Mapping and Analyzing Environmental Justice in the United States

Environmental Justice Organizations, Liability and Trade (EJOLT)

by

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Abstract

The goal of our project was to strengthen the ties between the domestic environmental justice movement in the United States and rapidly growing international environmental justice movements. Our team worked in coordination with the Environmental Justice, Organizations, Liabilities, and Trade (EJOLT) project, an international collaboration among scholars, activists, and leaders seeking to enhance the sharing of knowledge and experiences to better preserve natural resources and combat environmental injustices. Our project consisted of two primary deliverables: 1) a map of the forty most influential environmental justice conflicts in the United States with detailed information on each conflict and 2) an article on the evolving history of the U.S. environmental justice movement through the lens of activism. The map will be included on the EJOLT Environmental Justice Atlas and the article will available publicly on the EJOLT website.

This report outlines the research design, methodology, and analytical decisions involved in producing our project's two core deliverables. We begin by discussing the primary goals and objectives of our research as they relate to the larger EJOLT mission. A comprehensive literature review provides background on the history of the environmental justice movement within the U.S. and previous efforts to apply social movement and organizational theory to this unique movement. The remainder of the report is divided into two sections. ***Deliverable I: EJOLT Mapping Initiative*** *describes the process we used to determine the forty most influential conflicts and analyze trends and patterns across those conflicts.* ***Deliverable II: Article on the History of Environmental Justice Activism in the United States*** *describes the process of conducting interviews with environmental justice actors on the evolution of environmental justice activism. We conclude by summarizing future plans for our research and ongoing opportunities for collaboration with the international environmental justice community.*

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We would also like to thank the many individuals that participated in our survey to select the forty most influential conflicts in the U.S. Kevin Olp helped us immensely, providing exposure to our project and the survey through the U.S. Environmental Protection Agency's Environmental Justice blog.

We are especially grateful to all of the environmental justice leaders, academics, and activists who allowed us to interview them and so generously contributed their very valuable time and experiences to our research.

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1. Introduction

The United States is the birthplace of the formal environmental justice movement. This country has been at the frontier of environmental justice scholarship and activism from the movement's roots in the tactics and ideologies of the civil rights movement, to its contemporary institutionalization within government agencies and academic institutions. While grassroots activism around environmental justice has been particularly effective in the United States, the fight against environmental injustices is a global phenomenon.

As globalization exacerbates cross-border and cross-cultural environmental challenges, environmental justice is increasingly an international movement (Speth 2003, Gabriel 2007, Rootes 2005). In many developing countries, questions of the North-South divide in environmental responsibility and burden have inspired new activism (Bullard 2005, Anand 2003). At the same time, international environmental organizations are entering the realm of "cross-movement" activism connecting environmental concerns to international development, corporate globalization, and poverty alleviation (Carmin & Bast 2009). As the environmental justice movement has grown and evolved to take on new global dimensions, one of the central questions that emerge is how international trends in justice advocacy will interact with and connect to the U.S. domestic environmental justice movement. The Environmental Justice Organizations, Liabilities and Trade (EJOLT) Mapping Environmental Justice Project is a pivotal development in addressing this question.

Through a combination of literature review and a survey process to identify the most influential conflicts in the United States, this project analyzes both the historical environmental justice communities as well as the current issues that are shaping the movement. These communities represent the different kinds of environmental justice conflicts in the United States. The conflicts have been identified through a deliberate process of research and surveys and were informed by environmental justice leaders, activists, and academics. In analyzing each conflict, we have focused on the source of the conflict, the stakeholders involved, and how they are combating the environmental justice conflict. All of this information is then incorporated into the EJOLT Atlas, a global mapping initiative, in order to connect conflicts in the United States to those in other countries.

This transfer of information between activists, organizations, academics and communities in an inter-state relationship will advance the EJ movement globally. From a domestic point of view, this analysis is the first one of its kind for an international audience. As the only United States contribution to the EJOLT project, the communities and relationships highlighted will play an important role in how other nations evaluate the U.S environmental justice movement.

