists and leaders often said that it made strategic sense to focus on Twin Metals

because they had a better chance of blocking the project due to the symbolic power of the BWCA and the legal hook of a federally-protected wilderness. They also view PolyMet as less of a priority because it would not destroy an area used for recreation. It is in an area seen as part of the industrial mining landscape. However, they also saw tensions with other environmental groups. Elliot, a staff member of CSBW in his 30s, told me,

We're lucky, but also we were unfortunate how close it [Twin Metals mine] is to the wilderness area. It's just your charismatic megaphone that you're saying the Wild Life Foundation used to get donor money. You start to get less attention with PolyMet that is down by other lakes, and it could pollute Lake Superior.

Elliot went on to describe how the ability to raise funds and support for protecting wilderness by focusing on Twin Metals creates divisions with other environmental groups that are working on broader copper-nickel mining and environmental issues. Mark elaborated on how the additional protections for the BWCA creates tensions between organizations, “And that makes some other environmental groups unhappy because they think the BWCA is getting special protection and feels itself deserving of special protection. And the fact is, it is. That is what the law says.”

Some activists involved with PolyMet felt that organizations focused on Twin Metals or politicians that support PolyMet but oppose Twin Metals were letting Lake Superior and communities downstream of PolyMet be sacrificed in order to protect the BWCA. They also argued that separating the two projects played into industry’s strategy of dividing the issues and weakening the opposition. Josh is in his 40s and has worked for several different environmental organizations and felt that both projects needed to be addressed:

There's serious disagreement in the environmental community about this approach. Everyone wants to see the Boundary Waters protected. But I also

wasn't willing to say that that also means that you can sacrifice the other side of the Laurentian Divide, and the people who live downstream are bad.

The focus on wilderness and appeals to tourism and recreation largely silences the environmental justice issues raised by copper-nickel mining, particularly degradation of American Indian treaty rights and negative public health impacts that could disproportionately impact rural and low-income people—including those who may support the projects. The NorthMet project raises greater environmental justice concerns because more manoomin waters are within the flow of potential pollution. There are also larger population centers downstream, including the Fond du Lac reservation. Thus, some grassroots environmental groups, Tribes, and Indigenous rights groups are actively involved with PolyMet, but less so with Twin Metals.

However, these divisions are not rigid. Some organizations are active on both projects but have different strategies and tactics. Several activists thought that increased scrutiny of Twin Metals could also lead to more concern about PolyMet and copper-nickel mining more broadly. Charles is in early 60s and is long-time staff member of a conservation organization and described different messaging for the two projects,

it's no question to us, it's not about just the Boundary Waters. That is something that, let's put it from a national perspective, where we send out national alert, that's probably well-known to our members who live in Maryland or something like that. Whereas, they wouldn't know where the hundred-mile swamp is or where the St. Louis River, or even Duluth perhaps.

A place-based campaign for Twin Metals is effective for building national attention unlike for PolyMet that would not impact well-known places.

Some individuals expressed caring about both projects, despite the strategy of organizational leaders. Roger, a retiree in Ely who is an active volunteer with CSBW, described his frustration with CSBW's sole focus on Twin Metals:

The campaign [CSBW] doesn't want to talk about PolyMet. And I think it's very important to talk about PolyMet. First of all, we used to live in Duluth, we love Duluth. And Duluth is downstream. Second of all, if PolyMet gets the go, it'll make it easier for the next mine, and the next mine, and the next mine, to get the go. So, the precedent's set.

Roger challenges Duluth becoming a sacrifice zone and thinks that stopping or enforcing or strong regulations for PolyMet is strategic because the project would establish nonferrous mining in Minnesota.

My Backyard or My Playground

These different collective identities and meanings of place between mine supporters and opponents shape how people interpret copper-nickel mining. The sides have divergent understandings of the past and visions of the future. They disagree over what activities are appropriate for the landscape and what will protect the place. The issue has become a struggle over who has the legitimacy and authenticity to speak for the place, and whether development decisions should be made by those for whom it's their backyard, their playground, or their homeland.

Mine supporters, especially leaders and residents of the Iron Range, claim that they have the right to decide what is done with the land and resources in the region because it is their backyard. This extends from a long history of anger at the perception of outsiders telling the Iron Range what to do (Backes 1991; Manuel 2015). Therefore, local mine supporters interpret delays and the possibility of stopping copper-nickel mining

development as an injustice because it denies locals' the right to determine how to use the land and the ability to have livelihoods.

They also frame mining opponents as not really knowing the place and only occasionally visiting Northeastern Minnesota. Randy, a retired miner and Ely resident, described how environmentalists often don't know land and waters of Northeastern Minnesota like residents,

They [mining opponents and wilderness supporters] have a concept, some of them, that they just want to know it's here. They've never been here. I asked one girl, I knew that she wasn't very wilderness oriented. Well, have many lakes have you been on in the Boundary Waters? She said all of them. I said, oh really? I said name me a dozen. She couldn't name three of them.

Randy saw this anecdote as demonstrating the hypocrisy of outside opponents who were ill informed. He thought that the locals, like himself, actually knew and cared for the BWCA because it was where they lived and spent their time, therefore, they should speak for the place.

The cultural resonance of protecting lakes in Minnesota, including the Iron Range where boating and fishing are popular activities, means that pro-mining groups frame copper-nickel mining as environmentally safe. They claim that they would not let this place – their backyard – be put at risk and polluted. Locals are framed as the best stewards, as state Senator David Tomassoni from the Iron Range said at a pro-mining rally, “We know how to take care of our own backyard. We're not about to let anyone screw up our water or our air.” Supporters claim they have kept the region clean for 135 years alongside mining and that the area still has the most pristine lakes in the state, which attract tourists from across the state and country.

Rangers frame themselves as the actual environmental stewards unlike outsider environmentalists who simply want to protect their playground and ideologically oppose development. A DFL state congressman from the Iron Range told me, “That's why I said extremist versus the environmentalist. I think a lot of people up here would consider themselves the environmentalist with just as much sincerity as anyone else who feels that they can claim that for themselves.”

However, this rhetoric ignores how the waters of Northern Minnesota have been protected by state and federal legislation and the mobilization of environmental activists from the across the state. In addition, some watersheds in Northern Minnesota, like the St. Louis River, that are downstream of iron mining have some of the worst water pollution in the state. Areas with relatively clean water have had less industrial development (Baeten, Langston, and Lafreniere 2018). Yet, people’s experiential knowledge of visibly clean lakes—pollution from iron mining is typically invisible—and eating fish without noticeable direct health problems is more powerful than environmental arguments based on scientific evidence, especially when these experiences align with dominant ideologies and corporate messages. Recognizing that mining has or could damage the environment would force people to reconcile their conflicting mining and outdoor recreation identities.

On the other hand, environmentalists and outdoor recreation groups argue that they have the right to speak for the place and that mining development is not only a local-level decision. For them, the BWCA and the surrounding area is public land and a national treasure, which means everyone in Minnesota and even the country should have a voice in how it is used. They disagree that the people who live nearby should have

greater authority in making decisions, since as Sandra, a CSBW leader, said it, “this place belongs to all of America.”

Environmentalists understand themselves as speaking for the place and contend they truly know the land through their recreation experiences. Bill, a CSBW outdoor adventure activist in his late 30s, described their perspective, “we see ourselves as just sort of bearing witness to this place, you know, and just being a constant reminder of how special it is and why we need to protect it.” The CSBW regularly used the religiously-inflected language of “bearing witness” and claims to speak for “this quiet place” which positions the land as fragile and in need of protection by humans. They claim to be the true voice of the place because of their experiential as well as scientific knowledge. Their reverence for nonhuman nature gives them the authority and moral obligation to defend the land.

Environmentalists also feel that mine supporters do not appreciate the area and the wilderness. Memories of struggles over protecting the BWCA create lingering animosities. Wilderness advocates felt like locals are still mad about events from the 1950s and 1970s. Elliot of the CSBW told me,

There's still that resentment in town, even with kids my age. I'm 30, and I've got good friends my age, who have never been onto a Boundary Waters other than Bass Wood Lake, and they've lived here their entire lives. There's just that resentment from their family. I don't want to go on a paddle trip. What the hell, no. Let's just go to Bass Wood in a motor boat, and put a big old tent, and party for a week, and catch a bunch of fish. It's still there, it's bred into, and it's really hard to go against that.

Elliot describes the social and cultural divide over the wilderness that has persisted across generations partially through collective memories and emotions. His statement also reflects how conservationists view locals as degrading the place by using motor vehicles

and disregarding regulations. Some think local's disregard for wilderness has almost become naturalized.

On the other hand, Rangers told me that the younger urban generation no longer cares about going outdoors. They thought the urbanites were an environmental problem because of how they used the wilderness—leaving trash and overusing campsites. Instead, it was the locals who continue to use the place for hunting and fishing that truly cherish the place. They want it to be open for everyone to use without onerous restrictions.

Pro-mining groups flip NIMBY around and claim that it's the mining opponents that are being selfish NIMBies. They don't want to risk their vacation and summer cabin "playground" but are then ok with the metals being mined in someone else's backyard – poor countries without environmental and labor protections. A white male in his 60s who lives in an Iron Range town and is active in local community groups told me that it would be stupid not to mine in Minnesota because otherwise mining will just be done in places like China where mines pollute and employ child workers. Roberta, the mayor of a small Iron Range town, put it this way, "Why is it ok for China to be killing ten-thousand people a day because they have no environmental standards?" Stopping mining in Minnesota is then understood as actually being bad for the environment because it will lead to more pollution globally, which, according to Roberta, shows that, "they [mine opponents] don't care about the overall environment. I have the perception that they just want to have this as their own, you know, area." Instead, mining should be done in Minnesota where there are strong environmental regulations, labor standards, and a unionized workforce that will speak out about pollution and workplace hazards. This

rests on an assumption that Minnesota has strong environmental laws, which environmentalists contest and argue the mining industry has tremendous influence on state politics. Some argue that the new mines are not guaranteed to be union and point out the companies' poor labor record in other places.

Mine supporters juxtapose the clean waters of Northeastern Minnesota to the polluted waters near the Twin Cities to argue that urban environmentalists are hypocritical. For example, at public hearings people often said that the urban environmentalists should clean up the polluted areas in their backyard before worrying about Northeastern Minnesota. A pro-mining activist and owner of a canoe and fishing guiding company told me,

I don't live in the Twin Cities where I put green stuff to make my lawn green, so my neighbors think it's pretty... And I don't dump motor oil in the ground, and we don't do things that create eco disasters.

Urban consumption gets framed as the actual environmental threat, and rural residents turn the tables to critique the lifestyles of elite environmentalists who they feel disparage rural forms of recreation and livelihoods.

Mine supporters also argue that environmentalists are hypocritical and irrational because they want more renewable energy and hybrid cars but oppose mining that is necessary to supply the large amounts of copper needed for those technologies. They argue that in order to transition to a greener economy, copper mining is necessary, but environmentalists are unwilling to recognize this fact. Alex, a white staff member of a construction union, told me,

Nobody is saying 'stop using copper.' Nobody is saying 'let's boycott copper.' They're saying it's [mining] never been done safely. But they're not taking the next step to saying, 'therefore we shouldn't use copper.' Because you can't

transition from a fossil-fuel-based economy to a renewable-energy-based economy without a shit-ton of copper. It is a necessary component in transitioning away from fossil fuels, which we [his labor union] support. If the question is not ‘should we, or should we not, use copper?’, then the question must be, ‘where, and under what circumstances, should copper be mined?’

Transitioning to renewable energy is used as a rationale for extractive development and environmentalists are presented as illogical. Pro-mining groups also present themselves as actually being more concerned about environmental issues, like climate change, than the mine opponents who are simply focused on protecting a few places. This framing is indicative of how industry has appropriated the language of environmentalism and sustainability (Gottlieb 1998; Phadke 2018). Yet, it also reflects how residents and workers reconcile their concerns for the environment and desire for industrial jobs.

Within the pro-mining framework, environmental opposition to mining in the Global North becomes the cause of poor working conditions in the Global South and global pollution, not corporate strategies or weak free-trade agreements. This framing strategically takes a liberal argument and flips it around to use claims of environmental and social justice to defend extractive development. Yet, the rationale rests on a capitalist treadmill logic that more production and materials are always needed. This narrative ignores the possibilities of recycling copper, as environmentalists argue. It presumes a scarcity in the material supply of metals even though extractive development is largely driven by profits linked to global prices and speculation (Labban 2014; Loftus and March 2015; de los Reyes 2017). Opening mines in Minnesota will not lead corporations to close mines in the Global South or stop developing projects in places with weak environmental regulations and low labor costs. However, there are tensions in the transition to renewable energy, such as toxics in the production of solar panels, and

material consumption is not often questioned in mainstream sustainability. Phadke (2018) describes the contradictions between the resource needs of renewable energy and the ecological impacts of resource extraction as the “green energy bargain.”

Some environmentalists thought that the shared concern for lakes and rivers, and outdoor recreation could unite people across the divisions. Tod, the owner of a guiding company and activist with the CSBW, told me,

I think people really appreciate the outdoors up here and kind of the wilderness area and the fishing. It's really important to people, and it's kind of their sense of self, so I think that's common ground...I think most people would say, if they thought this mine would pollute the Boundary Waters, they wouldn't think it was a good idea.

The CSBW has expanded to include sportsmen groups and outdoor recreation companies which has contributed to support from diverse constituencies beyond environmentalists. However, these efforts have done little to build bridges locally, partially because local supporters believe copper-nickel mining could be done safely.

Invisibility of Indigenous Lands in Settler Visions

What is left out of these claims to the place by different white settler groups, mining supporters and opponents, is a recognition that the proposed mines are on Indigenous lands taken through the dispossession of settler colonialism. The dominant discourse excludes Indigenous understandings of the place and claims to the land. Yet, acquiring land and displacing Indigenous people in what is now called Minnesota was driven by demands for resource extraction. Wilderness protection has also played a role in Indigenous dispossession in Minnesota and the U.S. more broadly (Child 2011; Spence 1999; Taylor 2016). Environmentalists' and Rangers' claims of a right to speak for the place ignores Ojibwe tribal sovereignty and rights to co-manage resources in treaty

territories that cover most of Northeastern Minnesota. When Indigenous people are discussed, its often in the context of history, such as at a museum or a local history lecture, rather than a recognition that Ojibwe people still live in the area and are asserting their sovereignty.

When white decedents of European immigrants in the Iron Range claim they are the true “locals” who can speak for the place, they ignore the people that lived on the land before them. Rangers often talk about how long their family has lived in the area and how many generations their family worked in the mines. In interviews and casual conversations, people told me that being “old Ely” or an “Elyite” means you have grandparents or great grandparents buried in the cemetery in town. A woman in her 50s who lives in Ely, but moved there with her husband, remarked, “I am not an Elyite as I was not born in Ely, so I married into the name. My husband is an Elyite and is a fourth generation Elyite.” These claims to a form of settler indigeneity erases the presence of Indigenous peoples and their ongoing use of the land. These dominant place-based identities naturalize the presence of white settlers and ignore how the development of the logging and mining industry, that attracted European immigrant labor, relied on coercion and violence to remove Ojibwe Tribes.

Environmental discourse also reproduces the invisibility of Indigenous people through claims of protecting an untrammeled wilderness. The rhetoric of wilderness creates a sense of an open frontier and reproduces a myth that the land was empty and untouched by humans (Cronon 1996a, 1996b; Spence 1999). At the same time, depictions of Indigenous people are often in the context of a long-ago history. For example, an environmental activist described the BWCA in a *New York Times* op-ed this way, “Today

this region, the Boundary Waters Canoe Area Wilderness, looks almost exactly as it appeared 10,000 years ago when Paleo-Indians lived there,” (Moe 2018). The wilderness area is framed as being in time immemorial which ignores how the area has been used and shaped by human interaction, both Indigenous and settler. Indigenous people are also presented as living in the distant past and associated with pre-historic time which silences their continued use and claims to the place. However, one exception is a small grassroots environmental organization called WaterLegacy that is led primarily by white people but works in solidarity with Tribes. Their critique of copper-nickel mining is focused on environmental justice and Indigenous rights.

Ojibwe people continue to use the land of Northeastern Minnesota for hunting, fishing, and harvesting as well as other spiritual and cultural practices. The area, including the proposed mine sites, is in the 1854 Treaty Ceded Territories where Ojibwe Tribes (including the Fond du Lac, Grand Portage, and Bois Forte Bands) exercise their treaty rights to use natural resources and are asserting their power to co-manage resources (*more in Chapter 5 on Tribes role in decision-making*). Yet, when Indigenous people and Tribes assert their rights, particularly to harvest manoomin and fish, whites have responded with anger, and even violence (Loew and Thannum 2011; Stark 2010). Tribes are pushing to have more authority in resource management policy, which has had some success, but Minnesota has been reticent to fully recognize and respect treaty rights (News Tribune 2017).

Conflict with white residents and state government becomes even more contentious when Tribes assert their treaty rights to demand environmental regulations on industry, especially mining. Pollution and land use changes from industrial development

damages manoomin, degrades wildlife habitats, and produces toxic chemicals that bioaccumulate in fish. Companies and local politicians complain about the costs to the mining industry to meet the sulfate water quality standard to protect manoomin. They claim it will cost jobs and hurt Iron Range communities (Masciantonio and Rebrovich 2015). Framing the sulfate standard as costing jobs presumes that the jobs of whites, and mostly men, are more valued than Indigenous livelihoods and sovereignty. White settlers argue they have a right to jobs extracting natural resources which, in their framework, is greater than Tribes' treaty rights and the ability to maintain their culture. But, as Norgaard and Reed (2017) argue, the emotional and psychological experience of losing the ability to engage in cultural practices and subsistence is similar to the experience of unemployment.

Ojibwe peoples have alternative understandings of the place that are situated in different epistemologies and worldviews, particularly living in ethical and respectful relationship with nonhuman natures (White 1999). I do not claim to speak for these perspectives but want to acknowledge that there are alternative Indigenous frameworks for understanding how mining produces environmental injustices and who should speak for the place. From an Ojibwe perspective, humans are not separate or above other living beings. Therefore, people do not speak for the place but rather are in conversation with nonhuman nature, and the earth, the fish, the water, and manoomin also speak for the place. However, these perspectives are not legible to state institutions that are based on Western epistemologies. For Ojibwe, their way of life is intertwined with the land which cannot be quantified and sold (LaDuke 1999). Yet, legal and regulatory processes of

assessing costs and benefits of extractive development is premised on the calculability of the value of nature.

Ojibwe also have different notions of temporality than white environmentalists and mine supporters which shapes what is remembered and how the future is envisioned. They remember a time prior to the environmental degradation wrought by colonialism and capitalism and want to restore that past rather than simply maintaining the current “baseline” environmental conditions, which is the premise of environmental regulations. Instead, Ojibwe envision a renewal of healthy ecosystems and a return to respectful relationships between all living beings (Stark 2010). For example, in the Tribe’s comments on the PolyMet EIS, they described elders who recall harvesting manoomin on lakes where there is no longer manoomin. They explain how the importance of a place is not simply its continued physical use but how the place is remembered through stories and spiritual connections (Bois Forte Band of Chippewa, the Fond du Lac Band of Lake Superior Chippewa, the Grand Portage Band of Lake Superior Chippewa, the Great Lakes Indian Fish and Wildlife Commission, and the 1854 Treaty Authority 2013). Ojibwe time horizons are also longer and less linear as actions are assessed based on impacts to future generations and ethical obligations to ancestors. The Fond du Lac elders issued a statement against copper-nickel mining stating that:

And we, as Lake Superior Chippewa Elders, must look seven generations into the future to see that the events that happen today, do not affect those generations yet unborn, seven generations into the future. As a result, we condemn the whole process of Sulfide Ore Mining Operations within the 1854 Treaty Ceded Territories (Northeastern Minnesota). (Fond du Lac Elders Concern Group 2011)

The elders also summed up the impacts of mining this way:

What these mines will be doing is basically; just taking the good stuff out of the earth and dumping the used extracted earth in a dump site.

Therefore, whether copper-nickel mining will create environmental problems and injustices is not determined by technical questions of modeling hydrology and assessing whether effluent would meet pollution standards because the fundamental process of mining is destructive and out of place with Ojibwe visions of the landscape.

Contested Interpretations of the Landscape

Mining supporters and opponent's different collective memories and sense of place leads to different interpretations of the mining past, the current landscape, and visions of the future. The physical landscape of the Iron Range has been transformed by over a century of mining that has left massive pits and piles of tailings (waste rock) and overburden – the soil and rocks on top of the extracted metal ores. Driving up from the flat terrain of central and southern Minnesota, you notice the hills when you reach the southern edge of the Iron Range, but these aren't hills—they are piles of overburden and tailings. How people interpret the industrial landscape is through different cultural frameworks. Mine supporters, especially long-time Iron Range residents and mine workers, see the landscape as a symbol of economic prosperity and the power of modern technology. Yet, mine opponents tend to see the landscape as a sign of destruction and the problems of extraction. People's risk perceptions are also informed by these collective memories and place meanings. Pro-mining supporters trust that the regulators will ensure the mines meet environmental standards and that technologies can resolve problems based on a sense that mining has been clean. Meanwhile, environmentalists do

not trust company claims based on histories of corporate negligence and regulatory failure. They are unwilling to accept the risks to a sacred place.

Pro-mining groups and Rangers I talked with describe with pride how the massive mine pits are a symbol of the ingenuity, strength, and power of technology and labor which made the Iron Range. The piles of tailings—several hundred feet tall—that are now covered in grasses and trees are also evidence that mining areas could be returned to nature and made environmentally friendly. Marty, a retired community leader in Ely, reflected on how the iron mining companies have done a good job reclaiming old mines and that the areas were now attractive and good for recreation,

I think mining companies for the most have pretty much done a good job of that [clean-up and reclamation]. I take a ride through the Range now and you see a lot of your big ore old dump areas there. They got trees going up in there and it actually looks pretty decent, some of them like mountains. I just think here at our Miner's Lake right here, that was the old Pioneer Mine there. There are trout basically in that lake that are probably as lively as any place and very abundant. That goes to show you that those things can happen.

For Marty, mining did not leave a toxic legacy which shaped why he believed copper-nickel mining could be done safely, although he thought the companies needed to be held accountable.

Mine supporters regularly referred to how you could now swim, fish, and boat in old iron mine pits that had flooded and become lakes. People recounted how some towns now used these lakes for drinking water. This was used as evidence that mining is safe and informed people's experiential knowledge of mining as benign. However, this perspective overlooks that reclaimed mine landscapes lack biodiversity and a healthy diverse ecosystem. It also disregards that copper-nickel mining would be more hazardous

and would create mine pit lakes that would be toxic and potentially acidic—not safe for swimming and drinking.

On the other hand, environmentalists saw waste piles and mine pits as a scar on the land and were afraid this could be the future for the forests adjacent to the BWCA. For example, in an interview with Brad, a staff member of CSBW, he reflected on how mining has degraded Northeastern Minnesota:

When you get to that overlook around Virginia [Minnesota], you can see the giant pits from a height...It's crazy. It's these gigantic, open, pits. That's what all of this is. And you can see some of them filling with rusty orange water. I personally, wouldn't swim in that.

Brad interprets the orange water of mine pit lakes as a symbol of industrial toxicity, and does not trust their safety, even though many of these lakes are open for public use including swimming. For pro-mining Rangers, these same lakes are understood as a symbol of progress and economic well-being—a time when the mines were producing and employing people—and appropriate for the landscape.