Through a series of interviews with leading environmental justice academics and activists, our group also sought to gain a deeper understanding of Environmental Justice Organizations (EJOs) as one of the many types of

environmental justice groups and their place in the wider EJ movement. Currently, there is limited research on EJOs in the American context. This initiative seeks to encourage new dialogue about the role of EJOs in direct community action, in creating awareness of environmental justice conflicts, and in the political arena.

Our contribution to the map along with our research on the evolving role of environmental justice organizations (EJOs) in the U.S. context will help connect the long history of environmental justice in the United States and the lessons learned here to the international environmental justice movement.

In this report, we will provide a brief description of our client, EJOLT, along with the mapping project EJOLT has initiated. We will then discuss the objectives of this project, of both the mapping portion and analysis of environmental justice organizations, followed by a literature review on the history of environmental justice in the United States. The literature review also touches on organizational structure and social movement theory. The body of this report is divided into two parts. Part 1 of this report is devoted to the EJOLT mapping initiative. This section will describe the process we used to identify the list of the most influential environmental justice conflicts in the United States as well as the process we used to map those conflicts. Part 2 of this report is devoted to analysis of the history of the environmental justice movement through the lens of community activism. We will cover the interview process we developed as well as preliminary results of those interviews and how our team will move forward in writing an article for potential publication.

2. Client

2.1 EJOLT

The EJOLT project is a five year study (2011 to 2015) led by the European Commission aimed at documenting environmental conflicts around the world. This project creates a database of environmental conflicts providing information about the conflict background, stakeholders, and policy ramifications. The overall goal of the project is to answer questions about material flow, commodity chains, socio-environmental and health impacts, and ecological debt from the environmental justice perspective (EJOLT 2013). Ecological debt refers to the unequal exchange of resources, especially between the "North" and "South", or developed and developing countries. The database also connects global stakeholders in the environmental justice field including scientists, activists, think-tanks, and policy makers. This resource not only links stakeholders but also provides a framework for communities dealing with environmental injustices. Individuals across the globe have access to this resource and the opportunity to learn from other environmental justice conflicts, potentially incorporating lessons learned into their own communities. Thus far, EJOLT reported on and analyzed over 1,000 environmental conflicts in more than 60 countries, including India, Ecuador, Turkey, Mexico and South America. Until now, U.S. case studies have not been included in EJOLT's efforts.

2.2 EJ Atlas

In order to convey the information from the database to the public, EJOLT has created an interactive Environmental Justice Atlas. This atlas allows users to search and filter across 100 fields. By using the filtering functions, users can research which places have had issues with a particular company, or where a particular commodity (i.e. gold, water, timber, etc) has led to a conflict, or which places have found success in fighting a particular conflict. While using these functions, various maps can be created and embedded in a personal webpage or shared with others through social media. When searching or filtering through the conflicts, a map is created showing the results of that search. Each point on the map represents one conflict and by clicking on a point, the user can find extremely detailed information on the tactics and outcomes associated with that conflict.

The goal of this atlas is to become an open source for scientists, journalists, teachers and activists. It will allow increased understanding of what leads to

conflicts and how material demands and policies create potential hot spots for future conflicts. By representing conflicts around the world in this platform, the voices fighting for environmental justice can be heard and attention can be brought to threatened communities.

3. Project Team

Professors Paul Mohai and Rebecca Hardin: Professor Rebecca Hardin's research focus at SNRE has in the past focused on international environmental justice and conservation issues but she has recently begun moving towards topics in the U.S. domestic realm. Professor Paul Mohai specializes in themes of environmental justice and health impacts in the U.S but is beginning to look at comparative environmental justice issues in the U.S. and Europe. In their efforts to bridge the gaps between domestic and international environmental justice movements both Professors Hardin and Mohai have formed strong collaborative partnerships with the EJOLT project founders.