For conservationists, copper-nickel mining, especially Twin Metals, brings the specter of an industrial landscape to the pristine woods and waters near the BWCA. Sandra, a leader of the CSBW, said that Twin Metals would, “take out a huge swath of national forest land immediately adjacent to the wilderness. It would look like the Mesabi Iron Range.” Many of the local environmental advocates in the Ely area were concerned that Twin Metals would bring development which would disrupt the serene and beautiful place they moved to. For example, Roger, who retired to Ely, told me, “We don't wanna live in the middle of heavy industry. So, even if...I would not want to see it happen. I don't think it's appropriate.” Julian is another Ely-based environmentalist who said, “my

biggest fear is thinking of this incredible jam of monster trucks on highway.” Thus, even a mine that met all the environmental regulations and used the best pollution control technologies would still be a rupture to their visions of the place. The mining landscape of the Iron Range is something to be avoided rather than celebrated—a comment that Rangers might find offensive and see as indicative of how environmentalists don’t understand this is a mining place. For them, the hum of trucks is a sign of economic activity and the lifeblood of the community.

Is all mining the same?

The cultural, ideological, and political-economic power of mining means that groups struggle to either separate copper-nickel mining from iron mining or to position all mining as the same. Environmentalists assert that copper-nickel mining is something new and disruptive that is disconnected from the iron mining history. Mining advocates claim that copper-nickel mining is a continuation of the mining legacy and is not fundamentally different than iron.

A major reason why opposition has mobilized against the proposed mines is due to the greater risks from copper-nickel mining, what environmental groups strategically call sulfide mining to highlight the toxicity. Environmental groups emphasize how copper-nickel ores are different than iron ores which presents a new risk to Minnesota. Jennifer, a staff member of an environmental organization in her 50s, told me why her organization got involved with the issue:

And partially its – this type of mining [copper-nickel] has never been done intentionally in Minnesota. It has such a bad track record both environmentally and financially in other states. It was for those who were sort of even paying attention at all, there was a recognition that this is different than taconite and this

is something we ought to really be more cautious about.

Jennifer describes the risks of copper-nickel mining as obvious and frames it as out of place to Minnesota since it is fundamentally different than existing iron mining. Publicly, the mainstream environmental groups claim they are supportive of iron mining and ok with the existing facilities in the state.

Mine supporters reject this separation and claim that all mining is similar, downplaying differences between ferrous and nonferrous. They contend that copper-nickel can follow the positive environmental legacy of iron mining since copper-nickel mining uses the same basic technologies and processes and only requires a few additional environmental protections. They assert that rocks have been mined in the Iron Range for generations without environmental problems. Thus, copper-nickel mining can also be done safely because it involves basically the same rocks. In an op-ed for a local newspaper, a state congressman wrote, “After more than 125 years of iron ore mining on the Range, one would have to ask, ‘What don’t we know about mining that hasn’t been learned in the last 125 years?’” (Tomassoni 2014). This deploys a common-sense argument that all mining must be the same since it’s in the same area. Yet, this overlooks how iron and copper ores are in different geological formations, despite being in close proximity, and the ores have different chemical compositions.

Workers and residents’ lived experiences with relatively benign iron mining shape how they understand the new proposals. People living in the Iron Range drive past mine pit lakes every day that are popular for fishing and boating while other parts of the mine landscape have been transformed into sites of recreation, such as a bike path called the Mesabi Trail that weaves between tailings piles and alongside mine pit lakes. These

experiences of safe iron mining shape how people understand the potential risks of future copper-nickel mining. In this framework, the dire claims of environmentalists appear unrealistic and in contradiction to their own knowledge.

However, rhetoric about iron mining's safe history overlooks how the industry has produced pollution and negatively impacted the environment. Researchers found that areas in Northern Minnesota with iron mining have lower water quality and have more impaired lakes than areas that have not had active mining (Langston 2017). Iron mining has left traces of pollution and ecological disruption. For example, the release of asbestiform fibers, which are a hazard to human health, and emissions of atmospheric mercury from taconite processing (Langston 2017). Iron ore mining releases sulfates into surrounding waterways which has contributed to dwindling manoomin populations and methylation of mercury – the process of turning mercury into a form toxic to humans (Baeten 2017; Baeten et al. 2018; Langston 2017; Myrbo A. et al. 2017). The construction of large mining operations and excavating mine pits thousands of feet deep and miles wide leads to the destruction of forests, wetlands, and wildlife habitats.

Chemicals, dust, and other materials from iron mining also create occupational and public health hazards. Minnesota Department of Health research has found elevated rates of mesothelioma, a rare respiratory cancer associated with asbestos, in Northeastern Minnesota and among former mineworkers (Center for Occupational Health and Safety, Chronic Disease and Environmental Epidemiology Section, Minnesota Department of Health 2007). A longitudinal study on mineworkers' health conducted by University of Minnesota researchers funded by the state also found higher than expected rates of cardiovascular disease and lung cancer among mineworkers (Finnegan and Mandel

2014). However, linking causes for health problems directly to iron mining is difficult and is a point of ongoing debate.

Pro-mining groups argue that environmentalists are anti-mining and frame an attack on copper-nickel mining as an attack on all mining. A white male industry leader said in public statement that, “Nothing short of no mining in Minnesota would satisfy these anti-mining groups,” (Hanna 2015). Opponents are framed as ideologues out to stop all mining and thus disdainful of Minnesota’s mining legacy and against people who rely on mining to make a living. Max, a leader of a mining industry group, described environmental organizations as:

groups that would just as soon shut down all mining, including iron ore...It's kind of a non-discriminatory opposition to overall mining.

Max’s rhetoric raises fear that environmentalists are coming for iron mining next and that operating mines could be shut down. While this is highly unlikely given the weakness of environmental enforcement, there is historical precedent in Minnesota. In 1974 a federal judge ordered that Reserve Mining’s taconite plant be shut-down due to concerns about pollution from tailings being dumped in Lake Superior and required that the company build a new a waste storage facility on land (Bartlett 1980). An appeals court sided with the company and allowed the plant to reopen several days later but did require construction of the new waste facility (Langston 2017). Collective memories of the fight over Reserve Mining and the impacts of the closure are still discussed and came up in several of my interviews and casual conversations. This history has particular resonance with PolyMet’s NorthMet project that would construct a mine site near Babbitt, the town

that was built by Reserve, and a few miles from Reserve's taconite mining facility that is now owned by Cleveland Cliffs.

Industry leaders and Iron Range politicians also frame environmentalists as radical and ideologically opposed to all development and technological progress, which is a common way to discount environmental activists and frame environmentalism in a broader culture wars discourse (Rowell 1996; Turner 2009). Tom, a retired miner and community leader in Ely, said that many of the environmentalists and other urban and educated people opposed to mining were CAVE people—Citizens Against Virtually Everything. Local politicians, including DFL representatives, regularly refer to the “environmental extremists”—although most of the organizations involved are mainstream green groups—and blamed the extremists for creating divisions in the DFL, not the pro-mining Iron Range delegation.

Environmental groups respond that they are not anti-mining and are only critical of this new type of mining and specific proposals to mine near the BWCA in order to recognize the importance of the existing iron industry. They want to frame themselves as reasonable and supportive of development. Many of the large state-wide environmental groups that are involved broadly with mining policy, take a public position of not outright opposing copper-nickel mining but demanding the companies meet rigorous standards. These organizations think the current proposals are too risky because they do not adequately meet environmental standards and financial assurance levels. The CSBW opposes all mining in the BWCA watershed but does not extend this position to other parts of Minnesota including the NorthMet project. Therefore, the CSBW is only against mining within a place they have deemed in need of protection. There are a few more

smaller grassroots groups that outright oppose copper-nickel mining in the state and think that mining without pollution is virtually impossible.

Most of the major mainstream environmental organizations claim they support iron mining and do not want to harm the existing industry. Jennifer told me, “we are not anti-taconite and we are not anti-sulfide mining. But we do treat them differently because we think that the history of sulfide mining is such that it is quite a riskier proposition.” Hardrock or nonferrous mining is one of the largest and most costly sources of Superfund sites in the U.S. In 2004, the U.S. EPA identified 156 hardrock mining sites that could cost between \$7 billion and \$24 billion to clean up (U.S. Environmental Protection Agency 2004). Earthjustice analyzed EPA data and found that hardrock mining is one of the largest sources of toxic releases (Anon 2017).

These tensions over the legacies of mining arose during a presentation by a leader of the CSBW at weekly community luncheon in Ely called the Tuesday Group. These public events attract a regular crowd of mainly retirees, most of whom relocated to the area and are supporters of protecting the BWCA, but the controversial topic of copper-nickel mining attracted lots of people from the community, including a mix of mining supporters and opponents. The room was at capacity with people standing in the back. There was a sense of tension as vocal supporters and opponents of mining were in the same room. A CSBW leader began the presentation by saying he doesn't know anyone affiliated with the Campaign who is anti-mining. They all understand that humans need minerals and have been mining since the stone age. However, he said, they are opposed to this type of mining which is too dangerous for the BWCA watershed. A guy sitting

behind me wearing a pro-mining hat sighed and muttered about them not wanting it in their backyard.

Some environmental groups do take stronger stances on the iron mining industry. A few environmental organizations, including large mainstream and smaller more radical groups, have filed lawsuits against state agencies for failing to enforce pollution standards and permit conditions for specific iron mines. Groups involved with Indigenous rights have been particularly critical of the iron industry because many of the iron mines leak sulfates, which harm manoomin, at levels above regulations. The state has resisted enforcing the standard due to the political pressure of the mining industry (Marcotty 2016c). Yet these groups do not call for widespread shutting down of iron mines, but rather want construction of water treatment systems and remediation efforts.

The greater risks from copper-nickel mining do disrupt local support for mining and have contributed to some uncertainty and worries. For example, Alex, a union staff member, remarked that he does have serious concerns about the proposed mines and wants there to be strong evidence and proof that the mines can be operated and closed safely. Hank, a retired miner who now works in real estate in Ely, told me that while he supports exploration for copper-nickel mining going forward, it must follow all requirements. He thinks that the companies must prove mining can be done safely otherwise they should not get permits:

I don't want to be blind here. Growing up here [Ely] I know what we have, and I don't want anything to happen, like polluting the area.

Hank went on to say that mining always has risk and benefits and will have some problems:

This mining stuff, yeah, there's pros and cons. There's always going to be pollution, I don't care how careful you are. I don't want to see anything happen to us, to anybody.

Hank's priority is preventing pollution and is realistic that mining brings risks. His skepticism of copper-nickel mining is also part of his broader politics – he is a strong union and DFL supporter, and lamented support for Trump.

Conclusion

To summarize, I find that proposed copper-nickel mining in the Minnesota Iron Range is contested because of competing meanings and memories of place. It has become a struggle over who can speak for the place and who can enact their vision on the landscape. Mining is understood through different cultural frameworks and place-based and class identities—labor and mining or recreation and wilderness. Local supporters mobilize for mining that is seen as renewing their heritage and sense of identity, as well as providing hope for jobs and economic growth. Others, mostly environmentalists and outdoor recreationists, mobilize to challenge the proposals that are seen as too risky for a cherished place and a threat to their vision for a wilderness landscape.

Based on the analysis in this chapter, I make four conclusions that contribute to research in environmental sociology and environmental justice by drawing on theories from cultural sociology and geography.

First, place, memory, and emotion are important in how people understand and mobilize around contentious environmental issues, which is an underexamined but growing area of sociological research (Norgaard 2011; Norgaard and Reed 2017; Woods et al. 2012). I find that all sides of the mining issue use emotion and nostalgia to mobilize support and claim legitimacy in decision-making. This challenges notions of

environmental politics as socio-technical issues directed by expertise (Pellizzoni 2011; Yearley 2005) by showing the cultural, affective, and discursive dynamics. I find that local support for extractive development in the Iron Range is motivated by how people's place-based and class identities are emotionally intertwined with mining. Iron mining is remembered as bringing prosperity and being environmentally clean. Opposition to copper-nickel mining from environmental groups is energized by emotional connections to place and nostalgia about outdoor experiences.

The symbolic and political power of both mining and outdoor recreation in Northern Minnesota means that both sides frame their position as aligned with the character and history of the place. Minnesotan identity of being the land of 10,000 lakes leads mining advocates to claim they are the true environmental stewards and that they would not let their backyard be polluted. They draw on their experiences with less hazardous iron mining to assert that copper-nickel mining would be done safely and cleanly. Industry and its supporters also appropriate liberal and environmental discourses by calling opponents NIMBY and willing to accept exploitation and pollution in other parts of the world. This also reflects broader discursive strategies of industry to appropriate environmentalism and sustainability (Bowen and Aragon-Correa 2014; Gottlieb 1998; Phadke 2018). In turn, pride in a mining heritage means that critics claim they are not anti-mining but are protecting Minnesota's environment by challenging copper-nickel mining that is different than iron mines and a new risk that is out of place.

As some scholars of collective memory and the politics of emotion theorize (Blokland 2001; Bonnett 2010; Olick 1999; Smith and Campbell 2017; Whitlinger 2015), nostalgia and perceptions of the past can be forward looking in ways that mobilize action

and are not inherently reactionary or progressive. Nostalgia can mobilize a reactionary defense of place that supports extractive capitalism and fosters resentment of outsiders often understood as government, people of color, and urban elites (Cramer 2016). Yet, nostalgia can also energize a progressive defense of place that resists expansion of capitalism and settler colonialism, and advocates for public and democratic control over land and resources. Environmental groups in Minnesota have appealed to emotional connections to land to mobilize action that has delayed development creating frictions for the global mining industry. However, this discourse is based on class and racial ways of relating to nature and has limitations when pollution does not directly impact a culturally iconic place.

Second, people's active support for hazardous industries relies on the ideological and cultural power in how meanings of place and collective memories are constructed. I argue that local PIMBY demands for risky extractive development is not accounted for solely by material interests or the political-economic power of capital and corporate manipulation through public relations (Bell and York 2010; Mix and Waldo 2014). Rather, pro-industry activism is formed by everyday cultural understandings and emotional connections to a mining heritage and identity, which are part of the complex ways that extractive capitalism becomes hegemonic. People make sense of proposed development through existing cultural frameworks and discourses which influence how proposed development is, or is not, seen as reaffirming a sense of place and identity. Through these frameworks, industry messages resonate as authentic and are taken up by workers and residents.

However, these are not simply apolitical cultural narratives but are dominant discourses reproduced through multiple institutions including news media, museums and memorials, politics, and corporate public relations as well as popular memories. Collective memory is an important aspect of how hegemony is reproduced and consent to exploitative socio-ecological relations is normalized (Swedenburg 1995). The valorized mining nostalgia naturalizes the necessity of extractive capitalism and silences histories of environmental degradation, worker exploitation and class struggle, oppressive gender relations, and Indigenous dispossession to create a positive vision of a mining future.

When mining, or other industries, are understood as defining a community's way of life, people are likely to react to new development with PIMBY. Therefore, mining companies may target extractive regions for new development because companies can more easily gain local consent—what industry calls the “social license to operate” (Prno and Scott Slocombe 2012). This contributes to why global corporations are investing in new mining projects in places like the Minnesota Iron Range in the Global North with a legacy of resource extraction that provides a receptive ideological and cultural context.

Third, I demonstrate the importance of place in the contradictions of environmental justice and how development is interpreted as an injustice or not. In rural regions and working-class communities, expansion of risky resource extraction can paradoxically be understood as a promoting justice while blocking development is understood as an injustice denying locals the right to jobs and to determine land use in their backyard. Yet, community support does not negate that local working-class residents may still be exposed to environmental injustices of water and air pollution, and occupational health problems while industry profits. As Malin argues (2015),

understanding how people come to hold these contradictory views and see no option for community vitality other than mining needs to be situated within structural violence, dependence, and hegemony. In addition, I suggest the importance of studying place-based identities and collective memories that shape perceptions of justice and of risk, and how these are produced through power and ideology.

Determining what places are worth defending also creates tensions across lines of class, race, and indigeneity. In Minnesota, white outdoor recreation enthusiasts and American Indian Tribes understand the social and ecological importance of the land in different ways which contributes to different political priorities. Some conservation groups have focused on the Twin Metals project, due to wilderness impacts, rather than the PolyMet NorthMet project that potentially poses greater environmental justice issues from threats to Indigenous rights and human health. Meanwhile, working class whites view the mining way of life as threatened and in need of defending which privileges the jobs of white workers over Indigenous livelihoods. These tensions suggest the necessity of further research on the complex relationships between environmental movements, Indigenous peoples, and workers (Barron 2000; Clark 2002; Gedicks 1993; Mills 2011; Moore 1998; Peluso 1993b; Widick 2009).

Fourth, theories of place offer a framework to consider socio-ecological systems and engage with questions of materiality that have been neglected in sociology (Koppen 2017; Lidskog and Waterton 2016; Pellizzoni 2016). Meanings of place are socially constructed but in ways interconnected with the materiality of the landscape (Jones and Garde-Hansen 2012; Kitson and McHugh 2015; Muehlebach 2017). My research shows that people understand place in relation to the physical landscape and that biophysical

factors matter in natural resource politics. All mining is not the same as the chemistry of rocks in different types of mining generate different political and social responses. In Minnesota, environmental groups frame copper-nickel mining as out of place since they are a new risk and more hazardous than iron ore because of geochemistry. The particular location of development also matters. For example, PolyMet and Twin Metals are in different watersheds and the hydrology mobilizes different cultural understandings and social movement strategies. Twin Metals is framed as a threat to a cherished wilderness landscape while PolyMet is framed as an extension of the industrial landscape, even though the projects are only 20 miles apart. Collective memories are also produced through the physical landscape. The remnants of iron mining—tailings piles and mine lake pits—and mining memorials are physical remnants that create the mining heritage. Meanwhile, memories of canoeing and camping trips are connected to the physical experience and aesthetics of lakes, rivers, and woods.

Chapter 4 - Renewing Our Way of Life: Extractive Populism

During a summer afternoon in 2017 I interviewed Tom, a retired miner and union member who is active in local civic groups and politics, at his house in Ely, MN. When I pulled up, he was in his driveway talking with a neighbor and tinkering with a vintage car. They made jokes about my Toyota Prius – Tom compared the Toyota logo to a pig’s nose while his friend sarcastically said that he thought they gave tickets for parking a Prius in Ely. Tom wanted to know if I had already talked to some of the environmentalists in town. I said that I had but wanted to hear different perspectives. He claimed that he would tell me the real story instead of the environmentalists’ lies. After initial wariness, Tom warmed up to me, especially when he realized my surname was Finnish and my grandfather was from Hibbing, MN – another city on the Iron Range. During our conversation he told me stories about his life and his family and how they made a living in logging and mining for several generations. After more than an hour, he suggested I should come see his family’s land and the cabin his father built on a lake a few miles outside of town.

While we were driving to the lake cabin in his 1970s Chevy Camaro, we started talking about politics and the 2016 presidential election. Tom has been involved with the DFL his entire life and described himself as an old-fashioned democratic who was also pro-life and pro-gun. But he said the party had switched and is no longer for “us.” Tom felt like the Democrats had drifted away from working people’s issues and that while the Twin Cities Democrats still liked to claim they were for the working class, they didn’t support job creation like mining development. He then complained about Hilary Clinton, whom he saw as deceitful and a continuation of her husband Bill who’d done lots of bad

things. He smiled and remarked that he was glad the ballot box was private. Tom said that he was not a vocal supporter of Trump but alluded to possibly voting for him. He then looked over at me and said that I might be surprised to hear that he actually caucused for Bernie Sanders, a self-declared socialist, in the Democratic primary.

How did a union member and longtime democratic activist come to support, at least tacitly, Donald Trump, a right-wing politician and wealthy businessman from New York City? How was this switch related to conflicts over Minnesota's proposed copper-nickel mines and a sense of protecting rural working-class livelihoods and heritage? And what does my interaction with Tom show about the broader populist and anti-environmental political climate in Northeastern Minnesota and the U.S.?

Introduction: Right-Wing Populism and Mining

Tom's sense of disconnection from the Democratic party and his support for Trump reflect changes in the political dynamics of the Iron Range. In the 2016 U.S. presidential election, Trump won the Iron Range in precincts that had voted for Barack Obama four years earlier and had not supported a Republican presidential candidate since the 1930s. The rightward swing in Northeastern Minnesota echoed national trends and the upsurge in right-wing populism mobilized by Trump in other traditionally Democratic states like Wisconsin, Ohio, and Pennsylvania. The 2016 election sparked renewed interest in rural and post-industrial places in the Midwest and Northeast, and an outpouring of public commentary, press coverage, and scholarship about the white working class and how and why they support conservative politicians, often focusing on racism and xenophobia and the impacts of economic dislocation (Butler 2017; Hahn 2017; Packer 2016; Vance 2016; Walley 2017).

What accounts for these political changes in Minnesota, and why did rural white working-class people support right-wing populism and anti-environmentalism? In this chapter, I explore how the discursive, cultural, and affective dynamics of resource extraction, and the identities and memories I explored in Chapter 3, are mobilized by conservative politicians in a form of extractive populism that has contributed to rightward swings in rural, industrial, and predominantly white regions. How do place-based and class identities, collective memories, moral economies, and affective meanings shape understandings of resource extraction? How are these discourses, values, and social imaginaries taken up and reconstructed by contemporary populism and anti-environmentalism? I do not attempt to explain the entire 2016 presidential election, but rather, I explore the ideological and cultural connections between mining, populism, and anti-environmentalism, and how these were mobilized in the Iron Range. Rather than simply presenting Iron Rangers who support mining and right-wing populism as having false consciousness, I want to understand how and why people adapt these positions, particularly the affective and ideological processes that produce extractive development as common sense.

In Minnesota, the growing conflict over developing copper-nickel mines was a factor in the rightward shift and splitting the democratic coalition over the tensions between job creation and environmental conservation, and along rural and urban divides. I find that copper-nickel mining is framed through themes of insiders versus outsiders, excessive government regulation, renewing heritage, and resource nationalism which resonated with Trump's populist "make America great again" campaign and claims that he will put coal miners back to work (Oliver and Rahn 2016). Developing copper-nickel

mining is understood by mine supporters as defending a rural moral economy and made meaningful through desires to renew a prosperous mining past based on stable male industrial jobs and vibrant small-town communities. Copper-nickel mining is symbolic of a rural way of life, place-based and class identities, and the right of local communities to decide their future. Broader anti-environmental and right-wing populist discourses shape how opposition to mining is framed as wealthy urban environmentalists and government bureaucrats blocking development and disparaging Rangers' way of life. This narrative blames economic woes and a sense of powerlessness on environmentalism rather than corporations and global capitalism.

I argue that explanations for white working-class conservatism and anti-environmentalism needs to move beyond general national-level accounts and depictions of duped racist and misogynist voters to develop more nuanced and complex analysis of the ways power and ideology operate in particular places and through emotions, identities, and collective memories. Analysis needs to consider the particular socio-spatial contexts, identities, and histories that shape how and why populists gain support (Jenkins 2016; McKinnon and Hiner 2016; McQuarrie 2017; Paasi 2010; Walker 2003). I contend that resource extraction and anti-environmentalism are important mobilizing issues for right-wing populism in the U.S. because of the powerful symbolic, affective, and cultural meanings tied to mining, not simply the political economic power of extractive industries (Emel, Huber, and Makene 2011; Himley 2014; Li 2015; Rolston 2014; Scott 2010). My case shows that in economically struggling industrial and extractive regions, populist messages that appeal to nostalgia and acknowledge feelings of powerlessness and marginality while providing a vision for the future are compelling. Places like Appalachia

or the Rust Belt have turned politically to the right through the micro-politics of how place-based and labor identities and collective memories are mobilized to reproduce the hegemony of extractive capitalism.