Katy Hintzen: Katy Hintzen specializes in environmental policy and planning. Her primary research interests lie in understanding the ties between community activism and effective policy decision making. This project allowed her to explore the ways in which underrepresented communities within the American political system organize to find channels of influence and advocacy when faced with environmental injustices.

Alejandro Colsa-Perez: Alejandro Colsa is a Master's student at the University of Michigan SNRE specializing in Environmental Justice and Public Policy. After spending some years learning how Environmental Justice is understood and studied in Europe, this Spanish graduate student received a Fulbright scholarship to conduct research and study how the environmental justice movement was originated in the United States and how it can be framed within the broader and more international environmental justice movement. After graduation, Alejandro will start an internship at the World Health Organization in Geneva (Switzerland) where he will contribute to policy research and analysis around issues of air pollution, paying special attention to health impacts within vulnerable groups.

Sara Orvis: Sara Orvis is a Master's student at the University of Michigan SNRE specializing in Environmental Justice. She is interested in the unique problems associated with rural environmental justice especially surrounding Indian Nation's culture and traditions focusing on government to government relationships that affect the mitigation of environmental justice sources. This project allowed her to explore the connections between environmental justice and governmental responses throughout the movement. She is currently employed as the Director of Field Operations at an environmental testing lab in her home state of New York.

Bernadette Grafton: Focusing her masters studies in both "Behavior, Education, and Communication" and Environmental Justice at the University of Michigan SNRE, Bernadette has a strong interest in brownfield redevelopment and community engagement. Bernadette's studies and experiences while living in the Midwest have led her to an understanding of the tight relationship between brownfields and environmental justice issues, primarily because of the location of many brownfield sites. Collaborating with EJOLT on this project has given her the opportunity to further explore brownfields within the context of environmental justice.

4. Objectives and Goals

Our master's project contributes to the EJOLT initiative by acting as the project's primary partner in researching and analyzing U.S. conflicts. In this capacity, our team is part of a groundbreaking initiative to formalize environmental justice collaboration at the international scale. Primary objectives of the project include:

- Contribute influential conflicts to the EJOLT database in order to highlight pivotal environmental justice conflicts in the U.S. both ongoing and historical
- Conduct in depth research and literature review on broad trends of the evolution of EJOs in the United States and their role in resolving environmental conflicts.
- Contribute valuable and practical information to the EJOLT project that will serve as a tool for activists across the world to understand the dynamics and tactics employed in environmental justice conflicts in the U.S.
- Foster improved communication between environmental justice stakeholders in the U.S. and other countries.
- Analyze the history of the environmental justice movement through the lens of community activism, from which we intend to produce a quality research paper for publication
- Present our findings at an international environmental justice conference.

As a group we hope to broaden the information about U.S based environmental justice conflicts for an international audience. We also look to expand available research that highlights the growing roles of EJOs in the U.S. movement and the relation to the international environmental justice movement. By examining the causes and stakeholders across these different conflicts we hope to identify trends and provide information about the effectiveness of the domestic environmental justice movement. We will be able to look at the strengths and weaknesses of the movement and potentially link communities within the United States.

4.1 Rationale

Environmental conflicts occur all around the world, independent of the scale of analysis, the media coverage they receive, or the government system of the country where they are located. Often, people in different countries are engaged in similar environmental conflicts but are not able to communicate and learn from each other. Technology can be used as a tool to share knowledge and experience. By connecting key stakeholders involved in environmental issues, the EJ Atlas enables activists around the world to learn from other communities that are dealing with similar conflicts and better assess the activism barriers and opportunities.

Our team will give visibility to the most relevant environmental justice conflicts in the United States. These conflicts are especially important because of the long history of environmental justice in the United States. Environmental justice advocates around the world can gain knowledge from the evolution that the movement has experienced during more than thirty years, extracting valuable information from both their successes and challenges.