To theorize the relationships between mining, populism, and conservatism, I develop the concept of *extractive populism* in which anti-environmentalism and natural resource extraction are promoted as protecting the people, reaffirming the dignity of rural and working-class communities, and defending the nation. I build on Huber's (2013b) concept of energy populism in which expanding cheap fossil fuels is framed as a way to stand up for "the people"—a racialized, gendered, and classed imaginary. I argue that extractive development more broadly is framed as giving power back to local people, providing the jobs and materials necessary for modern society that creates the "good life," implementing common sense environmental regulations, and promoting national security through resource independence. *Extractive populism* draws on discourses of anti-elitism, nationalism, and modernization that resonate with identities, emotions, and collective memories to make extractive development meaningful as a way to restore rural moral economies and protect the American way of life. Within this discourse, a neo-liberal program of opening up lands for extractive capital accumulation is framed as promoting the interests of the people—in this instance white, working class, and rural communities.

In the next section of this chapter, I explain how I conceptualize populism through a review of the scholarship on First World political ecology, and contemporary right-wing populism and resource nationalism. Then, I explore themes that emerged in my research and conclude with broader insights for political ecology and rural politics.

Theoretical Approaches

Political Ecology in the Global North

I advance political ecology by examining how conflicts over natural resources in the global North are cultural and social struggles over livelihoods and meanings of place in ways that are intertwined with populist movements. One track of political ecology research has examined the ways in which rural, poor, indigenous, and peasant communities in the Global South resist environmental degradation and extractive development and find ways to maintain livelihoods connected to land and natural resources (Moore 2005; Peet et al. 2011; Peet and Watts 2002). This research has shown how communities defend their livelihoods through micro-political and everyday forms of resistance (Li 2015; Neumann 2005; Tsing 2005), and how practices deemed anti-environmental or unsustainable by Western NGOs and governments are culturally meaningful and actually connected to local ecologies (Bebbington 1999; Moore 2005; Peluso 1993b). Many political ecologists use the concept of moral economies to examine normative aspects of the economy and how social groups assign values to resource and land use, and the different norms and notions of morality about the maintenance of livelihoods and social reproduction (Boucquey 2017; McCarthy 2002; Neumann 1998; Wolford 2010). These ideas about the fair use of resources and the proper way to organize society are shaped by ideologies and power and are created in particular places and historical contexts.

Starting with McCarthy's (2002) call for a First World political ecology, a large number of scholars have applied approaches and methodologies from political ecology, such as the analysis of micro-politics and use of ethnography and in-depth case studies to

study conflicts over resources, moral economies, and livelihoods in the U.S. (Castree 2007; Robbins 2002; Schroeder 2005; Schroeder et al. 2006). McCarthy (2002) analyzed the wise use movement in the U.S. West arguing that ranchers' opposition to the federal government was more complex than typically presented. Ranchers saw themselves as struggling to maintain a rural moral economy and identity, although this was mobilized for reactionary populism and to legitimize capital. Subsequent research has examined community-based resource management, conflicts over outdoor recreation and wilderness protection, tensions between expert and popular knowledge, and contested property rights (Emery and Pierce 2005; Martin 2005; Robbins 2006; Stoddart and Graham 2018; Walker 2003). Others have taken North America as a site of settler colonialism to explore Indigenous claims to land, resources, and sovereignty that resist colonialism (Braun 2002; Ishiyama 2003). Key themes are the importance of regional histories and identities that drive mobilization and are a site of contestation, and how capitalism produces uneven development but is also resisted through forms of local agency (Schroeder et al. 2006).

I contribute to First World political ecology scholarship by examining how and why rural and working-class communities come to understand *extractive populism* and anti-environmentalism as a form of resistance, a defense of a moral economy, and common sense, despite the seeming contradictions in supporting neoliberal, pro-business, and authoritarian policies. Much of the existing research is on emancipatory grassroots efforts to defend local livelihoods or non-capitalist alternatives to using nature (Emery and Pierce 2005; Martin 2005), but I look at anti-environmental and right-wing populist social formations that emerge from contradictions in environmental imaginaries. I

advance the literature through further engagement with questions of emotion, place-based identities, and collective memory, which I argue are central to how different social actors come to accept or resist extractive development, and how certain ideologies of nature become accepted.

Empirically, I also build on McCarthy's foundational research by examining mining and resource extraction, rather than ranching and land rights, which mobilizes different types of political claims, identities, and social classes. While mining is a central topic in political ecology of the global South, it has not been a core focus for research on the global North which has been on forestry, fishing, ranching, and urban green space (Darling 2005b; Emery and Pierce 2005; Martin 2005; Robbins 2007). I also update past research by assessing the contemporary political conjuncture and the changing cultural, ideological, and political-economic contexts.

Scholars have challenged the binary of First and Third World and theorized the ways in which these places are interconnected through transnational flows and discourses, and how peripheral spaces are produced within the global North through deindustrialization and uneven development, particularly rural extractive regions (Castree 2007; Schroeder 2005; Schroeder et al. 2006). Therefore, I situate the dynamics of Northeastern Minnesota in relation to broader political-economic and ideological processes in order to do analysis across spatial scales (McCarthy 2005; Robbins 2002; Wainwright and Robertson 2003). I also take up Robbins' (2002) call to study "up" (corporations, state agencies, and scientific experts) and "down" (workers, rural communities, and environmental activists) to understand complex dynamics of power and

privilege in environmental politics, and to examine the institutions where power is reproduced.

Populism, Nationalism, and Natural Resources

Populism is a complex, contested, and fraught term (Laclau 1977) and I build on approaches that conceptualize populism as a political style and strategy, rather than a coherent set of ideologies or policies. I focus on the rhetoric, emotional appeals, embodied practices, and narratives used by populist politicians across the political spectrum to spur mobilization (Agnew and Shin 2017; Jansen 2011; Moffitt 2016). Jansen (2011) conceptualizes populism as a mode of political practice that is a project for political mobilization and used as a means to gain support. Populism involves appeals to “the people” and defending the people against a threat – such as foreign countries, racial others, immigrants, or wealthy corporations (Badiou 2016; Laclau 1977). Populist rhetoric is based upon speaking to and for the people and critiquing the elite. Populists often construct a sense of threat or crisis that can be solved by empowering the people or a return to an idealized past (Laclau 2005; Mudde 2007). Initial research on U.S. President Donald Trump argues that his campaign and political style are indicative of populism (Azari and Hetherington 2016; Oliver and Rahn 2016).

Populism can be deployed in conservative and progressive movements. Claims to “the people” can promote inclusive visions that connect people across social locations, or “the people” can be envisioned as an exclusive group based on an often racialized and gendered vision of ideal citizens (Badiou 2016). These frames offer different assessments of who or what is to blame and what policies and actions are needed to empower the people. I focus on what has been called right-wing (Green et al. 2016), nationalist

(Gusterson 2017), nostalgic (Balthazar 2017), or authoritarian populism (Hall 1985; Makovicky 2013). Hall (1980, 1985) builds on Gramsci to assess the political-ideological aspects of populism but argues these can never be separated from economic processes. With that in mind, I interrogate the ideological and discursive dynamics of resource extraction and populism that have been mobilized in contemporary conservative politics in the U.S., while situating these struggles within the economic conditions of the global economy and precarity of extractive regions.

There has been a surge in right-wing populism in the U.S. since the 2010s, exemplified by Trump and the Tea Party, but these movements also reflect longer-term trends since the 1970s of Republicans appealing to working-class whites. Right-wing populist groups and political leaders often blame economic and social woes on government bureaucrats, immigrants, and liberal urban elites while offering a return to the past as a solution. They claim to stand up for working class and rural people – the “silent majority” (Evans 2017; Knight 2017; Koch Insa 2017; Oliver and Rahn 2016; Scoones et al. 2018). Right-wing populists often claim that state institutions, traditional parties and politicians on the left, and urban elites ignore the working class and favor urban communities, people of color, and immigrants (Bobo 2017; Inglehart and Norris 2016; Lamont, Park, and Ayala-Hurtado 2017).

Integrating theories of populism with political ecology’s attention to political-economic, discursive, and cultural dynamics of nature (McKinnon and Hiner 2016; Walker 2001, 2003) is productive for understanding the role of natural resources and the environment in populist movements. Populism is linked to land and resource use in the U.S. because miners and rural mining regions are symbolic of “the people” and idealized

notions of the heartland and fatherland (Smith 1991; Taggart 2000). Mining is often made meaningful through narratives of masculine labor and nostalgia for when white men could depend on the stability of industrial jobs to sustain vibrant communities (Rolston 2014; Scott 2010). Environmental protections on the other hand are presented as hurting working class people and workers in extractive industries, contributing to anti-environmental mobilizations (Foster 1993; Loomis 2015; Rose 2000). Environmental regulations are also framed as efforts of outside elites and bureaucrats to interfere in local communities' right to maintain livelihoods (Harvey 1996; McCarthy 2002). For example, the Wise Use movement in the 1980s and 1990s challenged federal control of land, arguing that local people have a right to jobs in resource extraction and that federal rules are an injustice to local communities' self-determination (Harvey 1996; McCarthy 2002).

I use the term *extractive populism* to examine how resource extraction is mobilized in populist movements through claims about giving power back to local people, providing the jobs and materials necessary for modern society, reducing regulatory barriers, and promoting national security. This concept links theories of political ecology and populism to understand the affective, discursive, and political-economic processes that create popular support for mining and how the necessity of extractive development becomes common sense.

Natural resources are deeply connected with concepts and imaginaries of the nation and express the territoriality, material embodiment, and ideological representation of the nation-state and citizens (Forchtner and Kølvråa 2015; Perreault 2013). Managing natural resources is a major state-making project (Whitehead, Jones, and Jones 2007) and citizenship, belonging, and identity are navigated through nature (Coronil 1997; Perreault

and Valdivia 2010; Valdivia 2008). The discourse of resource nationalism claims to protect the nation by developing and controlling domestic supplies of natural resources, creating value for the nation, and ensuring national security (Forchtner and Kølvråa 2015). Mining development is often justified and rationalized as an imperative to empower the nation to compete with foreign countries and to develop national supplies independent of foreign enemies, which will make the nation safe and secure and provide for the people's wellbeing (Arbatli 2018; Arsel, Hogenboom, and Pellegrini 2016; Bridge 2014; Kohl and Farthing 2012; Rosales 2017). Concerns about self-sufficiency are a classic feature of nationalism and are connected to maintaining the material needs and symbolic existence of the nation (Forchtner and Kølvråa 2015). Perreault (2013) argues that resource nationalism is about connections between nature and nation which must be understood within place-based histories, historical memories, and social imaginaries of the people and the nation. Sub-national identities tied to place (regions, cities and towns) are also powerful symbols and meanings that motivate mobilization in favor of giving local communities authority, control, and the right to benefit from their land and resources (Perreault 2013; Tidwell and Tidwell 2018). Nationalism and populism are intertwined in struggles over natural resource governance. Yet, resource nationalism is focused on national control over land and resources and protecting state security, while extractive populism emphasizes an appeal to the people and idealized lifestyles of the good life and is often, in the U.S., based on a critique of the federal government.

Much like populism, resource nationalist discourse and policies can be taken up by left- and right-wing political projects. It can be a reaction against the expansion of global capitalism and colonialism—such as efforts by Evo Morales in Bolivia to

nationalize the mining industry—or it can be a justification for privatization and authoritarianism—like Russian development of oil and gas extraction through companies run by oligarchs (Andreucci 2017; Domjan and Stone 2010; Kohl and Farthing 2012). Resource nationalism can be used as a critique of countries, mostly of the Global South, when they create economic protectionist policies that limit foreign investment and control over natural resource (Perreault 2013). Yet, resource nationalist rhetoric is also taken up by politicians in the Global North and used to justify extractive development in order to provide for the nation, particularly for the military, and to decrease dependence on foreign countries. Providing resource security – a stable and steady supply of energy and metals – legitimizes new domestic development and imperial projects and war (Klare 2002).

Scholarship on resource nationalism has largely focused on the Global South and how authoritarian and leftist governments have nationalized natural resource industries and used control over domestic resources as a mobilizing rhetoric (Kohl and Farthing 2012; Perreault and Valdivia 2010). I draw on these insights to interrogate the U.S. context and how populist discourses about natural resources and nationalism are mobilized in right-wing populism and why they have been taken up by the right. In the U.S., claims of protecting national security and economic competitiveness are used to justify extractivism (Schaffartzik et al. 2016), often through neo-liberal policies that open public lands for private development and exploration (Bridge 2010; Lee 2009). Rhetoric about energy security and resource independence is used to generate political legitimacy and justify expansion of resource extraction, like fracking, as well as forms of renewable energy, in order to protect the people and the nation in the face of resource scarcity and

uncertain geopolitical conflicts (Hess and Brown 2016; McCarthy 2002; Phadke 2011; Scott 2010).

Political Shifts and Mining Conflicts in Minnesota

While other extractive, industrial, and rural regions like Appalachia began shifting to the right in the 1970s and 1980s (Davis 2017; Edsall and Edsall 1992; Teixeira and Rogers 2000), the postwar liberal alliance between labor, working class voters, and the Democratic Party has been maintained, although tenuously, for longer in the Iron Range. Manuel (2015) argues that the region has not taken the same rightward path partially due to the relative success of efforts to address deindustrialization and maintain the mining industry, and instead has followed a more complicated path with continued but strained alliances. Unions like the United Steelworkers continue to have some strength, and the region has had adept and pragmatic political leaders, like the former U.S. Senator Paul Wellstone who tragically died 2002, who have mobilized labor and progressive voters. However, industrial decline and institutional and cultural shifts are challenging and weakening the liberal coalition.

The 2016 U.S. Presidential Election

The 2016 U.S. presidential election marked a major political shift in Northeastern Minnesota and a fracture in the liberal democratic alliance as Trump won across the Iron Range—where a Republican presidential candidate had not won the popular vote since Herbert Hoover in 1928 (Kraker 2016a). Statewide, Hilary Clinton barely beat Trump (46.4% to 44.9%), but Trump carried much of Northeastern Minnesota including

sweeping some precincts in the Iron Range by a 15% margin.¹⁸ The 2016 election was a reversal as Trump won precincts in Northeastern Minnesota that Barack Obama won in 2012. For example, in several precincts that include the largest Iron Range cities of Hibbing and Virginia, MN, Obama won over 60% of the vote in 2012, but in 2016 Trump won about 47% compared to Clinton's 44%.¹⁹ The U.S. Congressional race in the Eighth District, which includes the Iron Range, was also highly contested and was the most expensive congressional race in the country. DFL incumbent Rick Nolan barely held on to win by around 2,000 votes (Sherry 2016a) and took an adamantly pro-mining position arguing that he would do more for mining development than his Republican opponent.

However, support for Trump was also part of a broader populist and anti-establishment reaction in the 2016 election. Bernie Sanders won the state-wide primary against Hilary Clinton by 23 percentage points with 62% of Democratic voters. Sanders also did well in Northeastern Minnesota where he won 65% of the primary vote in the 8th Congressional District that includes the Iron Range (Anon 2016b). Trump captured some of the populist sentiment, but he was not initially a clear favorite in the state. In the Republican primary, Marco Rubio came in first followed by Ted Cruz and then Donald Trump in third place. Later in Trump's campaign, he emphasized issues that resonated in Northeastern Minnesota, like opposition to free trade and putting tariffs on Chinese steel, and he even made a last-minute campaign stop in Minnesota (Sherry 2016b). In the

¹⁸ Data from: Office of Minnesota Secretary of State. 2016 General Election Results. Accessed at: <http://www.sos.state.mn.us/elections-voting/2016-general-election-results/>

¹⁹ Data from: Office of Minnesota Secretary of State. 2016 General Election Results By Precinct. For precincts 6A and 6B that include Hibbing and Virginia, MN. Accessed at: <http://electionresults.sos.state.mn.us/Results/FedStatebyLEGDistrict/100?districtid=366>

general election, Green Party candidate Jill Stein and Libertarian candidate Gary Johnson also got a higher percentage of votes in 2016 than 2012 (*see Table 3*). These patterns reflect a broader populist reaction against the mainstream parties and a sense among some voters that neither of the top candidates reflected their interests. In other Midwestern and Northeast swing states, third-party candidates also did well such as Wisconsin and Michigan where Johnson received about 3.5% of the vote and Stein got around 1%, along with similar figures in Ohio and Pennsylvania (Leip 2017). Nationally, a relatively large number of votes, 4.9% of the popular vote, went for third-party candidates, compared to around 1.5% in the 2012 and 2008 (Chalabi 2016).

Political Splits Over Copper-Nickel Mining

Conflicts over the copper-nickel mining projects have challenged the long-standing democratic coalition between Iron Range labor and Twin Cities progressives. The issue is driving a wedge in the DFL by exacerbating divisions between the rural and urban, and labor and environmental wings of the party. Tony, a union organizer and political activist in Northeastern Minnesota, described how state DFL politics were becoming messy and convoluted, and how the mining issue was dividing the labor movement,

We don't have a DFL up on the Range. We practice our own ... We call ourselves DFL, but it's our own version of it. They're [the Iron Range] separating themselves completely from that Duluth bunch that's trying to take over, and that Twin Cities bunch, but at the same time, there's part of the Duluth bunch that is still pro labor, and still pro mining, so there's all kinds of little factions and camps going on.

Nearly all DFL politicians from Northeastern Minnesota strongly support the copper-nickel mining projects, while many DFL politicians from the Twin Cities either

oppose the projects or want further review and scrutiny. State-wide politicians, like the Governor and U.S. Senators, have tried to navigate a balanced position by supporting some projects and not others, and supporting more scientific review rather than opposing the approval of permits. For example, Minnesota Governor Mark Dayton has publicly supported the PolyMet project once it meets all permit requirements but has expressed doubt about Twin Metals and other mining within the watershed of the BWCA. Dayton told the MN-DNR not to issue any new access or lease agreements for mining on state lands within the BWCA watershed and denied Twin Metals access to state land because of his “grave concerns” about pollution to the BWCA (Marcotty 2016b). This action created anger among pro-mining groups, including some Democrats, even leading to a lawsuit from the Ely-based group Up North Jobs. Yet, Dayton has also been criticized by environmentalists for his support of PolyMet.

The tension within the party came to a head when the environmental caucus introduced Resolution 54 opposing copper-nickel mining—which they call sulfide ore mining—as a proposal for the party platform at the DFL’s 2016 annual convention. This created a vocal struggle, which ultimately led to the resolution’s defeat but left distrust and animosity in the party. The *Mesabi Daily News*, one of the largest newspapers in the Iron Range, described the Resolution 54 vote as having broad political implications for the DFL that, “could create a deep rift between Range DFLers and the party as a whole, jeopardizing a historically close-knit allegiance with the region (Burnes 2016).”

The pro-copper-nickel mining position of Iron Range DFL politicians has generated political realignments as Iron Range DFLers have worked with Republicans within and outside of Minnesota to promote mining—efforts that other Democrats have

opposed. Congressman Rick Nolan (DFL) from the 8th District has been at the center of these tensions. He supports all the copper-nickel mining projects and has opposed state and federal actions that would deny mineral leases or add additional environmental reviews. In response, he has introduced and sponsored federal legislation to advance several of the projects. Nolan worked with Republican U.S. Congressman Tom Emmer from Minnesota's 6th District to add an amendment to a House appropriations bill that would defund a Forest Service study on the environmental impacts of copper-nickel mining in the BWCA watershed (Myers 2017c). In addition, Nolan voted for a bill Emmer (R) authored, called Minnesota's Economic Rights (MINER) Act, that would not only renew the federal mineral leases that were denied to Twin Metals under the Obama administration but would also end the environmental review of mining impacts in the BWCA watershed and eliminate the ability of federal agencies to withdraw mineral leases in the area in the future (Coombe 2017). The bill would have ramifications beyond Minnesota by shaping federal land and mineral policies. Thus, it has attracted national attention with support from Republicans in Western states who want to promote state's rights and eliminate protection of federal lands, and opposition from environmental groups who fear the bill could change legal precedent and weaken protections for public lands. Other Democrats in Minnesota vocally opposed the bill, particularly representatives covering the Twin Cities, and one Republican Congressmen, Erik Paulsen of the 3rd District near Minneapolis, voted against the bill. Thus, Republicans and Democrats have aligned on both sides—something particularly rare in a period of extreme partisan divides.

Analysis of the Cultural Politics of Mining on the Iron Range

In this section I examine the cultural meanings, discourses, and ideologies that animate contention over copper-nickel mining and support for right-wing populism in the Iron Range through ethnographic observations of daily life and public events, and interviews with residents, community leaders, elected officials, union representatives, industry representatives and retired miners. In-depth interviews help me understand the logics and frameworks of Iron Rangers and organizational and institutional positions. My interviewees are important figures in the community with formal and informal positions and therefore, they influence how mining and political issues are discussed and understood by the public. Analysis of mining advocacy groups' newsletters, websites, and social media, as well as newspaper coverage, also provides insights into public debates and rhetorical strategies, and how populist discourses circulated among rural residents.

I find that mining is made socially and politically meaningful through social imaginaries of building a prosperous future, renewing heritage, and strengthening the nation—processes shaped by class, gender, and racial ideologies (Agnew 2005; Kohl and Farthing 2012; Rosales 2017). Four major themes emerge in my research that align with populist discourses: defending a mining way of life, outsiders versus insiders and anti-elitism, excessive government regulation, and resource nationalism. I also find that these discourses have contributed to anger at the mainstream Democratic party and are traveling through networks of grassroots activists on social media who are also using online mobilization strategies to promote mining and broader right-wing political projects.

Defending a Mining Way of Life

Support for right-wing populism and expansion of resource extraction is not simply about the material benefits of jobs but is animated by emotional appeals to nostalgia and place-based cultural identities. Populist rhetoric often emphasizes a sense of economic crisis and loss, and then suggests a return to an idealized past as a solution (Agnew and Shin 2017; Kenny 2017). I find that this nostalgic narrative about defending a way of life is dominant in Northeastern Minnesota. Towns on the Iron Range are often described as struggling and “dying” as they deal with an aging population and a lack of good jobs, but copper-nickel mining could provide a solution by renewing the prosperous mining past and a rural moral economy. One white male pro-mining activist told me his vision for the region was to, “go back to what we used to be.” This is indicative of how resource extraction is imbued with social meaning through romantic nostalgia and imaginaries of the good life (Bouzarovski and Bassin 2011; Smith and Tidwell 2016).

Chris is in his mid-50s and lives in Ely where he works for a small retail company and remembers the past as a more prosperous time,

When I was growing up everybody’s parents, or dad at least, worked there [the iron mine]. Women didn’t work really. Everybody had a stay-at-home mom. But at that point in time, those were good union jobs. So, everybody was making good money. It was a middle-class town. We didn’t have any extreme poverty, and we didn’t have any extreme wealth... Growing up like that, you never wanted for anything.

For Chris, life used to be good with men working in the mines supporting their families creating equitable and stable middle-class communities, but this relied on a gendered form of social reproduction that is now falling apart as fewer men earn family-supporting wages.

Other Iron Range residents express a longing for the past when their communities were vibrant and remember a time when their schools were full and the storefronts on main street were full. Randy, a retired white male miner and community leader, told me,

The youth are not here like there was when I was in school. And so back when I was growing up, we had like nine grocery stores in Ely. We had six women's clothing stores, five men's clothing stores. We had five car dealerships, and we had probably a half dozen, eight gas stations... I mean, Ely had 6,400 people about, versus 3,400 and something now.