This extensive project being undertaken by EJOLT will support not only activist efforts but will open up a new source for academic research advancements in the environmental justice field. No comprehensive database of this kind exists at the international scale. The School of Natural Resources and Environment (SNRE) at the University of Michigan is the ideal location for the United States based portion of the EJOLT project to begin because of the school's reputation as a pioneer in environmental justice scholarship. This reputation dates back to the 1990 Michigan Conference on Race and the Incidence of Environmental Hazards, organized by SNRE Professors Bunyan Bryant and Paul Mohai (Figure 1). Through this project, international professional networks are being built between University of Michigan SNRE and the European Union, as well as with its partner countries in the EJOLT initiative.

Figure 1 Participants of the 1990 Michigan Conference on Race and the Incidence of Environmental Hazards at the University of Michigan SNRE

5. Literature Review

Our research is set against the backdrop of the historical evolution of environmental justice and scholarship as well as broader theories of social movements and organizational development. In order to place our project within the wider environmental justice literature, it is important to review the origins of the term environmental justice and the historic development of the movement. A series of example case studies provide further insight into the diverse and evolving role of EJOs in environmental conflicts. Finally, a very brief examination of relevant literature applying social movement and organizational development theory to the environmental justice context gives new perspective on the role of EJOs within the movement.

5.1 Definition of Environmental Justice in the U.S. Context

Environmental justice emerged in the United States in the 1970s within the context of the grassroots activism of the civil rights movement and a growing public awareness surrounding environmental impacts on public health and safety. Originally framed as "environmental racism," the movement focused on the unequal distribution, both social and spatial, of environmental burdens (Arriaga 2010). In the following decades, environmental justice continued to grow and evolve. Today environmental justice is recognized by the United States Environmental Protection Agency (EPA) as a central priority, major environmental organizations have staff positions and projects dedicated to the issue, and environmental justice topics are widely studied within academia.

5.2 History of Environmental Justice Activism and Scholarship

Resistance to environmental injustices by communities of color has a long and complex history which is too often ignored by the mainstream environmental movement (Taylor 2011). There are a few benchmark events widely recognized as the founding moments of the contemporary environmental justice movement. The first of these events occurred in Warren County, North Carolina in 1982 when a wave of grassroots protests broke out in response to the siting of a polychlorinated biphenyl (PCB) landfill in a predominantly African American community. The protests resulted in more than 500 arrests and attracted widespread media attention (Wright et al. 2008). The Warren County protests began a nationwide conversation about "environmental racism" which in turn became the inspiration for two major studies that would solidify the birth of the environmental justice movement. The first of these studies was conducted in 1983 by the U.S. General Accounting Office and found that across the Southern U.S., hazardous waste landfills were disproportionately located in African American communities (Bullard & Johnson 2000). The second study was conducted by the United Church of Christ

Commission for Racial Justice in 1987. The United Church of Christ report, titled *Toxic Waste and Race (*Figure 2*)*, concluded that race was the single most influential factor in predicting the location of hazardous waste facilities, even more important than education or socioeconomic status (Wright et al. 2008). The United Church of Christ study provided the hard data necessary to back up the Warren County citizens' claims of environmental injustice.

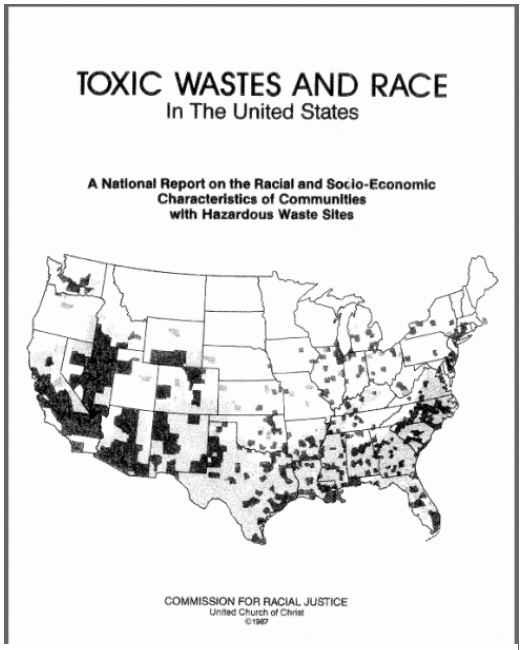


Figure 2 Toxic Wastes and Race in the United States report by the United Church of Christ in 1987