Randy has experienced living through a decline in which downtowns and schools that were once a source of pride have become daily symbols of how the region is struggling. This vision of a moral economy based around stable union jobs and family-supporting wages has now been disrupted.

This collective memory constructs an idealized image of the past as the good life, which as Huber (2013b) argues, is an exclusionary vision. In Northeastern Minnesota this imaginary presumes white and masculine labor and traditional patriarchal forms of social reproduction as mining is a predominantly male and white occupation (Landis 1997; Manuel 2015). The notion of an Iron Range way of life is intertwined with a particular type of white, working class, and rural culture connected to masculine industrial labor that provides for the family and extracting value from nature through mining as well as hunting and fishing. Dominant notions of rurality in the U.S. are often premised on whiteness (Holloway 2007). This imaginary renders invisible Indigenous communities and the ways in which industrial mining development has disrupted their livelihoods and challenged their sovereignty.

Women did work in the mines but not until the 1970s after lawsuits and courts requiring companies end gender discrimination in hiring. However, the few women who

took jobs at the mines faced rampant sexual harassment. This led to a landmark class action lawsuit, *Jenson vs. Eveleth Taconite*, that was chronicled in the book *Class Action: The Landmark Case that Changed Sexual Harassment Law* by journalist Clara Bingham and lawyer Laura Leedy Gansler and later turned into the Hollywood movie *North Country*. Romantic memories of the good life silence these histories and ongoing forms of gender oppression. I interviewed Elizabeth who is in her 60s and was among the first women to work in the mines. She took the job to support her family and spent eight years at Reserve Mining but did not enjoy the experience,

I didn't like any part of it. I really didn't. It just was not something I ever wanted to do, and I thought, 'Okay, it might have been the best paying job I'd ever had, might have had very good benefits, but I would never put myself through this experience again.' ... In fact, of all the women that worked in the mines when I did, only one of them stayed with it afterwards. None of the rest of us would ever put ourselves through that again.

However, in the dominant pro-mining narrative, copper-nickel mines are presented as a way to renew an idealized past and defend a place-based collective identity and lifestyle. In the summer of 2017, pro-mining groups organized a rally “for our way of life” before a public hearing on one of the copper-nickel mining projects. On social media, groups framed the event as a fight for their future and a chance to give voice to the region. Union leaders and politicians who spoke at the rally described their way of life as under attack and depicted mining as essential to who they were and why they existed. St. Louis County Commissioner Tom Rukavina (DFL), an iconic political figure in the region, said, “They always want to save the lynx and save the wolves. The only thing they don't want to save is our way of life. We're proud of what we do!”

For many Rangers, mining appears as inevitable and the only solution for the region. Chris was born in Babbitt, MN, which is a town literally built by a mining company, and after living in Minneapolis he moved back to the region around 15 years ago. He recounted how people think that copper-nickel mining would be a savior, especially for the towns that aren't near the tourism of the BWCA. Chris is personally skeptical of copper-nickel mining and the potential environmental impacts, but he thinks smaller mining towns on the Iron Range, like Babbitt, will continue to struggle without copper-nickel mining,

If copper-nickel doesn't come in, that town [Babbitt] might die. There used to be a taconite mine there, but they closed that down... So, that's the whole thing about the copper-nickel mining. Everybody's looking for that as the new - the next thing to come along to build up the towns.

Mining is seen as the only viable economy for isolated mining towns, which Marty, a retiree and active community member in Ely, emphasized, "I really think the only future that the Iron Range has is going to be in mining without a doubt. That has been our lives, been our life throughout. I think it's going to be in the future." The hegemony of extractive capitalism on the Iron Range leads to the perceived inevitability of extraction that is the lifeblood of the community which means copper-nickel mining is seen as the only sense of hope. What is often left out is that much of the job loss in mining is due to automation and mechanization, and corporate strategies to cut labor costs. New mining projects will be capital intensive and employ relatively few workers to keep labor costs low, especially as companies strive to make the low-grade reserves profitable.

There are alternative popular memories that recount the dirty and dangerous work of mining which present a less romantic vision. Although the physical demands and risks still valorize the masculinity and hard work of mining labor. Randy, a retired miner, described the experience of mining jobs,

But it's [mining] not always an easy job. It's a tough job, it's a dirty job sometimes. It's cold, hot. I mean you go from one extreme to the other through the seasons. Even when you work inside like some of the plants in the basement, they're wet, water all over. Muddy sometimes. You're crushing rock and everything to make powder, concentrates. Then you're baking that in a kiln at 2,450 degrees, and if we gotta go work on a crane and well the kiln, because it's stalled or something, it's damn hot up there...Main thing is be safe when you're working, watch what you're doing, watch out for your partner. It's like any job. If you want to come home the way you went to work and with all of your fingers and all of your toes.

Even though Chris thinks the Iron Range needs mining, he explained that he and his siblings did not follow his parents' generations into the mines because they wanted a different life and less demanding jobs. "Not wanting to do shift work. Watching your dad go to work at eleven 'o' clock at night and get home at seven 'o' clock in the morning."

The promise of a new mining future also has historical precedent in Northeastern Minnesota. A new method for processing low grade iron ore (taconite) deposits provided a technological fix in the 1950s that extended the life of the region's iron mining industry and brought jobs and revenue (Manuel 2015). The higher-grade natural iron ore mines that began operation in the late 1800s were slowing down by the 1940s and 1950s as the natural ore reserves were being depleted. The global steel market also changed leading to new technical demands and more competition to provide low-cost iron. Thus, Minnesota's mines began to slow production and lay off workers leading to fear about the long-term viability of the industry and the region. But a researcher at the University of

Minnesota, Edward W. Davis, developed a new processing technique that used lower-grade taconite to create iron pellets that worked in new steel foundries. The process enabled a resurgence in the struggling iron mining industry (Manuel 2013).²⁰ The first taconite plant was opened by the Reserve Mining Company in 1956 and its success led to construction of several others including the Erie Mining Company plant in 1957. The companies built new towns to attract employees and house workers and their families, including Babbitt, MN and Hoyt Lakes, MN. Taconite ushered in a boom on the Iron Range in the 1960s through early 1970s as the region produced large quantities of taconite pellets and thousands of workers were employed building and operating the mines and related infrastructure (Manuel 2015).

The collective memory of a boom brought by a technological fix provides a cultural narrative for copper-nickel mining as the region's savior that will usher in a new era of mining on the Range, just like taconite did in the 1960s. Many of the older mine workers and recent retirees began their careers in the taconite mines, contributing to their sense that new technologies associated with copper-nickel mining will revive the economy. The history of taconite has particular symbolic resonance because PolyMet plans to construct a new mine site near Babbitt, MN, and repurpose the old Erie Mining taconite processing facility in Hoyt Lakes, MN – transforming the birthplace of taconite into the birthplace of copper-nickel mining.

²⁰ The University of Minnesota has a long history of conducting research on mining technology and engineering that has been used by and for industry. Engineering and geology faculty and researchers in particular have been involved with exploration and identifying mineral reserves, and developing new technologies to extract and process ore as well as mitigate and reduce pollution.

New mining is also appealing because few other viable alternatives are being offered to revive the Iron Range's economy. Alternative forms of economic development are a challenge in isolated and rural extractive regions that developed because of the location of natural resources and based on the imperatives of capital, not broader social policies (Billings and Billings 2000; Freudenburg 1992; Lichter and Brown 2011; Marley and Fox 2014). Environmentalists have not put forward plans to create good paying jobs for rural communities or created an alternative social and environmental imaginary that resonates with Rangers culturally. Environmental groups often advocate for promoting the outdoor tourism and recreation industry, but jobs in tourism tend to be low-wage, seasonal, and lacking in benefits, which environmentalists do not adequately recognize. Working as a retail clerk, a waiter, or a guide at an outfitting company does not provide culturally and socially meaningful forms of labor for local male residents who desire industrial, physical work.

On the other hand, right-wing populist appeals to nostalgia provide a sense of security in the face of economic dislocation and demographic changes. Trump used this rhetoric in his "Make America Great Again" campaign that recognized the concerns of workers in rural communities while claiming to give them a voice and a sense of hope.

Rob, a pro-mining activist, told me that he thought Trump would help the working class,

He [Trump] was for the American people. He was for the American workers...He wanted to bring business back to this country. Those are the things that your normal everyday working guy wanted to hear instead of watching their jobs go overseas because of excessive taxes and restrictions.

Trump's policies to cut regulations and taxes and expanded resource extraction will supposedly put men back to work and help the "American people" – linking

nationalist, masculine, and populist rhetoric. Yet, even many Trump supporters did not think he could necessarily open the copper-nickel mines, which suggests that the power of Trump's appeal was connected to emotions and ideologies beyond the potential material benefits of jobs. Standing up for mining was part of a broader push to renew rural moral economies and place and class identities. Some people realized that Trump would not simply start up the mines and bring jobs, but nonetheless they supported him. This demonstrates the ways in which Trump, and other right-wing politicians, have used emotions and promises of jobs to mobilize people to support policies that benefit capital and advance racist and militaristic projects while hurting working class people.

Outsiders versus Insiders

Pro-mining activists and leaders use “us versus them” rhetoric to create a sense of solidarity and frame mining opponents as outsiders – wealthy urban liberals – who want to dictate how rural mining communities – insiders – use the land and disparage their way of life. Appealing to a collective identity of a cohesive rural mining town provides a sense of stability and support in the face of economic struggles. The culture of being a Ranger and surviving in a rural and isolated place with a harsh climate is a source of pride. During a conversation at the Dairy Queen in Ely – one of the restaurants where local retirees and high school students hang out – Randy, a retired miner that I introduced earlier, told me, “We built this town. Mining built this town.” The language of “we” and “us” creates the sense of a unified community and collective identity of people who created the town. This collective identity is tied to people's sense of history and family. My conversation with Randy began by talking about his family history and how his grandparents immigrated from Slovenia to work in the mines. He then went on to discuss

how the copper-nickel mines would revive this tradition and provide a new generation with a path to a good career like he and his father had in the iron mines.

At the same time, environmentalists are framed as outsiders who are wealthy retirees and newcomers, “new Ely,” who want to preserve their wilderness playground in contrast to the working-class locals, “old Ely,” who are struggling to get by and simply want to maintain their community. The wave of newcomers is a threat that could replace locals’ collective identity and culture. This tension is indicative of conflicts in rural regions undergoing population shifts as people relocate and retire to areas with outdoor amenities that also have legacy resource extraction economies (Malin 2015; Shumway and Jackson 2008; Ulrich-Schad and Duncan 2018). Randy explained his concern about wealthy people relocating to the area and opposing development,

They're [people moving to Northeastern Minnesota] a little two faced when it comes to some of this stuff, and they're fine as long as they got theirs and nobody else can. But that's part of the people that are moving here, they are like my age, retired people, that have had good jobs, so they don't need a job. So they're fine and dandy with nothing happening here. They don't see any need for the industry or anything like that.

Framing mining opponents as upper-class people who do not need jobs and do not care about local working-class communities diverts blame for economic woes away from corporate strategies to reduce labor costs and inadequate government development policies. The mining industry, both intentionally and unintentionally, connects with people’s emotions and identities to obfuscate the ways in which corporations are cutting jobs, exploiting workers, and damaging the environment. Blaming environmentalists provides a simple explanation, rather than complex global political-economic processes, and a concrete target for anger while also drawing on feelings of being judged by elites.

However, environmentalists are also culpable in this process when they reproduce classist rhetoric about saving wilderness and do not connect with rural and working-class people's experiences.

There are class, social, and political differences between people who have lived in the area for several generations and people who have moved to the area. Many of the local environmentalists near Ely (rather than volunteers and activists based in the Twin Cities) moved there to be near the outdoors and have a small-town lifestyle. The town of Ely remains predominantly long-time residents but the areas outside of town have a growing population of summer vacationers, retirees, and teleworkers who buy houses and cabins on or near lakes. As of 2015, the townships surrounding Ely had a larger percentage of adults out of the workforce, around 60%, compared to Ely where 41.5% of adults were not in the workforce, which suggests that there are more retirees.²¹ Housing costs are also higher outside of Ely. In 2015 the median family income in Ely was \$36,059 compared to \$54,022 in nearby Morse Township or \$62,500 in Fall Lake Township where many of the new residents and retirees live. The demographic differences also coincided with political differences in the 2016 election. In the town of Ely, Trump won 48.4% of the vote compared to Clinton's 41.8%. On the other hand, Clinton won 49% of the vote to Trump's 43.9% in Fall Lake Township, and Trump only won by 0.8% in Morse Township.²²

²¹ Data from 2011-2015 American Community Survey 5-Year Estimates. U.S. Census Bureau. Accessed at: <https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk>

²² Data from the Office of Minnesota Secretary of State. 2016 General Election Results. Accessed at:

However, categories of insiders and outsiders, and old-timers and newcomers are also reified and draw on stereotypes that obscure complexities. I met lots of people who have relocated to the area and they are not a monolithic group. Many are not wealthy, but instead are retired middle-class professionals and public-sector workers such as school-teachers, pastors, and nurses. There are some wealthy people who have built large new lake houses, but I visited other people who had modest homes that they paid for by selling their house after retirement. Therefore, the perception of elite and wealthy retirees is partially constructed and operates through an ideological discourse about class and environmentalism, and cultural tropes about wealthy environmentalists. This provides industry and politicians with a scapegoat for economic woes, and constrains coalition building and the ability to create a sense of shared interests.

I found that the class differences are not about income or wealth per se as some of the local retired miners might have larger pensions and savings than retired teachers relocating to the area. Instead, they are about the cultural and social dynamics of class, what Bourdieu would call habitus (1990), and the different visions for the place. The people moving to the Ely area tend to have higher levels of formal education and have different cultural tastes than long-time residents. They are often involved in new activities and groups like the Ely Folk School, which holds workshops on traditional crafts and folk music. They go to different businesses and social spaces, such as a new restaurant in town serving locally sourced food, micro-brews, and Americanized versions of banh mi sandwiches. People who identify as “old Ely” largely don’t participate in these

<http://electionresults.sos.state.mn.us/Results/PrecinctListResults/100?countyid=38&precincts=884597>

new groups and businesses. They tend to go to bars that have been in town for 50 years like the Ely Steakhouse and are involved in groups like the VFW or antique car clubs. Some long-time residents are skeptical of the new restaurants and businesses that are opening up, like a new-age wellness center, that reflect a cultural change and an emerging community identity that they think doesn't recognize the contributions of working class miners. However, even these cultural and social divisions are not always distinct. For example, every summer an opera production is put on in towns across the Iron Range. I attended the 2017 performance in Ely, which attracted a large, diverse crowd of newcomer environmentalists and old Elyite mine supporters.

Still, conflicts over copper-nickel mining are creating social rifts in Ely that shape the climate of the town and day to day life. The everyday form of these tensions was exemplified during the 2017 Fourth of July parade in Ely. The parade is one of the biggest local events of the year and there was a festive atmosphere in town as several thousand people came to watch the parade down the main street. Community groups like the Rotary Club, high school sports teams, and veterans' groups made floats and threw candy to kids in the crowd. The local grocery store Zup's, named after the Slovenian immigrant Zupancich family, is famous for handing out entire packages of food and this year the owners dressed as clowns and gave away boxes of Stovetop stuffing. However, the celebratory and jovial mood was disrupted when the Campaign to Save the BWCA marched in the parade. I was standing near one of the bars in town, Zaveryl's— the bar has a pro-mining sign on the front window – where local residents gather to watch the parade while they drink. When the environmental group walked by, many at Zaveryl's who were wearing pro-mining hats, t-shirts, and stickers, booed and shouted, including “go back to

the city” and “you don’t live here.” The confrontation did not escalate, but nonetheless, it was a rupture to the mood of the event and social norms of civility. In sharp contrast, later in the parade, the Conservationists with Common Sense – a local group that opposes wilderness protections and motor restrictions in the BWCA – went by in a pick-up truck with pro-mining signs and American flags pulling a motorized fishing boat offered for raffle. The driver and passenger in the truck waved at the crowd who shouted encouragement and cheered. A young dad ran up to the truck with his baby to get a kiss from one of the group’s leaders.

The pro-mining groups are embedded within the dominant local community while environmentalists are treated as outsiders. In this context, promoting mining and anti-environmentalism at public events was seen as acceptable and apolitical, while environmentalists were perceived as a threat and confrontational. Yet, these social divisions are also complicated and contested. During the 4th of July Parade when the Campaign to Save the BWCA was being yelled at, a white woman in her 40s sitting in front of me with her two children quietly remarked that she bet some of the grey-haired people marching were probably from here. I recognized many people marching with the group who live in or near Ely, and a few were even born in the area.

Animosity towards outsiders emerges from a legacy of politicians and labor leaders on the Iron Range fostering a sense of insider identity to mobilize opposition against outsiders in order to overcome internal divisions and protect regional interests (Manuel 2015). In the early to mid-20th century this strategy was largely put to use to overcome ethnic divisions to unite against the East Coast mine bosses. But now the outside threat is often constructed as environmentalism, regulations, and newcomers.

People who move to the area are called “packsackers” which began as pejorative for outside strikebreakers in the early 1900s but is now used for people relocating to the area for outdoor recreation. Packsackers are different than Rangers who are born in the region, come from families of European immigrants who have lived in the region for multiple generations, and have ties to the mining and logging industries.

In Ely there is also a long history of cultural class differences over outdoor recreation leading to conflicts. These controversies have centered around the BWCA and tensions between different ways of experiencing nature symbolized by motorboats and canoes. The 1978 Boundary Waters Canoe Area Wilderness Act banned motor vehicles in much of the area and reserved much of the land for canoeing, hiking, and cross-country skiing. This was seen as protecting a middle-class and urbanite way of experiencing nature. Many long-time residents have lingering anger over the limits placed on their ability to recreate using motorized vehicles which they see as being put in place by outside environmentalists and the federal government. There is a sense that the locals’ way of experiencing nature is disparaged and judged as being backwards.

Currently, development of new mines is presented by supporters as a way to maintain the working-class character and identity of Ely that is under threat. Many “old Elyites” and local political leaders do not want to depend on the business of outsiders and jobs serving tourists and retirees. John, a white man in his early 50s and a community leader who works in small business and education, described how developing copper-nickel mines would help maintain Ely’s working-class identity and “hardscrabble” character,

Ely, I think has to be vigilant to keep its identity. But again, I don't want that identity to change to just be somewhere where a bunch of liberals move to, basically retired liberals move to make this a liberal, eco-paradise... So many of the local people who have places at Burnside Lake can't afford it. We don't want to move to two classes where you have those folks that move up here and have multi-million-dollar homes and whatever, and then you have a class of former miners. Now we need some quality jobs for the working people, what America used to have. What Donald Trump ran on.

Copper-nickel mining is interpreted through a broader discourse of cultural class conflicts. This discourse operates through a treadmill logic in which more extraction will supposedly bring prosperity. Capitalist ideology frames class conflict as a struggle between retired professionals and industrial workers rather than between capital and labor. Rural gentrification from retirees of a different cultural milieu resonates as a threat to rural livelihoods and identities because they are a tangible representation of change that long-time residents experience through daily interactions and feelings of inferiority unlike the abstract forces of the global market and multi-national companies. Trump's campaign message connected with this hope of returning to an industrial past while also framing liberal elites and environmentalists as ignorant of white and working class people unlike, ironically, Trump, the millionaire business man.

Out of Touch Democrats

Anger at outsiders also informs a sense that the government and Democrats are focused on the needs of urban communities, which are framed as either educated and elite, or poor minorities and immigrants. Mining supporters often expressed anger at the Democratic Party for drifting from its working-class base and becoming a party of the educated elite. Defending a rural "us" motivated voting Republican, and turning against Democrats, particularly Hilary Clinton, who were understood as the party of elite

environmentalists. In an op-ed for a regional newspaper, a man who identified as a Ranger, third generation union member, and lifelong Democrat, wrote,

Not only do the Twin Cities Democrats not care about the Iron Range economy, they actually despise and look down upon us. The time for talking with these people is over. It's time to flip the Range to red and let them know we won't tolerate their anti-mining nonsense. The Iron Range is not going to be their playground. (Chezick 2017)

This writer frames the debate over mining as a rural versus urban issue in which mining opponents are judgmental of rural livelihoods. In addition, he asserts that locals should be the ones who make decisions and that Republicans will give control back to the locals. This fits within a broader conservative culture wars message that Republicans have advanced since the 1980s to split working class whites from the liberal democratic alliance.

Trump's appeals to stand up for rural America and everyday working people by creating common sense environmental policies resonated with Rangers who felt ignored by outside elites and the Democratic party. A city council member of a small Iron Range town told me that he was a lifelong union guy and Democrat, but voted for Trump, whom he saw as standing up for the "working man." Democrats and environmentalists had gone too far in opposing "everything" while Trump was addressing the important "meat and potatoes" issues.

However, support for Republicans and Trump is also contested, even by some who support the copper-nickel mines and think the Democrats favor urban and environmental interests. A male union member from the Range responded to the op-ed quoted above calling on people to vote Republican and argued that people should not vote solely on the copper-nickel mining issue and should be wary of Republicans who

support policies that weaken unions and workplace protections and give tax cuts to the wealthy (Pliml 2017).

I met other union activists who were highly critical of Trump and wanted to maintain the region's progressive politics, but supported copper-nickel mining. For example, I talked with Tony, the union organizer introduced earlier, and his retired parents in the living room of their 1950s rambler house in Babbitt – a mining company town – about contemporary politics. They were supportive of the copper-nickel mines but had concerns about the environmental impacts and were adamantly opposed to Trump. Tony's mother is involved in the local Resist group which is a national grassroots movement to oppose Trump's agenda. But they thought the mining issue was creating tensions within the DFL, which Tony described,

Our cause is to have jobs that can pay people to have a living. Your cause [environmentalists] is, okay, we all get to drink water, but what else? And that's a real struggle in Minnesota. Minnesota could flip real easy, big time, and they're not gonna flip to the correct side. It's gonna flip to the dark side. It almost did up here.

Tony saw the problem as a rural and urban division, and between people who did and did not need jobs. Environmental issues are understood as a concern for the wealthy who can afford to be worried about clean water. This reproduces a binary between material and non-material concerns and overlooks the long history of poor communities fighting for a clean environment. Tony placed blame on the environmentalists in the DFL for going too far and pushing people to Trump, “I have some of them as friends, and I said, ‘All you're gonna do is succeed in getting Trump people elected, and you won't have anything going for you, period.’”

People committed to progressive politics and the DFL were worried about what the copper-nickel mining issue would mean for politics in the region, and the specter of becoming like West Virginia. Yet, they also saw environmentalists as at fault and out of touch with working class people. Environmentalists in the DFL were cognizant of class and economic justice issues, they often express support for livable wages and union rights but struggle to articulate a convincing narrative or policy proposals to address rural and working class communities.

DFL politicians and unions in Northeastern Minnesota are in a bind. They face challenges from Republicans who claim the DFL no longer represents the “common man,” which contributes to many Iron Range DFL politicians adopting strong pro-mining stances and competing with Republicans to be the most pro-mining. However, using combative rhetoric plays into anger and nostalgia that is then mobilized by right-wing populists like Trump. DFL politicians also promote policies to benefit extractive industries and limit environmental regulations that are closely aligned with the Republican party. This becomes problematic for DFL politicians who are struggling to negotiate their pro-mining rhetoric with a rationale for voting DFL and not Republican and losing support from progressives and environmentalists. Unions are also trying to walk a narrow line of critiquing the Obama administration for blocking mining development while not actively supporting Republicans. One Minnesota state congressman from the Iron Range described how copper-nickel mining was becoming a distraction from other issues, “This issue has been, in my mind, just a side trap that doesn't focus on the real things that I believe a majority of DFLers in the state would rather see accomplished, which is a new social contract.”