In the following years, hundreds of new studies examined the relationship between minority communities, institutional power, and environmental hazards. As mounting evidence supported the existence of a clear and unequivocal class and racial bias in the distribution of environmental hazards, many residents in polluted zones became aware that their experiences were part of nationwide pattern of environmental injustice (Lerner 2010). In many cases, grassroots activism around environmental justice began to reflect ties to regional historic justice concerns (Kurtz 2005). For example in the Southwest, the movement confronted imperialism faced by Native American and Hispanic communities and in Appalachia it addressed concerns of extreme class inequality (Kurtz 2005). Kurtz, in *Reflections on the Iconography of Environmental Justice Activism,* highlighted the movement's chameleonic nature concluding that, "the term environmental injustice refers to both distributive and procedural bias against politically disadvantaged groups in society; the concept of environmental justice is intended to be inclusive of a variety of site specific grievances" (Kurtz 2005: 79-88). Scholsberg articulated this unique trait of the movement when he wrote, "an environmental justice movement can be unified, but it cannot be uniform" (2007: 534).

The 1990s brought new developments that broadened and formalized the environmental justice movement. In 1990, University of Michigan SNRE professors Bunyan Bryant and Paul Mohai organized the conference on Race and the Incidence of Environmental Hazards. The conversations begun during this conference opened the way for greater communication between environmental justice activists and the EPA. This conference is widely recognized as a turning point in federal government attitudes towards environmental justice issues (Environmental Justice Resource Center 2002). The conference also resulted in the publication of the book *Race and*

the Incidence of Environmental Hazards: A Time for Discourse edited by Bryant and Mohai (Figure 3). In 1991, the First National People of Color Environmental Leadership Summit convened in Washington D.C. and authored the Seventeen Principles of Environmental Justice (LVEJO 2013). This moment represented an expansion of the scope of environmental justice concerns to include social issues such as transportation, housing, gender issues, and educational disparities (Wright et al. 2008). At the same time the summit established a framework for defining the goals and prerogatives of environmental justice organizations (LVEJO 2013). In 1994 environmental justice was institutionalized as a central priority of the federal government when President Bill Clinton issued an executive order calling for federal action in "identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low income populations" (Executive Order 12898). Following this order, federal agencies began to include environmental justice considerations in policy implementation and assessment processes (Mitchell 2011).

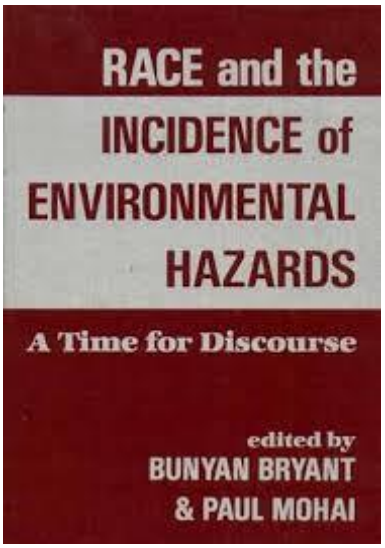


Figure 3 Publication that resulted from the conference on Race and the Incidence of Environmental Hazards in 1990

Today an estimated two hundred grassroots activist groups are involved in conflicts surrounding environmental contamination in communities with high concentrations of people of color (Lerner 2010). By examining both contemporary and historical pivotal environmental justice case studies in the United States, our research begins to address some of the questions surrounding the role of EJOs in shaping individual environmental conflicts and the wider environmental justice movement. The case studies highlighted here include conflicts in Warren County, North Carolina; Convent, Louisiana; and Chicago, Illinois. They draw from different temporal stages in the environmental justice movement. These examples provide a brief glimpse of the great variety of roles that EJOs play in environmental conflicts and demonstrate some of the underlying themes and issues our research will address.

Warren County, North Carolina 1982

As the first nationally recognized incident of community mobilization against environmental racism (McGurty 2007; Mohai, Pellow, and Roberts 2009), Warren County is emblematic of the earliest environmental justice case studies. Beginning as a "Not in My Backyard" (NIMBY) response to the siting of a toxic waste

dump, the case was eventually reframed in the perspective of environmental racism. Churches and civil rights groups, both regional and national, were instrumental in organizing resistance and many of the protest tactics closely resembled methods of the civil rights movement (Figure 4) (McGurty 2007). While activists failed to block construction of the landfill, they did manage to bring national media attention to the incident and spur a new wave of research focused on "environmental racism."

Figure 4 Warren County, North Carolina protests against dumping of PCB soil in landfill

Convent Louisiana 1996

In 1996, a Japanese company Shintech announced plans to construct three new factories and an incinerator near the predominantly African American community of Convent in the St. James Parish of Louisiana. The region around Convent was home to thirteen existing plants and had been nicknamed "cancer alley." Residents viewed this newest plan for petrochemical expansion as part of a continuing pattern of siting hazardous facilities in communities lacking in socio-political power (Berry 2003). They responded by forming a series of locally-based environmental justice coalitions, organizing rallies, community outreach, and demonstrations at public forums. Activists cited both the 1994 executive order and Title VI of the Civil Rights Act in their arguments (Hines 2001). In 1997, the Tulane Environmental Law Clinic took up the case and, for the first time in history, asked the EPA to deny a permit on the grounds of environmental injustice. Nationally recognized environmental organizations and civil rights leaders began to weigh in on the controversy and finally the Shintech corporation decided to build the plant elsewhere (Adeola 1998).

Chicago (Pilsen and Little Village Neighborhoods) Illinois 2002

In August of 2012, the Fisk and Crawford Power Plants in Chicago closed their doors after more than a decade of conflict with local residents, grassroots community groups, and national environmental organizations (NAACP 2012). The two power plants, located in the predominantly Hispanic neighborhoods of Pilsen and Little Village, had some of the worst environmental compliance records in the country (Environmental Law and Policy Center of the Midwest 2010). A 2001 study by the Harvard School of Public Health estimated that each year pollution from the

plants led to forty-one premature deaths, 550 emergency room visits, and 2,800 asthma attacks (Moon et al. 2002). Local community groups such as the Little Village Environmental Justice Organization, Pilsen Alliance, and Pilsen Environmental Rights and Reform Organization (PERRO) demanded the plants be shut down (Figure 5) (NAACP 2012). These groups were eventually joined by a number of national organizations including Greenpeace, Sierra Club, and Rainforest Action Network. In 2011, two Chicago aldermen responded to growing community resistance to the coal plants by re-introducing an ordinance to regulate particulate matter and carbon dioxide emissions (Lyderson 2010, Chicago Tribune 2011). Shortly afterwards, Midwest Generation announced that the Fisk and Crawford Plants would be permanently closed.

Figure 5 Protests to close the Fisk and Crawford coal fired power plants in Chicago (Oct 2009)

5.3 Theory of Social Movements and Organizational Structure as Applied to Environmental Justice

Meyer and Whittier argue that each distinct social movement is part of a larger continuum of activism and that an individual social movement does not die out but rather carries over into new movements (1994). As they explain it, "The ideas, tactics, style, participants, and organization of one movement often *spill over* its boundaries to affect other social movements" (Meyer & Whittier 1994: 227). The environmental justice movement has been particularly successful at employing this "spill over" effect to achieve major political and activism victories in a very short period of time (Taylor 2000). Social movements within the literature are defined not just by their origins but by the challenge that they present to the dominant cultural, economic, and political order. In this view, one of the central questions that emerge related to the role of EJOs in shaping environmental justice as a social movement is how communities and activists use organizational structure to claim legitimacy and power.