Anger with the Democrats and urbanites is also intertwined with antagonism towards racial others and immigrants. Urban versus rural divides are often racialized (Scoones et al. 2017) while statements from populist politicians about giving voice back to the people is typically coded as white and rural in the U.S. (Holloway 2007). Complaints about the Twin Cities dictating what they do in Northeastern Minnesota is shaped by a broader discourse of cities as dangerous which draws on tropes of black violence and crime. A middle-aged white male Iron Range resident told me his daughter moved back up North from living in St. Paul after too many incidents of cops chasing “thugs” in her alley. He used the racially coded language of “thug” and perceived the city as a place to fear unlike safe rural communities. In interviews and casual conversations, many people talked about Ely being a safe place to live where people could still let their kids outside to play alone and leave their doors unlocked.

Some Iron Range residents and leaders also expressed a sense that Democrats are more concerned about helping poor urban people of color than white rural working class people. For example, a Minnesota state DFL representative I interviewed made a passing critique of a Latina state representative from Minneapolis replacing a longtime white DFL stalwart and complained that the new politician isn’t actually that progressive. He remarked that she just turned on her Spanish accent when she wanted to – implying she used her racial and ethnic identity strategically to her advantage. This comment revealed a sentiment that the DFL is shifting towards the interests of urban people of color and is no longer the party of white working-class rural people.

Excessive Government Regulation

Federal government actions have delayed mining development in Minnesota, which mine supporters often describe as bureaucratic red tape and government overreach that constrains local livelihoods and rights. Within this logic, expansion of resource extraction and elimination of environmental protections becomes a populist cause of giving power back to the people and giving local communities authority over land and resource use decisions. In an email newsletter, U.S. Congressman Nolan (DFL) framed decisions forestalling the projects as bureaucrats hurting the Iron Range, “Minnesota’s Iron Range got a real slap in the face and a punch in the gut by Washington bureaucrats last week... The Washington bureaucrats have clearly overreached their authority,” (*Rick Nolan’s Monday Report* 2016). This rhetoric mobilizes anger against government agencies and creates a unified sense of community that needs to defend itself. This discourse from a Democrat is also contradictory because it aligns with the anti-federal government and anti-regulation policies typical of Republicans.

Delays in mining development are attributed to excessive government regulations and politicized state agencies beholden to environmental organizations, which motivates a broader distrust of government and support for deregulation and anti-environmentalism. Moreover, local residents are framed as the actual protectors of the environment who do not need outside interference and the federal government to maintain the pristine waters of Northern Minnesota.

Trump’s messages about cutting red tape aligned with resentment toward environmental regulations and expert-led policy, which are framed as blocking development that could breathe life into rural towns. One local pro-mining activist, a middle-aged white man, told me that one of the biggest problems is that the permitting

process for a new mine takes too long and there are “too many fingers in the pie.” He remarked how this frustration led him and others to support Trump.

A National Grassroots Network

Grassroots pro-mining activists in Minnesota are connecting with groups in Western states like Arizona, Nevada, and Montana. These groups are part of a conservative states’ rights, private property, and anti-environmental movement that is loosely associated with people like the Bundy family who led the armed takeover of the Oregon Malheur National Wildlife Refuge in 2016 (Turkewitz 2016). These groups are the contemporary iteration of the Wise Use movement of the 1990s and the Sage Grouse Rebellion of the 1980s (McCarthy 2002) and they are connected with Tea Party-style groups and politicians. Small grassroots groups in the Iron Range are connecting the copper-mining conflicts to national issues of reducing barriers to natural resource extraction, increasing local control over land use decisions, and cutting environmental regulations.

These groups build alliances across the country through social media, and they use online activism to pressure politicians. For example, grassroots groups in Northeastern Minnesota Tweet at officials, share news articles on Facebook, and troll the Facebook pages of environmental groups. Online activism has helped these groups gain attention locally and nationally and has created a sense of active local support for mining. Rob is in his 50s and grew up in Northeastern Minnesota. He now lives in the Ely area after moving around the state for various jobs. In the spring of 2016 he got actively involved in a small grassroots pro-mining group, but after some internal fighting and

disagreements, he formed his own group – Minnesota Miners. He uses social media to pressure officials and share information among his network,

We [Minnesota Miners] use Twitter as our big tool. We tweet every day to Zinke [Secretary of Interior] and Perdue [Secretary of Agriculture], Nolan [US House, MN], Emmer [US House, MN], Gosar [US House, AZ], Westerman [US House, AR] – the Western Caucus. The list goes on and on and on. We do it on a daily basis. All these people follow us. They're actually seeing all the Tweets we're putting out. I'd like to believe to a certain extent that we've had some influence on what's been going on.

Similarly, Steve is in his 50s and was born and raised near Ely. He works in the tourism and outdoor recreation industry but is an adamant supporter of copper-nickel mining and helped start another pro-mining group – Fight for Mining Minnesota. In our interview he described how he got started through social media,

I'm gonna start a Facebook group. I'm gonna try to get 300 people together, and we're gonna Twitter-bomb Trump, we're gonna speak the language of Trump. I said he's on Twitter every five minutes, it's all I ever hear about. I don't know much about Twitter, but I'm gonna go.

Steve was not very politically active before the copper-nickel mining issue but has become a prominent figure through his group's presence online. Now he is regularly interviewed in the press and has been invited to meetings with state and federal politicians. He figured that Twitter was an effective way to directly reach Trump that did not require having connections. Groups like Minnesota Miners and Fight for Mining Minnesota are using Twitter and Facebook to expand their impact and are presented as the authentic voice of local residents who support the mining industry.

Social media also fosters connections between different regions and communities across the U.S. as activists shared information and articles from websites like the *Free Range Report*, a libertarian website focused on states' rights and private property rights.

This has facilitated the spread of right-wing ideologies, particularly around opposing federal land, and contributed to people in the Iron Range framing the copper-nickel mining issue in broader rhetoric about big government and anti-elitism. Rob explained how people in Minnesota are connecting with groups out West partially through social media networks,

We started Tweeting the people in the Western Caucus at the very beginning when we started in April, because I knew what was going on out there, that they've been fighting this fight for a lot longer than us. They've been fighting the U.S. Forest Service and the BLM for decades out there, grazing rights, water rights, things like that. They're saying, 'Well, you know what? You guys are basically fighting the same fight that we've been fighting for decades. So, you know what? We're going to throw our hat in the ring and we're going to help you.'

Through activists like Rob, the effort to promote copper-nickel mining in Minnesota has become linked to other struggles to open public lands for resource extraction and eliminate environmental regulations. Activists in Minnesota are learning tactics and strategies from more established conservative activist networks which has also contributed to copper-nickel mining being framed through conservative rhetoric and ideology.

Through these grassroots online networks, debates over copper-nickel mining are becoming situated in broader conservative and libertarian ideologies and linked to a broader right-wing movement, which is relatively new to Northeastern Minnesota and not part of traditional pro-mining Iron Range politics led by labor unions and the DFL. Social media has shifted forms of political organizing and created ways for individuals to create networks and communicate without formal organizations and leadership (Bennett 2013). For example, Rob described being a conservative independent that swung hard for the Republicans and Trump in 2016 while another local mining activist, Carl, talked about

how he actively supported Trump through online activism. Networks of pro-mining and anti-federal land groups have mobilized local residents to promote mining and Trump without the support of more established social and political institutions, such as unions.

However, not all pro-mining groups and supporters in Northeastern Minnesota share the right-wing ideology of these grassroots groups, such as relatively liberal unions like the United Steelworkers and some progressive DFL politicians. The pro-mining interests are not monolithic and there are vast political differences which creates a tenuous coalition as pro-mining groups often take different strategies and tactics. For example, grassroots groups like Fight for Mining Minnesota praise the Trump administration and broader efforts to repeal environmental regulations. Construction and mining unions on the other hand are narrower in their support that is focused on the specific copper-nickel projects. Tony, a union activist, thought some of the grassroots pro-mining groups are just fronts for the Republican party and are using the mining issue to create political divisions. He recalled getting into fights with grassroots pro-mining activists on social media and getting kicked off their members-only Facebook page.

Some of the local grassroots pro-mining activists described industry and unions as not doing enough to promote mining. Rob, who is not a union member and has not worked directly in the mines, remarked that the unions were not very active in promoting copper-nickel mining,

I haven't quite understood why they've [labor unions] been so standoffish. Though, I've talked to some union members and they said, 'Well, it really doesn't affect us.' It's like, 'Well, it could in the long term, though.' If they win this, who do you think that they're going to go after next?

Rob thinks union workers have been complacent and sees pro-mining activists as protecting the Iron Range way of life. The connection to mining is beyond those who work in the industry. Rob described himself as an independent and supporter of Trump, thus the rhetoric about defending a way of life is mobilized to advance broader right-wing political projects, and the conflict is not simply about jobs versus the environment.

Grassroots pro-mining groups feel like they don't have the same resources and connections as established environmental organizations but can utilize social media to amplify their voices. Several pro-mining activists I spoke with felt that they had to use online political strategies because the environmentalists, particularly the Campaign to Save the BWCA, were lobbying in Washington and had national political connections. However, this obscures that the grassroots pro-mining groups are advocating for a wealthy and powerful industry, and companies that have lobbyists. For example, public records show that in 2017, representatives of Twin Metals and their parent company Antofagasta PLC met twice with the Department of Interior Principal Deputy Solicitor shortly before he issued a decision renewing Twin Metals' federal mineral leases that had been denied under the Obama Administration (Tobias 2018).

National Security and Resource Independence

Nationalism is a key aspect of extractive populism that links defending the people and the nation through rhetoric about protecting American jobs and enhancing national security through resource independence. A common rationale for opening up copper-nickel mines is the need to create domestic mineral supplies and prevent the U.S. from depending on untrustworthy foreign countries like Russia and China. Nationalist pride motivates securing American metals that would benefit workers, implicitly white and

male, and make the country safe and strong from an often-vague specter of outside threats. A mining industry representative in Minnesota raised a hypothetical question in our interview, “where do you want your metals to come from?” This question gets at an underlying nationalist sentiment used to justify construction of copper-nickel mines in Minnesota that will supposedly provide stability in the face of an uncertain globalized world.

Pro-mining organizations and other institutions frame the copper-nickel mines as protecting the country’s security and economic stability. A 2008 newsletter from the University of Minnesota Natural Resources Research Institute, an applied research center that works on natural resources and economic development, described developing the Duluth Complex as part of national security,

Demand for copper, primarily from the growing nations of China and India, has driven the price up to the point where it’s targeted by scrap thieves. Robberies in the Duluth area have been reported in which both operating and abandoned buildings have been stripped of their aluminum, copper wiring and copper pipes. “The key for our region, and for the nation, is that these critical minerals are found in our lands and at levels that can make an impact in the amount of imports that we require to satisfy our nation’s needs,” said NRRI Center Director Don Fosnacht. “The need is especially acute as we compete with China and India for minerals that all industrial societies require.” (Anon 2008)

Copper is framed in a discourse of global economic competition which rationalizes mining as necessary for national well-being. Within capitalist ideology, further resource extraction is common sense because the growth of industrial society and reliance on material resources is unquestionable. This also relies on a narrative of scarcity and dwindling resources—the report even links local crime to the lack of copper supply—which presumes a direct relationship between supply, demand, and price. The presentation of these claims through the opinions of experts at a research institution

bolsters the sense of legitimacy and shows the connections between universities, the state, and capital.

The rhetoric of national security and resource independence is also taken up by people on the Iron Range. Randy remarked that the proposed mines were “gonna provide for some of our national security too, a big part of it. Like I said, we import 100% of our nickel.” According to Randy, the U.S. relies on foreign countries for nickel which implicitly makes the country vulnerable, but mining in Minnesota would help address this weakness.

The sense of contributing to the country and defending the nation through resource extraction has a long history on the Iron Range. In an op-ed, Cynthia Steine, an activist with the grassroots pro-mining group Fight for Mining Minnesota, recounts a dominant cultural narrative about Minnesota’s mining as central to national security,

Minnesota’s iron-rich ores played an enormous role in the war effort for both World War I and World War II. By World War II, miners and steel producers had unionized; mines and steel factories worked around the clock, and their contribution to victory was vast and unparalleled. America produced more than 188 million metric tons of steel for the war, and northeastern Minnesota was the single largest provider of raw material for the effort. Victory would not have been possible without Minnesota’s contribution. (Steine 2018)

Militaristic and imperialistic rhetoric positions mining as advancing American military power and protecting freedom around the world. Therefore, opposition to mining is unpatriotic and ignores how mining defeated fascism. New mining could presumably help strengthen U.S. military power in an uncertain world and defend against new threats. The narrative also celebrates the heroic labor that was done by union workers who sacrificed for the nation while also making a good living, which connects workers’ wellbeing and pride to national defense. This militarist and nationalist ideology has been

used in the U.S. and the Iron Range to pacify radical labor organizing and to assimilate European immigrants into a U.S. national identity, such as during World War I to attack anti-war IWW radicals as un-American or purging Communists from unions during the Cold War (Nemanic 2007).

Concerns about resource independence are also shaped by racialized and xenophobic fears of “unfriendly” foreign countries. The rhetoric of resource nationalism is often aimed at China, which symbolizes the threat of foreign competition, particularly from a communist and authoritarian government, and anxieties about the growing population and industrial capacities of developing countries. Tim is a retired miner who moved with his parents to Hoyt Lakes as a child in the 1950s, so his dad could work at the new Erie Mining taconite plant; he then spent his own career working at the same mine. Tim thought that the copper-nickel mines needed to be developed in order to compete with China,

Your grandchildren will be working for the Chinese and they will mine it. Let's look at the world as a whole, when I was in high school they said, ‘One fifth of the world lived in China.’ Do you think you're going to be able to hold them people back forever? In my lifetime they've started getting enough to eat and they're going to progress...The Chinese will not put up with welfare and all this other bullshit. If you don't make the muster in the morning son you ain't eating no rice.

Tim uses racist and xenophobic discourses to present China as a growing threat to the U.S. and on the path to dominating the world because they are driven to expand—a faceless growing horde—and aren’t held back by human rights and environmental protections. Thus, copper-nickel mines need to be constructed in Minnesota, so the U.S. can continue to compete and control its own supplies. Tim’s rhetoric was especially racialized and othering of “them people” by drawing on stereotypes about the discipline

of Chinese labor and disregard for workers' rights, even implicitly referencing famine under Mao.

China serves as a scapegoat for economic struggles and jobs going overseas, rather than the multi-national mining companies that cut labor and lower wages, and corporate-friendly tax and trade policies. Trump's rhetoric about energy security also constructs foreign competition and excessive environmental regulations as threats to national security, which then frames extractive development as a way to defend the nation. Trump's campaign linked resource nationalism with a populist call for jobs and reshaping trade policies to benefit American workers. Opposing free trade deals and threatening to put tariffs on foreign steel were key ways that Trump tapped into working class and union support while presenting himself as a defender of the "working guy."

Protectionist and anti-globalization rhetoric was particularly effective in the Iron Range because of ongoing regional debates about reviving and protecting the iron industry. China dumping steel in the U.S. is often cited as the reason that iron mines in Minnesota were shutting down or reducing production in 2015 through 2016 that led to a large number of lay-offs (Brodey 2016). Politicians from Minnesota, including all the Democrats holding national office, pressured the Obama administration to put tariffs on Chinese steel in March 2016 (Anon 2016a; Coolican 2015). The retaliatory trade actions were credited with putting thousands of miners back to work as mining companies expanded production and re-opened facilities (DePass 2016; Myers 2016a). The success of the tariffs was also cited as a factor in DFL Congressman Nolan winning his tight re-election campaign. Nolan described the tariffs as a success in a press statement,

That's why some 1,000 Iron Range miners are already back to work. Thanks to these crippling high new tariffs and taxes, Range iron prices are up, steel imports are down, the glut of foreign steel is disappearing and America's steel industry – the foundation of our economic and military security – is on the rebound. (Nolan 2016)

Nolan connects putting Iron Rangers back to work with promoting national security. While these Obama-era policies may have created and protected jobs, the Trump campaign then used similar rhetoric about protecting American steel from unfair Chinese competition to attract union and working-class voters. Democrats and union leaders were in a complicated position as they had to justify voting Democrat and opposing Trump while also supporting steel tariffs and critiques of free trade that Trump was promoting.

However, the emphasis on China is also overblown. In 2017, China was the only the 8th largest producer of nickel and 3rd largest producer of copper in the world, and several smaller producers had larger reserves than China. Chile and Peru, the top copper producers, accounted for over 40% of the global copper supply (U.S. Geological Survey 2018). As of 2016, China is also the largest importer of copper, 49% of the global supply, and nickel, 60% of the global supply (Simoes 2017a, 2017b). Thus, the U.S. is not necessarily competing with China to produce these metals and if metals were mined in Minnesota, some would likely be exported to China. In 2016, the U.S. exported 62% of its nickel and 12% of its copper to China (Simoes 2017a, 2017b). The relatively high price of copper during the early to mid-2010s, which made projects like PolyMet financially feasible and attractive, is often attributed to demand from China (Marcotty 2011b; Rivera 2016). The iron mines also depend on demand from China for U.S.-produced steel. For example, industry analysts claim that high global steel prices in the early to mid-2000s were driven by China's construction boom, which kept the iron mines

in Minnesota operating at full capacity while the rest of the U.S. economy was going into a recession (Mui 2016).

Another contradiction in the resource nationalism discourse is that the mines in Northeastern Minnesota are being developed by foreign companies and multi-national corporations, and the metals would be sold and traded on global markets. For the PolyMet project, Glencore, a massive Swiss mining corporation that ranks 16th among the Global Fortune 500, owns over one third of PolyMet and has first rights to buy the metals once production begins (Anon 2016c; Myers 2016c). Glencore will likely sell and trade the metals on global commodities and futures markets. Twin Metals is a subsidiary of Antofagasta PLC, a Chilean mining company that is one of the largest copper producers in the world and is listed on London Stock Exchange. Major global mining corporations have increasingly become commodities trading and shipping companies that generate profits through investments, speculation, and financial mechanisms (Loftus and March 2015; de los Reyes 2017). Thus, if copper and nickel were mined in Northeastern Minnesota, the materials would not simply go to U.S. manufacturing and consumer goods as the notion of a domestic supply of natural resources is disrupted by transnational investments and trade.

I argue that hegemonic collective identities of being a mining town and emotional connections to an idealized past are mobilized to divert attention from these unpleasant realities. Corporate public relations contribute to people overlooking the limited job creation potential and environmental risks, but that this dissonance emerges from a deeper and broader ideology and cultural framework.

Summary

In Northeastern Minnesota, dominant public discourse frames federal government actions and environmentalism as an affront to the Iron Range's moral economy based on the right of local communities to make decisions about resource use and to sustain livelihoods by using nature. Right-wing *extractive populism* acknowledges people's sense of marginality, anger, and loss while providing a target – environmentalists and environmental regulations – and a vision of hope – a return to the heyday of mining and white masculine labor. Rhetoric about bringing back the mines resonates as a culturally meaningful solution to deindustrialization and global economic changes that have disrupted a mode of production that brought good wages and stable jobs, albeit primarily for white men and heterosexual families. The desire to maintain a sense of community and dignity is not unexpected in response to economic dislocation, but this imaginary and romantic nostalgia has been mobilized by reactionary political projects that are creating divides across class, racial, and regional lines. Right-wing politicians like Trump use populist rhetoric of us versus them, giving power back to the people, and nostalgia that connect with dominant framings of copper-nickel mining (Hochschild 2016a; Oliver and Rahn 2016). Anti-environmentalism and pro-extractivism then become strategies to bring back a way of life, renew a sense of lost pride, and defend the nation. Meanwhile, corporate strategies of eliminating and deskilling labor, exploiting workers, and taking government subsidies are ignored, and people are convinced to support policies that will continue processes of neoliberalism and uneven development that create economic dislocation and environmental pollution.

Social media is also enabling new grassroots networks to emerge that connect different rural communities to share ideas and tactics, and link copper-nickel mining in Minnesota to struggles over property rights and federal land in Western states like Utah. In Northeastern Minnesota, this has emboldened right-wing and libertarian activists who have gained political and public attention through the use of Twitter and Facebook. As other research has shown (Bennett 2013; Kidd and McIntosh 2016), these online platforms provide tools for communication and mobilization that allow residents to work around existing institutions and leaders and organize in less hierarchical and formalized ways. This approach aligns with a broader distrust of authority and government seen in the dominant discourses around copper-nickel mining and the appeal of Trump's anti-establishment rhetoric. Industry can also point to these vocal grassroots groups as a sign of local community support and an authentic voice of Rangers. In contrast to other research on class disparities in online activism (Schradie 2018), I find that rural and working-class people in Northeastern Minnesota are actively using social media for online organizing and political action to promote right-wing extractive populism.

Imaginations of a prosperous future and renewing a mining heritage are built upon ideals of white rurality, preserving a homogenous community, and nationalism. My research does not determine if the rightward swing in the Iron Range was primarily motivated by racism, bigotry, and xenophobia, but I do argue that this vision of the future and conception of community is intertwined with racial, colonial, and gender ideologies. Returning to the heyday of mining is about maintaining a particular type of white rural working-class community, and a patriarchal form of social reproduction based on single-earner male households. Meanwhile, opening up new land for extraction to create jobs

and defend the nation against foreign threats mobilizes nationalist sentiments that has particular resonance with regional narratives about the Iron Range providing the materials necessary to win World War I and II. Fears about competition with China draws on xenophobia and stereotypes while placing blame for job loss on developing countries rather than global capital and neoliberalism. This discourse is also premised on ideologies of settler colonialism that erase the history of indigenous dispossession and legitimate ongoing violations of Ojibwe sovereignty to provide for white settler communities and the colonial state through developing new resource frontiers.

Still, rural and working-class communities are not entirely to blame for the election of Trump – wealthy and urban white voters were a large part of his success and broader right-wing movement (Gusterson 2017; Skocpol 2012; Walley 2017). Yet, rural and working-class support for right-wing extractive populism has ideological and material implications. This has bolstered politicians that support privatization and deregulation to expand potentially hazardous extractive development who also advance racist and anti-immigrant projects. While right-wing populists claim their policies will benefit rural and poor communities (Scoones et al. 2018), their pro-industry policies accelerate the processes of neo-liberal capitalism, financialized commodity markets, and automation that produce economic struggles in extractive regions and will likely increase corporate profits while reducing social and environmental protections.

Populist movements also emerge in relation to political-economic conditions (Scoones et al. 2018) and conceptions of place and identity are not separate from the economy (Prudham 2005). Populist messages resonate when there is a sense of crisis (Moffitt 2016), thus natural resource dependent communities are ripe for populist

mobilization because the boom and bust cycles of extractive industries creates economic depressions and social disruptions and a feeling of insecurity (Freudenburg 1992). The collective memories and experiences of booms, such as the rise of taconite mining in Minnesota, also produce a sense that renewal is possible and provide a tangible model for an imagined future. In the Iron Range, populist politicians connect to the anxieties and hardships created by uneven development and economic concentration through a narrative of hope and nostalgia that frames copper-nickel mining development as reaffirming people's sense of place and dignity. New mining is also appealing because few other alternatives are being offered. Environmentalists and urban progressives have not put forward compelling and culturally-meaningful visions to create good paying jobs for rural communities.