Much has been written on the connections between legitimacy and justice. One of the primary goals for many in the environmental justice movement is to give those struggling against injustice "a seat at the table." Justice itself is conceptualized not just as equitable distribution of environmental benefits or burdens but as the

right to voice an opinion and be heard. Questions of legitimacy and power are at the core of the environmental justice movement but ideas of how legitimacy is defined and achieved are much more complex. The predominant view in the literature is that the outsider status of many of the communities facing environmental injustices has made it more difficult for the movement to gain legitimacy within the mainstream political sphere. Opposition or exclusion from mainstream culture is part of the environmental justice activist identity (Schlosberg 2004: 552). The environmental experiences of communities facing injustices have shaped their activism strategies, rhetoric, and resources in ways very distinct from mainstream environmentalists (Mohai, Pellow and Roberts 2009; Taylor 2000: 509). This is particularly true for communities of color.

Some authors have argued that the environmental justice movement does not fit the traditional trajectory of an evolving social movement because its members have remained more radical. (Szasz 1994). In her article *Environmental Justice Groups: Grassroots Movement or NGO Networks? Some Policy Implications,* Rios claimed that the perception of the environmental justice movement as made up of primarily grassroots groups engaged in direct action is not a complete picture (2000). According to her research, the movement is primarily driven by network groups comprised of NGOs that are defined by, “orthodox tactics and strategies undertaken, a more formal organizational structure, and ample institutional capacity” (Rios 2000: 201-202). These more formal organizational structures have grown in the environmental justice movement in large part because community groups have turned to network building as a strategy to share strategic knowledge (Mix 2011). Minkoff theorizes that, once a few organizations have found success with a more formal structure others will follow their example and “over time, new organizations tend to be constructed with reference to a dominant structural form” (Minkoff 1994: 944).

The inherent diversity and local nature of environmental justice organizations makes this type of adherence to a “dominant structural form” less likely within the environmental justice movement. However, foundations, media, and political authorities are more familiar with certain types of organizational structure and more likely to consider groups that adhere to that structure as legitimate (Minkoff 1994). This perception of legitimacy is important for EJOs to gain access to resources, especially considering the rapid proliferation of new environmental justice groups in a short period of time (Stretesky et al. 2012). What none of these authors mention is the relationship between grassroots environmental justice actors and EJOs within the movement or the identity politics by which formal NGOs still relate very strongly to grassroots tactics and rhetoric.

Part 1: EJOLT Mapping Initiative

6. Part 1: EJOLT Mapping Initiative

6.1 Introduction

As part of the mapping initiative for our client, we aimed to identify, describe and add to the EJ Atlas influential environmental justice conflicts in the United States. The United States has a thirty year history of environmental justice conflicts and the number of conflicts continues to grow. Every conflict, from Warren County, NC to the BP Oil Spill in the Gulf of Mexico has played a role in the development of the environmental justice movement in this country. Some conflicts have had a greater impact than others and the goal of our team was to determine the forty most influential environmental justice conflicts in the United States. Since we have four team members, we decided forty (ten per student) would be a number that would allow us to conduct an in-depth description of the conflicts within the time frame we had.

EJOLT collaborators around the world have identified influential conflicts based on a variety of knowledge and criterion. However, our team believed more meaning and legitimacy could be brought to the list of conflicts if we sought input and feedback from key actors within the movement. In this effort we surveyed both environmental justice leaders and members of the public interested in environmental justice issues.

In order to do that, our team developed a methodology based on a two stage process. In the first stage we compiled a preliminary list of conflicts from where those forty could be identified. Our main goal for that phase was to identify representative cases from a range of time periods, geographic regions, communities, and environmental challenges. In the second stage, we designed and distributed a survey among more than 250 environmental justice leaders seeking for their feedback. The survey was also featured on the U.S. Environmental Protection Agency (EPA) EJ blog in order to get feedback from a wider audience. The sections below will describe the two processes within our methodology. Then, an analysis of results will be followed by a brief discussion on trends and relevancy of this methodology for future collaboration of EJOLT in other areas around the world.