The rightward swing is also shaped by the particular political conjuncture and a reaction to shifts in the Democratic party towards urban, upper-class, and financial constituencies, "the New Democratic Party," personified by Hilary Clinton (Frank 2016; McQuarrie 2017). Copper-nickel mine supporters, including Democrats from the Iron Range, present Democrats who oppose mining as turning away from the labor base and becoming the party of urban liberal environmentalists. Thus, a vote for Trump was also a rejection of Clinton. As one grassroots pro-mining activist in Ely told me, he is opposed to elitist Democrats who pushed him into the Trump camp despite his reservations, "It had nothing to do with Trump. Right? It had to do with you guys hardening my position not to be with you."

The 2016 election was also a broad reaction against the status quo. Bernie Sanders campaigned as a progressive populist and defeated Clinton, the centrist and establishment

candidate, in the Minnesota primary. I met several people who supported Sanders and then voted for Trump or said they didn't vote for president. Other research finds that support for populists across the political spectrum is motivated by rejection of the status quo and current party system (Martin, Murphy, and Moore 2018). The tepid and mixed support for Trump and enthusiasm for Sanders do suggest that populist sentiments could be mobilized in a leftward direction and that Trump's support in Northeastern Minnesota was not inevitable but emerged from a complex socio-political conjuncture. Yet the willingness to actively or tacitly support a candidate like Trump requires accepting his racist, xenophobic, and sexist policies and statements. Whiteness produces the ability of Iron Range residents to understand their vote as a nonracist act and ignore or accept his anti-immigrant, anti-black, and misogynistic actions.

Conclusion: Political Ecology of Extractive Populism

Drawing on political ecology (McCarthy 2002, 2005; Prudham 2005; Robbins 2002), I argue that regional dynamics of place-based and class identities and moral economies tied to mining are part of the emotions and cultural symbols mobilized in the micro-politics of right-wing populism. These dynamics are often overlooked in the literature and political commentary on populism in the Global North that focuses on racism and xenophobia, and national level explanations (Bonikowski 2017; Inglehart and Norris 2016; Oliver and Rahn 2016; Spruyt, Keppens, and Droogenbroeck 2016). I add to emerging analysis of contemporary right-wing populism that argues these movements mobilize community and class identities, emotions, and collective memories (Balthazar 2017; Green et al. 2016; Gusterson 2017; Hochschild 2016b; Knight 2017; McQuarrie 2017). I emphasize the role of environmental imaginaries and the social meanings of

labor and natural resources in this process. Through what I call *extractive populism*, right-wing political movements have connected with rural communities' sense of marginality and powerlessness, and a desire to defend their way of life. This reactionary form of extractive populism demonstrates that political ecology research should examine the contradictory dynamics of how defending rural and working-class livelihoods and sense of place can motivate divergent political projects and be taken up by authoritarian movements in the Global North.

I argue that the cultural politics of resource extraction shows why extractivism, anti-environmentalism, and resource nationalism are common discourses in contemporary right-wing extractive populism (Agnew 2005; Wilson 1997). Mining regions and miners are symbolic of the national "heartland" and the white middle-class "people" that right-wing populists claim to be speaking for (Taggart 2000). Mining is made meaningful through narratives of masculine labor and nostalgia for a time when white men could depend on the stability of industrial jobs to provide for their families and sustain vibrant communities (Rolston 2014; Scott 2010). Thus, the imagery of Trump posing with mine workers at campaign rallies creates a sense of populist legitimacy and authenticity. In turn, environmental regulations and wealthy environmentalists come to symbolize problems with government bureaucracy, experts that lack common sense, and out-of-touch urban liberal elites. I contend that Trump and Republican support for the mining and fossil fuel industries is not solely due to industry political-economic power but also shaped by the cultural, symbolic, and ideological power of mining.

Chapter 5: Procedural Justice and Intersectional Dynamics of Power in Environmental Assessments

On a bitter cold Tuesday evening in January of 2014, thousands of people filled the downtown St. Paul, Minnesota convention center to spend nearly five hours at a public comment meeting on an environmental impact assessment for PolyMet's proposed NorthMet copper-nickel mine. Packed coach buses unloaded people who came three to four hours from Northern Minnesota while the parking lots were filled with people who drove from around the Minneapolis-St. Paul area. I entered the convention center and followed the crowd of people wearing a mix of "We Support Mining" hats and "Protect Our Water" buttons into a large hall. After officials from the Minnesota Department of Natural Resources, U.S. Army Corps of Engineers and U.S. Forest Service gave overviews of the proposed mine and the regulatory process, people who signed up were randomly selected for a two-minute slot to speak in front of the crowd and give their input on the review for the mining project. Why were so many people taking time out of their busy lives and braving the single digit temperatures to attend a bureaucratic meeting about technical mine engineering, cost-benefit analysis, and environmental modeling? Did this process provide meaningful input from the public?

Introduction

New sites and methods of extraction create conflicts and debates over the risks to public health, biodiversity, clean water, and climate change (Alario and Freudenburg 2003; Burns 2007; Finkel and Hays 2016; Gunter 2005). While these conflicts have sparked protest and direct action, such as resistance to the Dakota Access pipeline, much of the contention continues to be through formal state institutions that assess risks, costs,

and benefits. Copper-nickel mining in Minnesota is indicative of how environmental politics and people's emotional connections to place and identity are channeled through bureaucratic processes. How, why, and if extractive projects are developed depends partially on institutional mechanisms of environmental impact assessments. Therefore, these are important sites of power that shape if communities have a voice in decisions that can create, or disrupt, environmental injustices.

While regulatory processes are often presented as objective and fact-based, a large body of research in sociology, and science and technology studies show how these processes are constituted through relations of power, particularly the dominance of expertise that disadvantages marginalized communities (Beamish 2002; Forsyth 2003; Hirsch 2017; Jasanoff 1990; Macnaghten and Urry 1998; Sze 2007). Scholars and activists have challenged expert-driven policy and argued that scientific knowledge is shaped by values and politics despite the appearance of objectivity (Funtowicz and Ravetz 1993). As environmental justice research has shown, exposure to risks and access to benefits is unequal and shaped by power (Mohai et al. 2009; Pinderhughes 1996). Multiply marginalized communities –across the intersections of class, indigeneity, race, gender, and rurality – often face the greatest burdens but have the least power in decisions (Bell 2016; Holifield 2012; Otsuki 2016; Tuler and Webler 1999). Yet, even most critical scholarship on risk tends to focus on either race, class, or gender dynamics, thus an emerging body of scholarship is developing an intersectional assessment of risk (Cho, Crenshaw, and McCall 2013; Nygren and Olofsson 2014; Olofsson, Öhman, and Nygren 2016). Sociologists in particular have not adequately examined dynamics of gender and indigeneity in environmental justice conflicts.

In this chapter, I draw on theories of environmental justice and intersectionality to examine how multiple forms of social difference shape procedural environmental justice in decision-making about PolyMet's proposed NorthMet project. I examine the process of regulatory review and analyze how intersecting social locations impact power, authority, and legitimacy in environmental decision-making. I explore the discourses through which the potential socio-ecological risks and benefits are assessed, and how these silence or recognize people's sense of place and history. I ask three interrelated questions: 1) How are environmental justice considerations incorporated into environmental impact assessments? 2) How are risks and benefits determined, and what populations are privileged in these calculations? 3) How are the perspectives of different communities incorporated into the process? And, what types of knowledge are privileged, and which are excluded?

This chapter makes two contributions to environmental justice and environmental sociology scholarship. First, I extend environmental justice research beyond an additive approach to social difference through engagement with intersectionality to examine the dynamic ways in which race, class, gender, and indigeneity are intertwined in shaping decision-making in ways that can (re)produce environmental injustices. I emphasize gender, indigeneity, and whiteness, and their intersections, which have received less attention in environmental sociology. Second, I contribute to research on environmental decision-making by investigating environmental impact assessment (EIA) that is an important institution with implications for procedural environmental justice but has not been a major object of study in sociological research. There is a body of research in geography and policy studies on Indigenous participation in EIAs (Ali 2003;

Gilberthorpe and Hilson 2014), which I build upon by contributing a sociological approach to environmental justice and intersectionality. In addition, my research has applications for developing more inclusive and participatory forms of environmental governance.

Theoretical and Analytical Frameworks

Intersectionality

Intersectionality is a theoretical and epistemological framework that developed out of critical race theory and explored the interconnections between multiple forms of domination to challenge essentialist and additive notions of race, gender, and class (Crenshaw 1991). Black feminists critiqued liberal and white feminism for neglecting the distinct ways that women of color experienced gender and universalizing white women's experiences (Collins 1990; hooks 1981). Intersectional analysis disrupts common sense ways of understanding society that mask power and reproduce essentialist social categories (Olofsson et al. 2016). Within sociology, intersectionality has been used to study the role of overlapping institutions and categories of differences in producing inequalities as well as the perspectives of multiply marginalized people (Cho et al. 2013). This work focuses on relationships between social categories, groups, and institutions.

I take a sociological approach to intersectionality that focuses on how multiple forms of power and difference interact to shape the processes of exclusion and inclusion within institutions that produce inequalities (Choo and Ferree 2010). I focus on social categories of class, indigeneity, gender, and whiteness within state institutions – regulatory agencies and environmental laws. Thus, I investigate the ways in which marginalized and dominant knowledges and groups are both excluded and incorporated

in environmental review processes. I explore the interconnected ways that gender, whiteness, indigeneity, and class impact how the potential impacts of a proposed mine are assessed and how these social locations are enacted in institutions where these categories are often unmarked. Analysis of environmental injustices along a single axis of social difference will not capture interlocking forms of inequality, such as differences within Indigenous communities in exposure to environmental risks.

However, as a white, settler, heterosexual, and male researcher, I am not claiming to give voice to or speak for marginalized groups, but rather I am investigating the complex processes, interactions and relationships through which environmental inequalities are reproduced and contested (Cho et al. 2013). Through this research I am not giving voice to Indigenous and other marginalized voices not attempting to speak for them. Rather, I am interrogating an institution and site of power to see how intersectional differences in risks and benefits are assessed, and inequalities are reproduced.

Environmental Justice: Participation, Recognition, and Intersectionality

Scholars have challenged early environmental justice research that focused on empirical evidence of environmental inequalities for lacking theoretical development and analysis of the complex ways in which racism, capitalism, patriarchy, and colonialism create environmental injustice (Camacho 1998; Park and Pellow 2004; Pulido 1996).

Debates over whether race or class are the primary factors overlook how these categories of difference are necessarily intertwined (Camacho 1998; Pulido 1996, 2000).

Intersectional approaches to environmental justice explore how interconnected forms of domination shape who has a voice in environmental policy and who is exposed to environmental harms (Kaijser and Kronsell 2014; Olofsson et al. 2016; Osborne 2015).

Attempting to isolate primary factors will not capture the complex ways that environmental injustices are produced, experienced, and resisted across interlocking forms of domination.

Scholars have also pushed environmental justice to consider other locations of social difference, particularly gender and indigeneity (Buckingham and Kulcur 2009; Hooks and Smith 2004; Pellow and Park 2002; Vickery and Hunter 2016; Whyte 2014, 2013, 2011). Native American communities face distinct environmental justice issues, and indigeneity is a particularly important dynamic in struggles over land, resources, and extraction (Gilberthorpe and Hilson 2014; Golub 2014; Hilson 2014; Langton and Mazel 2008; Vickery and Hunter 2016; Voyles 2015). Resource extraction is a major source of dispute for Indigenous sovereignty and livelihoods. Corporations and governments have attempted to incorporate Indigenous communities into decision-making and address their concerns through “sustainable” and “responsible” development, although these attempts are often problematic and fraught with tensions (Caruso et al. 2003; Gilberthorpe and Hilson 2014; O’Faircheallaigh and Ali 2008, 2008).

I explore how Indigenous concerns are both incorporated and excluded from assessment of mining impacts to Indigenous land and treaty-protected resources. I also explore how indigeneity interacts with other dynamics of power, particularly gender and class, in shaping who has authority to speak and whose risks and benefits are privileged. This is particularly important for understanding ongoing forms of colonialism and not reifying indigeneity as a singular, fixed or totalizing identity.

Scholars and activists also conceptualize environmental justice as more than a question of distributional justice but an issue of participation and recognition that

emphasizes power in decision-making and the invisibility of marginalized communities (Ishiyama 2003). Participation is about having a voice in decisions about actions and policies that create environmental risks, which depends on a community being recognized and having power (Camacho 1998). Thus, participation is constrained by racism, sexism, classism, and colonialism that silence and devalue marginalized communities. Political institutions and dominant culture often do not recognize the distinct experiences and needs of marginalized communities (Honneth 1995; Schlosberg 2007). Intersectionality is productive for interrogating processes of recognition and how dominant institutions overlook differences within groups and reify static social categories (Schlosberg 2003). Building on these approaches, I consider how the intersections of multiple forms of difference influences whose concerns, experiences, and knowledges are considered in environmental review.

Achieving procedural environmental justice requires transparency and accountability that provides communities with meaningful participation in political deliberation (Schlosberg 2007). Environmental justice movements have demanded consultation and a voice at the table, but without an actual shift in power that enables meaningful participation, incorporation into formal processes can lead to co-optation and legitimization for state institutions (Marshall and Goldstein 2006; Thomas 1990; Tuler and Webler 1999). Procedural justice requires that affected communities have a voice in shaping how policy is made and that there are mechanisms for government and corporate accountability.

I examine the formal process of public input within EIAs through an intersectional lens to see what voices are left out and how these institutions enact

categories of race, gender, and class. Studying the initial review process is also important because the planning stage for extractive development is a key moment for environmental justice interventions to make meaningful changes or stop development. Once a mine has been built it is much harder for communities and workers to hold corporations accountable (Kirsch 2014; Trigger et al. 2014).

Science and Expertise in Decision-making about Risk

Science and expertise play an important role in environmental decision-making and how power and privilege operate in procedural environmental justice. Decisions about resource use often involve the assessment of risks and the calculation of costs and benefits. Modern industry has increased the levels of risk due to new technologies and chemicals that have often unknown, but potentially grave, impacts on human and non-human life (Beck 1992; Clarke 1989; Montelius and Nygren 2014; Wynne 2002). Identification of invisible and diffuse risks requires technical and scientific expertise (Beck 1992). For example, scientific research identified how sulfate pollution from mining negatively effects manoomin in Northern Minnesota. Yet, dominant discourses often present environmental problems as technical issues to be resolved by scientific research and expert knowledge, which ignores deeper structural and ideological causes (Jasanoff 1990; Wynne 2002). Traditional ecological knowledge is usually excluded in formal decision-making processes that prioritize Western scientific frameworks (Brody 2001; O’Faircheallaigh and Corbett 2005). In the case of copper-nickel mining in Minnesota, the focus on expert analysis does not consider the social, cultural, and psychological impacts of resource extraction on marginalized communities or challenge the lack of Indigenous authority.

Even critical approaches to risk and the politics of science have been critiqued for lacking analysis of how intersectionality shapes what knowledges and perspectives are considered in assessment of risks (Nygren and Olofsson 2014). Researchers working on environment and health have called for an intersectional approach to interrogate the “doing” of risk that addresses how perceptions of risk are constituted in unequal ways across intersecting forms of social difference (Nygren and Olofsson 2014). Intersectional analysis is essential for understanding how power shapes who makes decisions about risky development and whose livelihoods are privileged (Olofsson et al. 2016; Osborne 2015). People’s use, and knowledge, of natural resources are shaped by gender, race, and class, thus perceptions of and exposure to risk vary. Yet, policy does not often recognize these differences (Baker-Médard 2016; Harrison and Watson 2012; Rocheleau 2008). Policies to reduce average risk from pollution can ignore marginalized communities that include subgroups of people that are systematically outliers in exposure and face disproportionately high risks (Gochfeld and Burger 2011; Swanston 1993). Further research is needed on how health hazards from development are assessed through regulatory processes, and the language and evidence used to justify decisions (Olofsson et al. 2016). Therefore, I examine how the review process for the NorthMet mine determined health risks, and the calculations used to determine the acceptability of environmental impacts. This approach has broader implications for how environmental governance overlooks risks to multiply marginalized communities and the unequal dynamics of recognition that reproduce institutional discrimination.

Environmental Impact Assessments

A key institution to examine the power dynamics of decision-making are environmental impact assessments (EIAs) that often determine if and how resource extraction projects occur. The U.S. National Environmental Policy Act of 1969 (NEPA) requires federal agencies to conduct an EIA, what is called an environmental impact study (EIS) in the U.S., to assess the environmental and social effects of proposed actions, including changing land management, before making decisions. EIA is a general term used across different legal frameworks and national contexts, while an EIS is the specific process and document required in the U.S. under NEPA. Critics argue that NEPA has limited power to protect the environment, privileges industry interests, and channels environmental politics into rationalized and technical decision-making (Greer 1990). Assessment of environmental impacts are made by government regulators who are mostly white and based on data and analysis provided by corporations and their consultants as well as some input from environmental groups that have enough resources for technical experts to provide comments. EISs are required to include Social Impact Assessments, but the requirements are often vague, and the analysis is often narrow, lacks meaningful community input, and has limited impact on final decisions (Bhatia and Wernham 2008; Freitag 2010, 2017; Llewellyn and Freudenburg 1990; Wilke and Cain 1977).

PolyMet's NorthMet project has undergone a joint EIS by the U.S. Forest Service (USFS), Army Corps of Engineers, and Minnesota Department of Natural Resources (MN-DNR) based on NEPA and the Minnesota Environmental Policy Act (MEPA). A single EIS was conducted to meet both the state and federal laws—this is typical when state and federal agencies have overlapping jurisdiction for an EIS. The project has been

embroiled in a lengthy review process and mine opponents have contested the adequacy of the environmental review for overlooking key social and environmental issues, and lacking quality data. Yet, in spring of 2016, the USFS and MN-DNR determined the EIS was adequate.

The NEPA EIS process requires periods for written public comments and input, which, in the case of PolyMet, mobilized tens of thousands of people to submit written comments and thousands of people to attend public hearings. However, there are few guidelines for effective participation and the impact of community input is often weak (Bhatia and Wernham 2008; Freitag 2017; Tuler and Webler 1999). Theorists of public participation and democracy point to the inadequacies of access alone because of unequal abilities to use the rhetorical norms of public forums and engage in technical and legal discourses (Polletta and Lee 2006). Men, whites, and people with more education often have greater abilities to participate effectively in these interactions that are shaped by norms of whiteness and masculinity (Young 2000). The EIS process privileges scientific expertise and technical evaluations, which limits public deliberation, and silences the knowledges of local communities (Devlin and Tubino 2012; Gismondi 1997). Limited and superficial community input contributes to a lack of trust in government agencies and development projects (Hamm 2017; Parkins et al. 2017). Therefore, creating more meaningful and effective public participation processes that are directed at reaching diverse and marginalized populations can improve environmental policy by empowering communities, fostering trust, and facilitating more just outcomes.

Indigenous communities have historically lacked authority and participation in decision-making over extractive development that has negative impacts on their lands

and livelihoods (Albert 1992; Caruso et al. 2003; O’Faircheallaigh and Ali 2008). There is a growing recognition internationally, and in the U.S., of the need for participation of Indigenous groups in EIA. American Indian Tribes have also fought for their right to be included (O’Faircheallaigh and Ali 2008; O’Faircheallaigh and Corbett 2005). However, the effectiveness of participation is often limited as Tribes are not integrated into authority structures (Baker and McLelland 2003; Castro and Nielsen 2001; O’Faircheallaigh and Corbett 2005). Meaningful forms of engagement that recognize Indigenous sovereignty and actively address barriers to participation are necessary for expanding procedural environmental justice (Yakovleva 2011). Therefore, I assess the efficacy of inclusion of Tribes as cooperating agencies in the EIS process for PolyMet’s NorthMet project.

O’Faircheallaigh (2007) introduced a framework for assessing the effectiveness of Indigenous participation in an EIA that focuses on six issues: goals, purpose and mandates, decision-making structures, resources, expertise and knowledge, processes, and recognition. These issues point to the necessity of structures to proactively facilitate Indigenous participation, including providing resources to Tribes, organizing meetings in accessible ways, empowering Indigenous communities with decision-making authority, and incorporating Indigenous forms of knowledge (O’Faircheallaigh 2007). This framework could also be applied to a broader intersectional analysis of EIA that looks at dynamics of gender, race, class, and indigeneity. For example, formal hearing procedures and technical discourses disadvantage Indigenous, working class people, and women, but in ways that vary across intersecting social locations. Without considering these differences, the social and health impacts of development will be under assessed.

Environmental Laws and Tribal Sovereignty

In the U.S., American Indian Tribes are considered sovereign entities but in practice are not fully equal to the U.S. federal government and have what Indigenous scholars call a “domestic dependent nation” status (Wilkins and Lomawaima 2001; Wilkinson 1987). Tribes technically have a government to government relationship with federal agencies in environmental reviews, but they often lack decision-making power and consultation with Tribes is often limited and superficial. Treaties between the U.S. government and Tribes – many of which were signed in the mid to late 1800s under conditions of coercion and deception – hold the status of national law and often include rights to land, natural resources, and maintenance of livelihoods (Silvern 1999; Wilkins and Lomawaima 2001). However, asserting tribal sovereignty and treaty rights is an ongoing process of struggle as the colonial U.S. government has asserted authority over tribal affairs and often denied treaty rights (Deloria and Lytle 1984; Silvern 1999). Yet, Tribes in the Great Lakes Region, including Minnesota, and in Washington State have successfully defended their treaty rights to manage natural resources in U.S. Courts, and are advancing new legal, policy, and direct-action strategies to assert tribal sovereignty (Biolsi 2005; Cohen 1986; Loew and Thannum 2011; Silvern 1999).

The NorthMet site is on territory ceded to the U.S. government by Ojibwe bands in the 1854 Treaty where they retain usufructuary rights and the Fond du Lac reservation is located downstream (Landis 1997; Manuel 2015). Ojibwe bands have some authority to participate in co-management of natural resources in the ceded territory, therefore, Ojibwe Tribes (the Bois Forte, Grand Portage, and Fond du Lac bands) and inter-tribal institutions (Great Lakes Indian Fish & Wildlife Commission (GIIFWC), and the 1854

Treaty Authority) were included as cooperating agencies in the EIS process. The Tribes, mostly through scientists working in tribal resource management departments, reviewed preliminary draft documents before public release, and their questions and statements were included in the final official document as differences of opinion. However, the Tribes did not have power over deciding the scope of the review or final decision-making on the adequacy of the EIS or permits.

Minnesota is considered to have relatively strong environmental protections, particularly according to supporters of extractive development and industry. Minnesota has its own environmental protection law (MEPA) and state-level agencies to regulate pollution and manage natural resources that have scientific experts on staff. Minnesota also has a unique, but controversial, rule about water sulfate levels that regulates emissions from industrial facilities to protect manoomin. However, the sulfate rule has not been enforced and existing iron mines are known to be in violation but have delayed enforcement through litigation and pushing pro-industry politicians to introduce legislation that would change or weaken the rule.

Despite supposedly strong regulations, Minnesota has major environmental problems, particularly elevated mercury levels and public health warnings about fish consumption, especially for children and pregnant women – a major issue in an area with a large fishing industry, and Indigenous and lower-income communities that rely on fish for subsistence. Manoomin populations have also dwindled in the past 40-50 years for a host of reasons including industrial pollution and sulfates, climate change, development and land use changes, invasive species, and shifting water levels (Raster and Hill 2017). There is a long history of conflict and mistrust between Ojibwe bands, the state

government, university researchers, and white anglers and hunters over regulating and studying manoomin, and broader management of natural resources (LaDuke and Carlson 2003).

Justice, Participation, and Recognition in the PolyMet Review Process

In this chapter I focus my analysis on official documents and public hearings because I am interested in the formal institutions of environmental review. These documents and events are the sites through which different groups and interests are incorporated into the decision-making process and represent how state decisions are made and justified. These data can reveal what types of concerns and knowledge are incorporated and excluded, thus giving insights into procedural and representational environmental justice. I analyze public documents (government documents, consultant research reports, and written testimony from environmental, public health, tribal, and industry organizations) and focus analysis on the EIS document as well as factsheets and summaries created by government agencies that reflect how they are presenting their decisions to the public, and what issues they have chosen to highlight. I assess the discourses through which the impacts are discussed, and examine what voices, perspectives, and knowledges are prevalent and what are missing. I assess how frequently Indigenous and justice issues were raised, and what priority these issues were given based on where in the documents they were addressed, and with what rigor. I also evaluate how the agencies responded to comments and critiques from American Indian Tribes and environmental groups. In addition, I attended public hearings and observed power dynamics of class, race, and gender in the interactions.

I find that environmental justice issues were mostly excluded from formal consideration in the EIS process, particularly the differential impacts across intersections of gender, indigeneity, and class. The lived experiences, knowledges, and perspectives of communities, particularly Indigenous peoples, were largely left out of official documents and analysis of environmental impacts. Meanwhile, scientific and technical knowledge of company consultants, agency staff, and experts for environmental organizations and Tribes was privileged in how environmental impacts were determined and what issues were addressed. The interests of white male workers and industry were also privileged in implicit ways in the assessment of socio-economic benefits.

In the following sections, I examine the power dynamics in interactions at public hearings, the lack of attention to intersectional health risks, incorporation of Indigenous knowledge, and the gendered and raced assumptions in projecting socio-economic benefits.

Power and Participation in Decision-making

Public comment was facilitated by federal and state agencies to get input on what issues to consider in the EIS and then to get feedback on the adequacy of the analysis. Periods of at least 45 days for the public to submit written comments on a draft EIS are required under NEPA, but there are no rules about how to engage communities beyond issuing public notices and the length of time for submitting written comments. Public meetings are not required but are an option. Yet again, there are no requirements for how public meetings should be conducted or how to ensure meaningful public dialogue. In the PolyMet case, there was an extended period to submit written comments and the agencies held public meetings. Yet, these were very formal with audience members submitting

their names into a lottery to speak for three minutes addressing agency staff with no conversation.

Technical and bureaucratic engagement through written and short oral comments was shaped by power in ways that limited the voices of multiply marginalized people. Power operates in public input processes through multiple levels that limit access and meaningful participation. At a primary level are issues of access and resources - the time and ability to participate. Secondly, there are ideological and discursive levels of power that shape what types of knowledge, experience, and claims are legitimate.

I found that there were logistical barriers to public participation in the hearings, which contributed to the attendees being primarily white and middle-class, while input from Indigenous and working class voices was largely missing. The events were not held in or near Indigenous communities – the exception was one hearing held in Duluth which is a 30-45-minute drive from the Fond du Lac reservation, but the Tribes that rely on manoomin harvesting are spread throughout the state. On the other hand, construction unions provided buses to transport workers – primarily white men – and their families from Northern Minnesota three hours south to hearings in the capitol, St. Paul. Meetings were also held in the evenings, which meant parents either must bring children or find childcare – I observed only a few parents who brought their young children. This scheduling privileged people with typical white collar work schedules and professional jobs. The agencies have discretion in organizing public meetings, and therefore could have develop procedures for a more democratic and meaningful exchange.

Interactions at public hearings are shaped by ideologies and institutional norms that privilege white, middle-class, and expert voices. Bureaucratic settings of public

hearings demand that people articulate their concerns through the logics of technocratic governance that adhere to masculine and bureaucratic norms of presenting fact-based arguments and evidence rather than political or moral claims. Thus, power operates through assumptions in the EIS process that risks can be objectively measured, quantified, and minimized through technical means – assumptions resting on patriarchal and Western-scientific ideas. Hearings were held to get comments on the EIS document, which is contradictory because it is difficult for lay persons to meaningfully engage with a 3,576 page highly technical document. Direct political and moral claims are not legible in the formal decision-making process that is about scientific analysis. Thus, both mining opponents and supporters made competing fact claims and appealed to letting the “science” decide.

The very act of speaking in front of a large crowd privileges leaders as well as white and educated people who are comfortable in such a setting. Individuals were selected randomly to speak for an allotted three minutes in front of a panel of government bureaucrats. However, this was not a dialogue – just short declarative statements. This type of public engagement rests upon norms and practices of masculinity, whiteness, and class. Many people ceded their time to leaders of organizations and local politicians; therefore, most of the testimony was not actually from the public. I did not observe disproportionate numbers of men or women testifying, but nearly all women were white, and many were representatives of environmental organizations and scientific or legal experts. Indigenous and poor women were generally not present. One exception was a woman who testified and identified herself as Ojibwe. She gave a passionate and emotional speech in which she pointed out that she did not have the money to bus people

from her community – a reference to the pro-mining workers. Her comments sparked applause from the crowd, but the moderator quickly asked the crowd to be quiet – it was a violation of rules and norms of being unemotional.

Incorporation and translation of Indigenous knowledge

While Indigenous concerns were largely missing at public hearings, Ojibwe bands were incorporated into the formal environmental review process as cooperating agencies, which enabled them to influence the EIS, and provided legitimacy and recognition for their concerns. U.S. federal agencies are supposed to interact with Tribes on a government to government basis but the rules for tribal participation under NEPA are limited and do not require substantive tribal consultation and deliberation. There is guidance for agencies to invite participation of Tribes in the EIS process when there are “tribal implications,” particularly if a reservation is directly impacted. Tribes can be included as cooperating agencies which involves early access to information, but no vote in shaping the process (White House Indian Affairs Executive Working Group 2009). However, interpretation of tribal implications is up to the government and even when Tribes are included, federal agencies do not have to schedule to accommodate tribal timelines, hold in-person meetings and, importantly, Tribes do not have decision-making authority.

Therefore, in the PolyMet case, the agencies did take a proactive position of including the Tribes as cooperating agencies, but this involvement still had limitations. The agencies interacted with tribal governments and authorities, which did not include Indigenous grassroots groups or Ojibwe community members living on and off reservations. The policies, strategies, and goals of tribal governments are not necessarily

aligned with Indigenous activists and community-based organizations (Ishiyama 2003). Indigenous concerns were also conceptualized as those of enrolled Ojibwe band members, which excludes people who are not official members or are members of other Tribes but live in the region. State institutions focus on official categorization and do not recognize multiple, overlapping, and fluid identities.

The bands used their own technical experts to challenge the mining plan and highlight risks. Their experts scrutinized complex technical documents to raise challenges about model assumptions and gaps in data. However, tribal critiques were bracketed into a separate appendix in the EIS on major differences of opinion between the cooperating and the lead agencies. Thus, tribal concerns were excluded from the main conclusions of the EIS. There were some adjustments made between the draft and final EIS based on tribal concerns, but these were mostly minor and did not respond to broader complaints about an inadequate cumulative effects analysis, threats to treaty-protected tribal resources, and underestimated human health risks. The Tribes directly challenged the lack of meaningful consideration of impacts to cultural resources:

The tribal cooperating agencies have repeatedly stated and commented in writing that there likely will be substantial impacts to cultural resources and impacts to cultural resources need to be fully integrated into evaluation of potential impacts to cultural sites and cultural resources. However, there appears to be a concerted effort to diminish any and all comments on this subject. (The Minnesota Department of Natural Resources, U.S. Army Corps of Engineers, and U.S. Forest Service 2015c:8)

However, the forum of a technical review process meant that Indigenous concerns were articulated through the discourse of science and expertise, which meant that the voices of tribal elders and Indigenous women were often missing. This shows how “tribal” interests are understood in a static and limited way by state institutions.

Assessments of impacts to manoomin was largely based on government data and modeling, not the direct experiences of manoomin harvesters and elders, although these also vary by gender and class – such as commercial versus subsistence harvesters. Written comments from Ojibwe bands included alternative data about manoomin that was based on experiential knowledge, but this was not incorporated into the official calculations or conclusions. The EIS stated that it was difficult to determine how Ojibwe people used the area because of a lack of specific data that limited quantitative analysis (The Minnesota Department of Natural Resources, U.S. Army Corps of Engineers, and U.S. Forest Service 2015b:6–116).

When social, cultural, and economic impacts are considered in the review process, technical-scientific knowledge is privileged over Indigenous knowledge. Under NEPA, government agencies should assess potential impacts to American Indian religious or cultural sites, and treaty protected resources, although there is no standard for what constitutes too great of an impact or rules that would compel the agency to make changes or stop the project. Evaluations of impacts are made by government regulators – not impacted Indigenous communities. The NorthMet review process did involve discussion with Ojibwe bands about historical and spiritual sites, and cultural resources – there are rules under the National Historic Preservation Act requiring tribal consultation. For example, a study commissioned by PolyMet on tribal resources included interviews with tribal elders. However, much of the data used in the EIS is still from consultants, academics, and archeological surveys, not from oral histories with native elders. Indigenous knowledge had to be verified with land surveys and archival research to meet legal definitions. Tribal knowledge was described as lacking specificity and verifiability

(The Minnesota Department of Natural Resources, U.S. Army Corps of Engineers, and U.S. Forest Service 2015b:4–340). Archaeological studies determine historical importance, which places value on sites according to Western academics and impacts to discrete physical sites rather than more diffuse spiritual and psychological disruptions. The legal framework of historical preservation also equated the cultural importance of Ojibwe sacred sites with preserving the integrity of old mining facilities, such as the “feeling” of an iron concentrator building.

Threats to Indigenous resources and livelihoods

The 1854 Treaty includes rights for Ojibwe to harvest resources off reservation land, thus industrial pollution that harms resources could be a treaty violation (Raster and Hill 2017). In other instances, such as salmon fishing rights in Washington State, Tribes have sued government agencies to assert their right to change land use practices that are damaging fisheries (Cohen 1986). However, the NorthMet EIS claims that mining would not have a significant negative impact on manoomin because water pollution would not raise sulfate levels beyond existing standards. Unquestioned are the existing high-levels of sulfates in surrounding waters. A draft EIS was revised and the final version acknowledged some critiques from Ojibwe about water pollution threats to manoomin, but the EIS did not address more fundamental challenges and proposed engineering solutions to meet the contested standards, “the project proposer would build a wastewater treatment plant for treating sulfate to concentrations that would meet the manoomin sulfate standard,” (The Minnesota Department of Natural Resources, U.S. Army Corps of Engineers, and U.S. Forest Service 2015a).

Assurances based on technical expertise and the strength of government regulations is paltry when addressing a potential threat to manoomin that the Ojibwe describe as interconnected with their culture, livelihood, and identity, and a “sustenance right,” (Protect Our Manoomin n.d.). Manoomin is part of the Ojibwe’s creation story and carries important spiritual and cultural meanings that are linked to Ojibwe identity and worldview. It is also a key component of people’s diets and tribal economies. “Wild rice is the reason that Ojibwe people live here... Wild rice is seen as a special gift from the Creator and became a staple of the Ojibwe diet,” (Fond du Lac Band 2015). Polluting manoomin is not simply a threat to a wild plant, but a threat to Ojibwe existence and livelihoods.

An intersectional approach also points to how manoomin is particularly important for Ojibwe women because it has been a source of women’s livelihoods and economic independence as well as being a meaningful part of caring relationships (Norrgard 2014). Rose Berens of the Boise Forte Band told researchers for the cultural landscape study that:

Wild rice is just something that was always there; you are fed it as a baby as one of your first foods; it is used not only as a food but as a medicine. Women want children to eat wild rice. (Boise Forte Band; Grand Portage Band, Fond du Lac Band; Bad River Band; Landscape Research LLC; Barr Engineering 2012)

Yet, the assessment of manoomin impacts in the final EIS document did not address differential impacts within Indigenous communities or gender equity concerns. The EIS makes a few mentions of manoomin as part of the Ojibwe creation story, but this cultural and spiritual meaning is bracketed in sections on Indigenous history and cultural resources, and not incorporated into analysis of water pollution.

The possible social, emotional, and psychological effects of perceiving even small increases in toxins are not considered or how this impact may vary across age, gender and class, such as for young mothers. Yet, research has shown that perceptions of pollution can impact community well-being, such as the perceived impacts of coal mining pollution (Bickerstaff and Walker 2001; Freudenburg and Pastor 1992; Gilberthorpe and Banks 2012; Scott et al. 2012). Instead, the impact on human health is simply a numerical calculation. Fears of pollution may change people's practices around fishing and harvesting manoomin, which could contribute to the erosion of Ojibwe cultural practices and identity. Decreased fishing and manoomin harvesting would contribute to the erosion of culture that goes beyond the loss of a recreational activity for white settlers. These gaps are indicative of risk assessments based on Western science and legal logics that often ignore Indigenous conceptions of well-being (Vickery and Hunter 2016).

Whiteness and Gender in Socio-Economic Impacts

The job creation benefits from mining development is implicitly for predominantly white men, overlooking Indigenous livelihoods, and ignores the often-unrealized economic impacts from new extractive projects. The EIS accepts PolyMet's estimates of 500 direct jobs in construction and 360 during operations, with another related 332 construction jobs and 631 operations jobs (The Minnesota Department of Natural Resources, U.S. Army Corps of Engineers, and U.S. Forest Service 2015b:ES-41). Mining and construction are largely male and white industries, but there is no mention of who will be getting these jobs. There was no discussion of plans to encourage hiring of women, people of color, or Indigenous people. Also, the economic analysis and rhetoric around job creation overlooks differences by class as mining jobs have become

increasingly technical and skilled, thus companies often bring-in outside workers and hire highly skilled workers.

Meanwhile, the potential negative impacts to the livelihoods of women, Indigenous people, and service-sector workers are not calculated in the socio-economic impacts. Mining development could potentially harm service sector jobs in recreation and tourism, and Ojibwe manoomin industries. The EIS chapter on socio-economic impacts addresses Indigenous subsistence and the recreation industry, but concludes that mining is not a major threat, and claims that mining and recreation can co-existed. The NorthMet EIS includes sections on impacts to cultural resources, socio-economics, and recreation, which is primarily about historic preservation, job creation, tax revenue, population change in rural towns, and economic growth. The labor of Ojibwe rice harvesters and fisher people are not considered in the discussion of jobs, as impacts to tribal livelihoods were bracketed in separate sections on cultural resources. The loss of manoomin could place a greater burden on Ojibwe women for whom harvesting has provided a way to support themselves and their families and been an important space for creating community (Norrgard 2014). Yet, these voices and concerns are not addressed as part of the economic analysis.

Left out are alternative community development plans by Indigenous groups. Indigenous activist group Honor the Earth opposes the mine but is also promoting land-based resilient development through industries like renewable energy that can bring jobs to tribal communities.

In keeping alive our rich heritage and relationship with our Indigenous Economics, we are faced with choices that will set our path and leave a footprint for our future generations. That footprint is a choice. We can continue the

scorched path that has been forced upon us; now is the opportunity to make the sound decisions for a just and clean future - the green path. (Honor The Earth 2016)

Meanwhile, unions representing white male construction workers and mining industry groups were a vocal presence, and the EIS discussed the history, and continued importance, of mining employment. The benefits of industrial job creation and economic growth is an assumption in the EIS framework that institutionalizes privileges to white male workers.

Health Risks

EIS analysis focused on impacts to water, wetlands, land, and plants, with much less attention to the social and cultural risks, especially human health, that have greater environmental justice implications. The lack of health and social impacts is indicative of broader trends in environmental assessments (Steinemann 2000). While NEPA includes language about considering environmental and social impacts, there are no rules about how, or to what degree, human health impacts and social justice should be considered. The final NorthMet EIS did not include a complete health impact assessment and appeals to do so by health professionals were denied. In July 2015, Minnesota Governor Mark Dayton announced that there would not be an additional health impact assessment (HIA) for the NorthMet project – despite appeals by several physician and nursing professional organizations. This ignored best practices in addressing health impacts and incorporating community input (Bhatia and Wernham 2008). Instead, in the final EIS document the agencies added a five-page summary of health effects.

Uncertainties and inequalities in averages and standards

The EIS concluded that mining would generally not have negative health impacts based on predictions from statistical calculations and modelling that showed pollution emissions, particularly mercury and sulfate that effect fish and manoomin, would be low and controllable. Any water or air contamination from NorthMet would not exceed regulatory standards and only contribute small, acceptable, amounts of toxins (The Minnesota Department of Natural Resources, U.S. Army Corps of Engineers, and U.S. Forest Service 2015b).

The assessment overlooked the possibilities of mistakes and catastrophes. Analysis of other EISs for hard rock mining in the U.S. shows that they often underestimate the impacts to ground and surface water (Kuipers et al. 2006). The narrow focus on individual chemicals and applying standards is indicative of shortcomings in EIAs (Steinemann 2000). Elevated levels of mercury and sulfates are attributed to existing water conditions, particularly due to seepage from nearby iron mines (The Minnesota Department of Natural Resources, U.S. Army Corps of Engineers, and U.S. Forest Service 2015b:5–9). These claims rely on the quality of water monitoring data and hydrology modeling and use technical language that asserts objectivity and truth while disregarding contention over existing levels of contamination and community concerns about even the low possibility of pollution.

When health effects were addressed, there was no discussion of equity and the intersectional dynamics of risk. However, risks from copper-nickel mining are not distributed equally as Indigenous, working class, and women may face potentially higher risks due to greater consumption of fish for subsistence or cultural practices (Barbieri et al. 2016; Herrera et al. 2016; Ohlander et al. 2013). Traditional risk assessment overlooks

populations that have high and multiple toxic exposures (Gochfeld and Burger 2011). Elevated mercury in fish due to mining waste has the greatest potential impact on women and children because mercury effects fetal and childhood development (Foran et al. 2010; Madsen et al. 2008). However, the 3,576 page EIS does not discuss gender. There is a brief mention of baseline community health and that surrounding counties have some of the worst health outcomes in the state, but there is no analysis of how mining could exacerbate these regional health inequalities. In addition, only county level data is used – thus there is no discussion of individual differences in health across and within social locations of race, class, and gender. Without baseline data on intersectional differences in health, communities will struggle to demonstrate disproportionate health burdens from new mining.

Claims of safe mining are based on the presumption that standards are adequate (The Minnesota Department of Natural Resources, U.S. Army Corps of Engineers, and U.S. Forest Service 2015b:7–17). Yet, standards are contested for being too conservative, overlooking cumulative and low-level effects, and differential impacts. The apolitical and objective discourse downplays the political struggle over setting the manoomin sulfate standard, measuring existing sulfate levels, and enforcing violations (Myers 2016b). Environmental and tribal advocates are pushing for more enforcement and more documentation of already degraded manoomin waters, while the mining industry is working to weaken or eliminate the standard (Marcotty 2016c). There are ongoing lawsuits against the state of Minnesota for failure to enforce sulfate emissions from tailings basins at iron ore mines (Marcotty 2016d).

Standards are based upon average exposures to a normal person, which relies on an imagined average person that is typically a white man. This does not account for different sensitivities and risks that vary by intersections of race, gender, class, and indigeneity (Swanston 1993; Verchick 2004). The EIS states that already high levels of methylmercury in fish could increase due to copper-nickel mining, but the change is hard to quantify and not “statistically measurable,” therefore, concluding there is no likely health impact:

The FEIS concludes that this potential change in methylmercury concentration is not statistically measurable given the variability in background concentrations and the current laboratory analytical methods. (The Minnesota Department of Natural Resources, U.S. Army Corps of Engineers, and U.S. Forest Service 2015b:7–16)

These risk calculations require making assumptions about how much fish people consume, thus the EIS included models for recreational fishers, subsistence fishers, and tribal subsistence fishers. The document does not elaborate on what constitutes tribal subsistence fishing beyond using the Treaty protected catch rate, which does not incorporate Indigenous people’s actual use. Later the document claims that there could be adverse impacts to tribal livelihoods, but given the lack of data on substance practices, concludes that there is no evidence of negative impacts. The experiences, concerns, and practices of Indigenous people are silent in the logic of technical analysis that demands quantifiable data.

Missing in the EIS is consideration of other vulnerable communities, particularly children, pregnant women, and low-income people, or cumulative effects of other sources of toxins. The document does not account for The Minnesota Department of Health’s guidelines on limiting fish consumption for sensitive populations of women who are or

may become pregnant, and children under age 15. Even the health recommendations do not recognize the differential burdens for Indigenous and working-class women for whom fish might be an important part of subsistence and culture. The EIS also does not account for other important differences such as seasonal variation in consumption or how fish are eaten – fish skin and certain parts accumulate more mercury (DeWeese et al. 2009; Foran et al. 2010). Another consideration is that walleye have higher mercury levels compared to other fish but are also one of the most culturally and economically important species for Ojibwe (DeWeese et al. 2009).

Summary

The review process for PolyMet's proposed NorthMet mine reveals the dynamics of power and privilege in the decision-making around environmental hazards that lead to procedural injustices. I find that regulatory procedures operating through dominant discourses of science and technocracy privilege white, male and upper-class people, and expert knowledge through the institutionalized logics of meeting organization and structure, quantification of impacts, and using average exposures in predicting risks. Those who face the greatest risk across intersections of gender, indigeneity, and class, also have the least role in the decision-making process, and their voices are often not legible by dominant institutions. Procedural injustices are embedded in the topics selected for assessment, and the assumptions and data used in analysis. Ojibwe bands had a formal role that increased their access, but their substantive participation was still constrained by a lack of pro-active policies and even technical objections from staff of Ojibwe bands and inter-tribal organizations did not lead to substantive actions. Within the dominant racialized and masculine assumptions of state institutions based on economic growth and

Western science, traditional ecological knowledge is not incorporated in meaningful ways.

I also find that the EIS overlooked environmental justice concerns of public health risks and disruption of Indigenous livelihoods and sovereignty. Conclusions about the safety of mining are based on quantitative calculations and average exposures, that overlook disproportionate impacts and assume existing standards are adequate. Intersectional differences in exposure to risks, psychological and symbolic damage, and contested standards are not incorporated into the official assessment. Socio-economic benefits of mining are also implicitly for white men who would work in the mines, while degrading manoomin and fisheries is not counted as a jobs impact for Indigenous and working class people.

Conclusion: A Critical Approach to Environmental Assessments

My analysis provides three key contributions to environmental justice and decision-making scholarship. *First*, when EIAs overlook intersectional dynamics of risk and health, conclusions about safe development ignore the disproportionate burdens faced by multiply marginalized people. Analysis of risk through a single category of difference can overlook important inequalities and variations in risk within and across different communities. The social, psychological, and health effects of environmental risks are also not adequately addressed in quantitative analysis predicting if potential pollution from single chemicals would exceed regulatory standards. Without assessment of how multiple forms of social difference shape exposure to risk and perceptions of environmental hazards, regulatory decision-making procedures are likely to reinforce status quo power dynamics and reproduce environmental injustices. This corroborates

other scholars and practitioners calling for more comprehensive and holistic consideration of human health in EIS processes (Bhatia and Wernham 2008; Davies and Sadler 1997; Steinemann 2000). I also argue that analysis of intersectionality is necessary to challenge reified social categories and understand the complexities of how people are exposed to risks.

Second, assessment of socio-economic impacts from resource extraction can reproduce whiteness and masculinity by discussing health hazards and economic growth in neutral language that ignores intersectional differences in who benefits and who is at risk. An intersectional analysis is needed not only for risks and hazards, but also benefits and socio-economic impacts. In the PolyMet EIS, assessments of economic benefits privileged job creation for white male mine and construction workers over Indigenous livelihoods and working class women employed in service sector jobs.

Third, access to the decision-making process alone does not necessarily provide procedural justice to multiply marginalized communities when deliberation is through the discourse of science and expertise, the norms of bureaucratic institutions, and does not fully recognize Indigenous sovereignty. In the case of PolyMet, open public forums were dominated by white and middle-class voices, and the EIS privileged technical and scientific expertise over local and traditional knowledge. However, the formal incorporation of tribal organizations into the review process can enable representational justice by providing an avenue for Tribes to establish legitimacy and visibility and assert critiques. Ojibwe bands used their experts to challenge corporate dominated science and hold government regulators accountable by scrutinizing technical details. However, this position is contradictory because incorporation can also lead to legitimation of state

processes without meaningful changes that address power imbalances. Formal involvement also places burdens on Tribes to provide staff and resources to participate in lengthy bureaucratic processes. Being legible to state institutions also relies on articulating Indigenous concerns through the discourses of science.

Ch. 6: Conclusion

Global capitalism continues to be highly resource intensive, counter to claims about a de-materialized postindustrial economy, and accelerating rates of resource extraction using new methods and targeting new areas present major socio-ecological challenges. New sites and methods of extraction raise complex questions of environmental justice about who bears the risks, who stands to benefit, how these costs and benefits are assessed, and who makes the decisions. I argue that conflicts over how and where resource extraction occurs is not simply determined by political-economic or technical processes but is also a struggle of cultural politics over meanings of place, moral economies, collective memories, and perceptions of risk. Conflicts over extraction are creating social and political rifts in the U.S. and globally as right-wing movements embrace extractive populism but diverse coalitions and social movements are also mobilizing against extreme extraction to promote social and economic justice.

In this dissertation, I use proposed copper-nickel mining in the Minnesota Iron Range as a case study to trace how and why future mining projects become contested. Using approaches from environmental justice, political ecology, and cultural sociology, I show how contemporary debates over copper-nickel mining are shaped by ideology and power, particularly through forms of collective memory and place-based identities that are situated within local histories and landscapes as well as national and global discourses and political-economic structures. I examine the cultural frameworks that different social actors use to make sense of future projects and legitimate their positions. I then explore how these meanings are mobilized in regulatory processes and interrogate issues of procedural and representational environmental justice in decision-making.

To summarize, in Chapter Two I situate the current conflicts over copper-nickel mining within the historical, cultural, and political-economic context of the Iron Range emphasizing the processes of extractive capitalism and settler colonialism and struggles over labor and environmental conservation. I then describe the key events and turning points in development of the Twin Metals and PolyMet projects and how different social actors have mobilized to influence public opinion and decision-making. In Chapter Three, I demonstrate how mining proponents and opponents understand future mining projects through different cultural frameworks. I argue that mobilization is driven by emotional connections to place and nostalgia. In Chapter Four, I focus on how the emotions, identities, and collective memories connected to mining generate support for right-wing populism on the Iron Range. Discourses of extractive populism frame new mines as defending rural livelihoods and a way of life while offering a vision for a prosperous future for an economically struggling region. In Chapter Five, I trace how these moral, political, and affective claims are channeled through the regulatory review process for PolyMet's NorthMet project. I argue that public input is largely symbolic and the risks to multiply marginalized people are underexamined. The perspectives of Indigenous communities are not meaningfully incorporated as the knowledge of experts is privileged and authority resides with state agencies.

Contributions

To conclude, I highlight three contributions of my research. *First*, through an analysis of the cultural politics of mining using concepts of collective memory, nostalgia, and place, I push environmental sociology in productive new directions. I build on Norgaard's (2006) research on the role of emotions in collective denial of environmental

problems to show the ways that affective meanings of place and collective memory shape mobilization, both active acceptance and resistance, in response to potential environmental risks. Rangers identify with mining as a way of life which creates emotional connections and identification with industry that extends beyond people actually working in the mines. When people's collective class and place identities are linked to an industry, they are likely to assert PIMBY demands in response to proposed development. This shows how extractive capitalism maintains hegemony through workers' material reliance on industry as well as through constructions of collective memory and environmental imaginaries that naturalize the necessity of mining. For other people who understand the place through experiences of recreation and visions of wilderness, industrial development is interpreted as a rupture and lead to opposition. My research shows that place, memory, and emotion are important dynamics more broadly to core topics in sociology including ideology and hegemony, identity formation, and social movement mobilization and strategy.

Second, I argue that environmental justice scholarship should examine the tensions and contradictions in how justice is perceived, particularly across intersecting lines of class, race, indigeneity, and rurality, and how groups struggle over the right to speak for a place. I find that long-time residents, workers, and political leaders in a rural extractive region that is predominantly white understand opposition to mining as a form of injustice that threatens their livelihoods and identity. They act in defense of a perceived right to make decisions about their "backyard." Meanwhile, conservationists and outdoor recreation enthusiasts, who are largely white, middle-class and not from rural areas, interpret development as an injustice to their aesthetic and emotional connection to

the land, their “playground.” American Indian Tribes and Indigenous activists articulate a more critical environmental justice framing about colonialism, but their perspectives are less visible in the public debate. They see potential mining as a violation of their treaty rights, a threat to community health and wellbeing, and a rupture to ethical and just relationships with nonhuman nature in their homeland. Therefore, how people define development as an injustice or not is shaped by how people understand a place as a backyard, playground, or homeland, and how these conceptions are shaped by ideologies of capitalism, racism, and colonialism.

Third, I show the importance of analyzing the dynamics of biophysical factors and nonhuman nature in environmental politics which have largely been overlooked in sociology that traditionally views human society as separate from the environment. I argue that cultural, political, and economic processes of understanding, regulating, and commodifying nature are intertwined with biophysical conditions. For example, I found that the chemistry of copper-nickel and iron ores mobilize different social and political responses due to different levels and types of risks. Therefore, research needs to examine differences and similarities in types of mining, such as coal versus copper. Analysis of environmental conditions is not a return to crude environmental determinism, but rather recognizes the co-production of nature and society and the interdependencies of human and nonhuman nature. Therefore, I think that analysis of culture and biophysical processes will move environmental sociology in new directions to engage transdisciplinary conversations that can help to understand the complexities of society-nature relations and global environmental problems.

Political Implications

Labor-Environment Relations and Just Transitions

My research demonstrates the complex tensions between workers and environmentalists, and the broader political and social implications of these divisions. I make two arguments in this sub-section. *First*, environmental issues and conflicts over resource extraction have broad political significance that are symbolic of wider class divisions. *Second*, efforts to create working class support for environmentalism and build union-environment and other progressive cross-class coalitions must recognize the cultural and emotional meanings of work and place, which has often been overlooked in blue-green activism and scholarship.

First, multiple factors have contributed to the gradual breakdown in the post-war liberal Democratic political alliance, that included urban progressives, industrial workers, and communities of color, (Edsall and Edsall 1992; Frank 2016; Harvey 2005) but I contend that conflicts over environmentalism is one key dynamic that is often overlooked. Environmentalism has come to symbolize the elitism of liberals who supposedly disregard people's livelihoods in industrial and extractive regions, and how the Democratic party has strayed from its working-class base. Right-wing politicians have embraced extractive populism which links mining and consumption of natural resources to notions of modernity and the good life, and a symbol of the nation and the people. Expanding resource extraction is framed as defending the people while environmentalism is framed as elitist, selfish, and unpatriotic. This is an ideological narrative constructed by corporate interests and used by conservative political movements to gain white and working-class support. Yet, I think understanding how and why this

rhetoric becomes common sense and emotionally-resonate with people is important theoretically and politically.

Overcoming labor versus environment divides is essential for building political momentum to address environmental problems and maintain, or rebuild, cross class and cross regional political movements and create progressive coalitions between unions and environmentalists—two of the strongest and largest social movements in the U.S. Unions have played a key role in Democratic politics and are effective at influencing and mobilizing members to take social and political action (Albert 2014; Freeman 2003; Juravich and Shergold 1988; Kerrissey and Schofer 2013; Kim 2016). In rural and industrial regions like the Iron Range, Appalachia, or the Rust Belt, organized labor has been a key factor in maintaining progressive working-class politics. But as unions have weakened and become more defensive and conservative, some industrial and construction unions have split with Democrats over environmental policies and rural and industrial regions increasingly support Republicans. West Virginia is a prime example of a historically Democratic stronghold that now votes reliably Republican in national elections (Adams 2017). Therefore, the potential loss, or weakening, of union support for Democrats and other progressive politicians due to anger over environmental issues has major ramifications. Traditionally some of the most heavily unionized industries, such as mining, steel, and oil and gas, are also among the most polluting. Thus, environmental regulations pose a material threat and, I think more importantly, serve as a powerful scapegoat to direct workers' anxieties and resentments and divert blame from corporate actions.

Second, most explanations for conflicts between workers and environmentalists focus on class differences, workers' material reliance on jobs, and different organizational cultures between unions and environmental groups (Mayer 2009b; Obach 2004; Rose 2000). However, I emphasize cultural factors, particularly collective identities and meanings of place and labor, that have been under-addressed. Residents, workers, and political leaders of extractive regions typically want more jobs and economic development given the booms and busts created by mining, which they often see as stymied by environmentalism—a message advanced by corporations and right-wing politicians. I argue that the reason these messages resonate as legitimate and authentic in places like the Iron Range is not just the material need for jobs, but the cultural meanings of labor and community that are intertwined with industry. Therefore, environmental groups and politicians critical of extractivism also need to understand how mining labor is culturally meaningful and develop strategies that speak to people's identities and emotions.

An essential step in building labor-environment coalitions is addressing the material realities of workers and communities in extractive and industrial regions and creating alternative forms of sustainable economic development that are not extractive and polluting. Just transition policies are necessary to ensure that workers in toxic and energy intensive industries, like mining, do not bear an unequal burden from environmental protections and the move towards a more environmentally sustainable economy. Just transition policies can provide workers displaced by plant closures with training, income, and job placement programs, and fund alternative community development. These policies are particularly important in rural extractive regions that are

often isolated and dominated by single industries. Yet, these jobs are not a panacea, especially as the promises of green industrial jobs have rung hollow. For example, attempts at building solar panel manufacturing facilities on the Iron Range have struggled (Myers 2017a).

. Many scholars, politicians, and activists have called for just transition policies and green job creation (Mulvaney 2014; Mundaca and Luth Richter 2015; Snell 2018; Stevis 2012). Yet, there has been limited political success, especially as conservatives have framed green jobs as failed government overreach and workers have been slow to mobilize for new green industries that appear uncertain (Cass and Walker 2009; Goodstein 2013; Hess, Mai, and Brown 2016). Therefore, I argue that creating support for these policies relies on framing, communicating, and designing initiatives in ways that resonate with workers and rural communities. First off, labor support depends on just transition programs creating good jobs with decent pay and benefits that is also culturally meaningful work. All too often the alternative jobs offered in places like the Iron Range are in the tourism or service industry that are low-paying and seasonal and lack the social status of industrial labor. Thus, new jobs need to be good jobs. But, proponents of just transitions also need to design and frame programs in ways that recognize a job is more than an income and that community identities are interconnected with polluting industries. New types of industrial jobs, like green construction or manufacturing renewable energy technologies, could affirm people's class and labor identities while providing decent paying jobs. Environmentalists need to create compelling visions of the future that do not disparage the legacy of mining and draw on alternative collective

memories and values such as worker solidarity, hard work, and economic equality to envision a cleaner and more socially just future.

Other research on blue-green coalitions has shown the importance of creating shared interests between environmentalists and union members (Mayer 2009a; Obach 2004). My research suggests that creating a unified sense of protecting a place could be effective. Environmentalists, Rangers, and mine workers all want a clean environment to live, work, and play. Yet, the challenge is that they disagree on how to protect the place, who is best positioned to keep the place clean, and what represents a risk. Some environmentalists think that outdoor recreation, particularly fishing and hunting, could be a bridge issue and they have had some success in bringing in people who are not traditional environmentalists. But this strategy has had limited success locally in the Iron Range because of the long history of conflict over the BWCA and cultural differences in how people recreate and use the outdoors. Focusing on outdoor recreation can also divert attention from impacts to human health and issues of environmental justice. Recreation and conservation are less effective messages when development is proposed in an area that is not valued for aesthetic beauty and recreation, which is demonstrated in the greater public concern about Twin Metals compared to PolyMet.

Another potential area of common ground is opposition to large multinational companies and critiques of global capitalism. There is a history of environmental organizations and unions collaborating to oppose NAFTA and free trade (Barca 2012; Dreiling 1997; Gould 2004; Obach 2004). A few environmentalists I interviewed said that they were attempting to build bridges with the mine workers over struggles with mining companies and concerns that the new mining companies would resist

unionization. For example, Glencore, the main investor in PolyMet, has been criticized for human rights, labor, and environmental violations around the world, and the United Steelworkers union (USW) are leading a global campaign against the company. Workers in Canada and Columbia have gone on strike at Glencore facilities while workers at other plants are in contested contract negotiations (United Steel Workers Canada 2007). Yet, these coalition building efforts have not made substantial progress in Northeastern Minnesota and have not disrupted the dominant jobs versus environment discourse. I found that some pro-mining Rangers and workers dismiss environmentalists' critiques of foreign and anti-union companies and actually trust the companies claims over environmentalists. People hold contradictory positions as unions fight the mining companies during contract negotiations but then support companies at the prospect of a new facility.

Building cross-class and cross-race coalitions for social and environmental justice also depends on environmentalists addressing issues of power and equity. Yet, most of the environmental groups involved with copper-nickel mining in Minnesota have not emphasized environmental justice issues and instead have focused on impacts to wilderness, wildlife, and ecosystems. Neglecting issues of corporate power, public health, and unequal impacts of pollution across race, gender, and class, continues the legacies of whiteness and elitism in the environmental movement. The focus on technocratic politics and wilderness protection reproduces an image of environmentalism as a middle-class and white concern. This not only creates barriers to collaboration with workers and unions, but also other social justice activists and movements. For example, events held about copper-nickel mining in Minneapolis over the past three years did not involve the

vibrant social movements active in the city and were largely attended by older white people and young outdoor recreation enthusiasts. These events were a sharp contrast to the large and diverse marches, rallies, and direct actions occurring at the same time around opposition to the Dakota Access Pipeline, resistance to Trump's immigration policies, and the Black Lives Matter movement.

Overall, my assessment of the situation in Northeastern Minnesota is rather pessimistic as the divisions between labor unions and Iron Range leaders with environmentalists and Twin-Cities leaders have become more fraught and continue to upend state politics. Yet, alternative futures are possible and there are histories of labor-environment collaboration in Minnesota. For example, the USW and other industrial unions opposed Reserve Mining Company dumping iron tailings in Lake Superior in the 1940s and 1950s and claimed the company was doing this to cut jobs with disregard for the environmental impacts (Langston 2017). Although the USW would eventually defend Reserve Mining when it was briefly shut down in the 1970s. The union has moved towards a more conciliatory relationship with the mining companies in the past three decades (Manuel 2015). There has also been more recent labor-environment activism. The Blue Green Alliance (BGA), a national coalition of unions and environmental organizations, began in Minnesota in the early 2000s between the USW and Sierra Club and grew into a national organization with multiple unions and environmental groups. The BGA has dwindled and lost power, particularly with growing tensions over copper-nickel mining and oil and gas pipelines. Still, Minnesota was a center of labor environmentalism that challenged the jobs versus environment dichotomy, and these counter hegemonic alliances are still possible, but not certain.

Environmental Decision-Making and Policy

My analysis of the environmental review process for proposed mines also offers insights for advancing procedural environmental justice and rethinking environmental advocacy strategies. I found that the review process for PolyMet's NorthMet project lacked meaningful forms of community input, which is emblematic of environmental decision-making more broadly. Simply having public comment hearings and accepting written comments can produce the veneer of public engagement without creating truly democratic policy-making. For example, at public meetings people were randomly selected to give three-minute statements to regulators in front of a large audience, which did not facilitate dialogue. The EIS public review process under the National Environmental Protection Act (NEPA) channels public engagement through technocracy as the public is supposed to provide comments on complex technical documents. Yet, people are motivated to participate based on emotional connections to place, values and politics, and often view their comments as a chance to voice their opinions on whether or not the project should go forward. But these moral and political claims are not legible in bureaucratic settings, and comments based on people's opinions are largely disregarded by state agencies.

The emphasis on science and engineering gives more power to organizations and companies with the resources to hire experts that can review technical documents and provide scientific and legal comments. Bureaucratic norms and standards of evidence privilege white and middle-class voices and the knowledge of experts over multiply marginalized communities. The appearance of objective and science-based decision-making also obscures the ways in which these are political decisions. Industry wields

power to shape decisions by pressuring agencies while the laws themselves are often constructed in ways to facilitate extractive capitalism. My case shows how politics can supersede regulatory decision-making as legislation related to PolyMet has been proposed to circumvent state agency procedures and ongoing litigation. The Trump administration also reversed Obama era decisions to renew the possibility of Twin Metals' project. Yet, these political changes often seemed to catch environmental groups off-guard who had invested time and energy into the regulatory process.

Achieving greater procedural justice in environmental policy requires proactive steps to give communities power and voice in decision-making. Public comment periods could be a more deliberative processes that involves procedures to foster collaborative problem solving and community reconciliation, especially when there are bitter social divides. State agencies could convene dialogues between different stakeholders or actively involve community members in the review process rather than having public involvement as an add-on at the end of the process. As O'Faircheallaigh (2007) argues, effective and just EIAs need pro-active measures. Some relatively simple measures could address some barriers to participation for marginalized and Indigenous peoples such as providing community members resources to attend meetings, providing organizations and Tribes access to scientific expertise, and constructing more participatory forms of engagement. Yet, more fundamental shifts in power are necessary to challenge the dominance of industry and experts. Giving Indigenous communities authority in decision-making—such as the right to deny a project's permit—would advance tribal sovereignty and address some systematic environmental injustices in extractive development.

Environmental groups often devote extensive resources and time into environmental review procedures as involvement has become common sense among the mainstream environmental movement. But, my research shows how these strategies are fraught and should be critically assessed. The PolyMet project was delayed partially because of an unsatisfactory EIS and environmental groups were able to use the company's own analysis to highlight the long-term pollution threats. Yet, this focus on technocratic politics also diverts attention from broader questions of environmental justice and resources from organizing and popular mobilization. PolyMet is still moving forward and it is unlikely that state and federal agencies will block development. The government has not required the company to implement stringent pollution controls or provide the large amounts of financial assurance demanded by environmentalists. An EIS rarely blocks a project or even fundamentally changes the project's design because the purpose of an EIS is to simply document the environmental impacts. Environmental groups should not necessarily abandon engagement in these institutions. Yet, I think it is important to question what amount of time and resources are devoted to environmental reviews, and the efficacy of insider and outsider political strategies, especially for building a broader more-inclusive environmental justice movement that can change the status quo of rising inequality and accelerating environmental destruction.

Tables

Table 1: Category and Number of Interviews

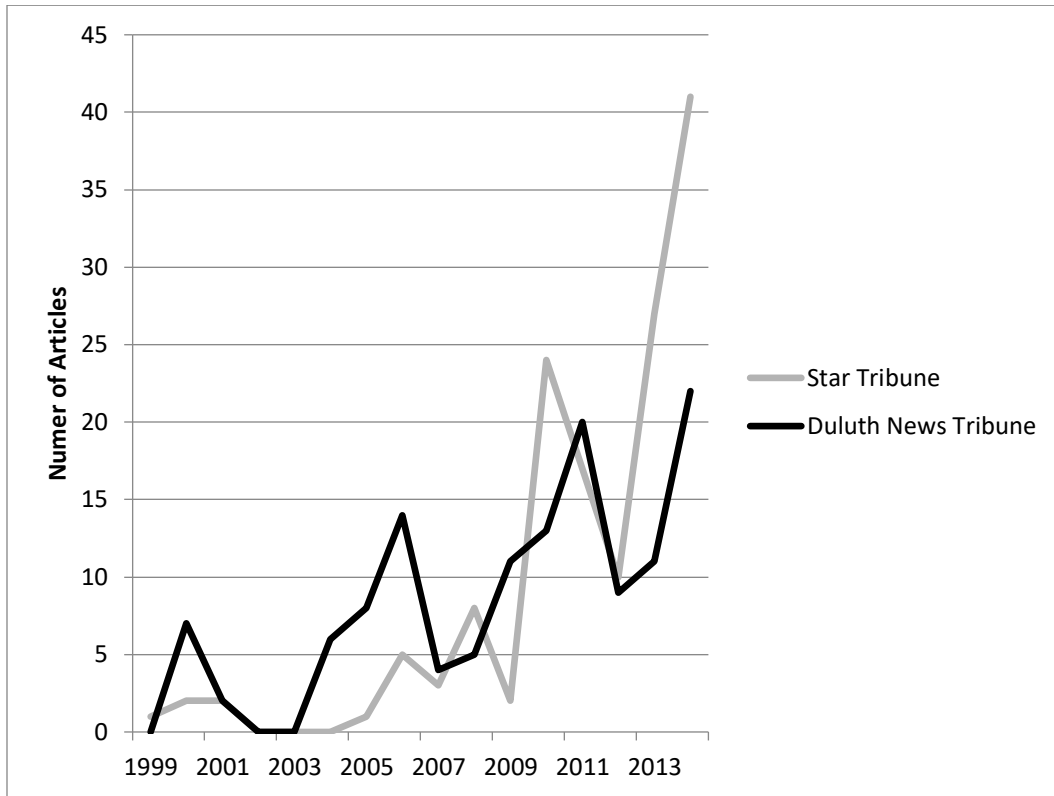
| Type of interviewee | Number interviewed |
|----------------------------|---------------------------|
| Environmentalist | 32 |
| Experts and scientists | 21 |
| Industry representative | 3 |
| Small business owner | 7 |
| Politician | 6 |
| Pro-mining activist | 4 |
| Government regulator | 7 |
| Resident of Iron Range | 17 |
| Union representative | 3 |
| Tribal representative | 1 |
| Total | 101 |

Table 2: Voting Results in the Minnesota Iron Range

| Precinct | US Congress (8 th District) | | U.S. Presidential Election | | | | | | | |
|----------|--|--------|----------------------------|--------|-------|---------|--------|--------|-------|--------|
| | 2012 | 2016 | 2012 | | | | 2016 | | | |
| | Nolan | Nolan | Obama | Romney | Stein | Johnson | Hilary | Trump | Stein | Johnso |
| 6A | 64.48% | 59.25% | 62.96% | 34.44% | 0.43% | 1.13% | 44.23% | 47.36% | 1.25% | 3.47% |
| 6B | 58.03% | 56.01% | 61.62% | 35.78% | 0.48% | 1.18% | 44.62% | 47.31% | 1.27% | 3.50% |
| 3A | 56.18% | 54.93% | 55.06% | 42.16% | 0.45% | 1.27% | 42.72% | 49.17% | 1.38% | 3.13% |

Figures

Figure 1: Newspaper Coverage of PolyMet Mine, 1999 to 2014



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