6.2 Preliminary list of conflicts

In order to have a fair geographic representation we divided the United States in four regions (Northeast, Midwest, South, and West) as seen in Figure 6. Each student was responsible for researching conflicts in one of these regions. In order to ensure a diverse range of environmental challenges, our team used the classification of conflicts elaborated by EJOLT (2014). This classification identifies environmental conflicts by the commodity that originates the emergence of the conflict. According to this metric, there are ten categories of environmental justice conflicts (see below for list). Each team member worked to research conflicts from each of the ten EJOLT categories for their assigned region.

Figure 6 Geographic regions of the United States: Northeast (red), South (green), Midwest (yellow), and West (blue)

1. Nuclear Energy Conflicts: Cradle to grave perspective of nuclear power production from the extraction of uranium, to the operation of plants, to the disposal of nuclear waste.

2. Fossil Fuels and Climate Justice Conflicts: Conflicts centering around the extraction and processing of oil and gas resources and their links to climate justice issues.

3. Biomass and Land Conflicts: Land use conflicts related to both ownership and dedication of land resources such as deforestation and agricultural practices.

4. Industrial and Utilities Conflicts: Contamination stemming from industrial facilities mainly relating to manufacturing and utilities.

5. Infrastructure and Built Environment Conflicts: Conflicts related to infrastructure, city planning and inequitable access to green spaces.

6. Waste Management Conflicts: Conflicts related to the disposal of waste including toxic waste and illegal disposal conflicts.

7. Water Management Conflicts: Conflicts related to water rights and access.

8. Biodiversity and Conservation Conflicts: Conflicts related to the protection and conservation of biodiversity and habitat.

9. Mineral Ore and Building Material Extraction Conflicts: Conflicts related to the extraction of non-fossil fuel resources including minerals and building materials.

10. Tourism and Recreation Conflicts: Conflicts related to the ecological, economic, and cultural impacts of the tourism industry on both natural resources and minority communities.

The basis of this research was a secondary literature review. Since EJOLT's goal for the mapping initiative is to compile a database based on activists knowledge, our literature review combined peer-reviewed journals, media outlets, scientific reports, and field-related blogs. Some of the sources that our team relied more on were the extensive media coverage provided by LexisNexis Academic Database (LexisNexis 2014), the student-led University of Michigan Database of Environmental Justice Case Studies (Jones 2004), and the collection of peer-reviewed material provided by Google Scholar (Google Scholar, 2014). The information was then filtered according to the category of conflict and compiled in excel spreadsheets.

6.3 Ninety preliminary environmental justice conflicts

After more than four weeks of research, our team compiled ninety environmental justice conflicts [Appendix A]. Although we wanted to ensure diversity of conflicts (geographically and thematically), because of the historical industrial development of the United States and the traditional research focus within the environmental justice movement, some categories were more common than others. Tables 1 and 2 represent the distribution of conflicts according to geographic location and category. Conflicts around waste management, infrastructure and industry are the three categories with most conflicts represented in our list. Conflicts around tourism and recreation, mineral extraction (not fossil fuels), and biodiversity conflicts are the more underrepresented categories. In terms of time ranges, our oldest conflicts emerged as early as the first half of the

twentieth century. However, most of them emerged in the last three decades. Although some of the conflicts have a clear ending point, most of them are ongoing.

Table 1 Geographic distribution of environmental justice conflicts in the U.S.

U.S. Geographic Region	Number of cases in the US
Northeast	16
South	28
Midwest	14
West	32

Table 2 Distribution of conflicts by EJOLT category

Category according to EJOLT	Number of cases in the US
Nuclear Energy Conflicts	6
Fossil Fuels and Climate Justice Conflicts	11
Biomass and Land Conflicts	8
Industrial and Utilities Conflicts	15
Infrastructure and Built Environment Conflicts	15
Waste Management Conflicts	16
Water Management Conflicts	8
Biodiversity and Conservation Conflicts	4
Mineral Ore and Building Material Extraction Conflicts	4
Tourism and Recreation Conflicts	3

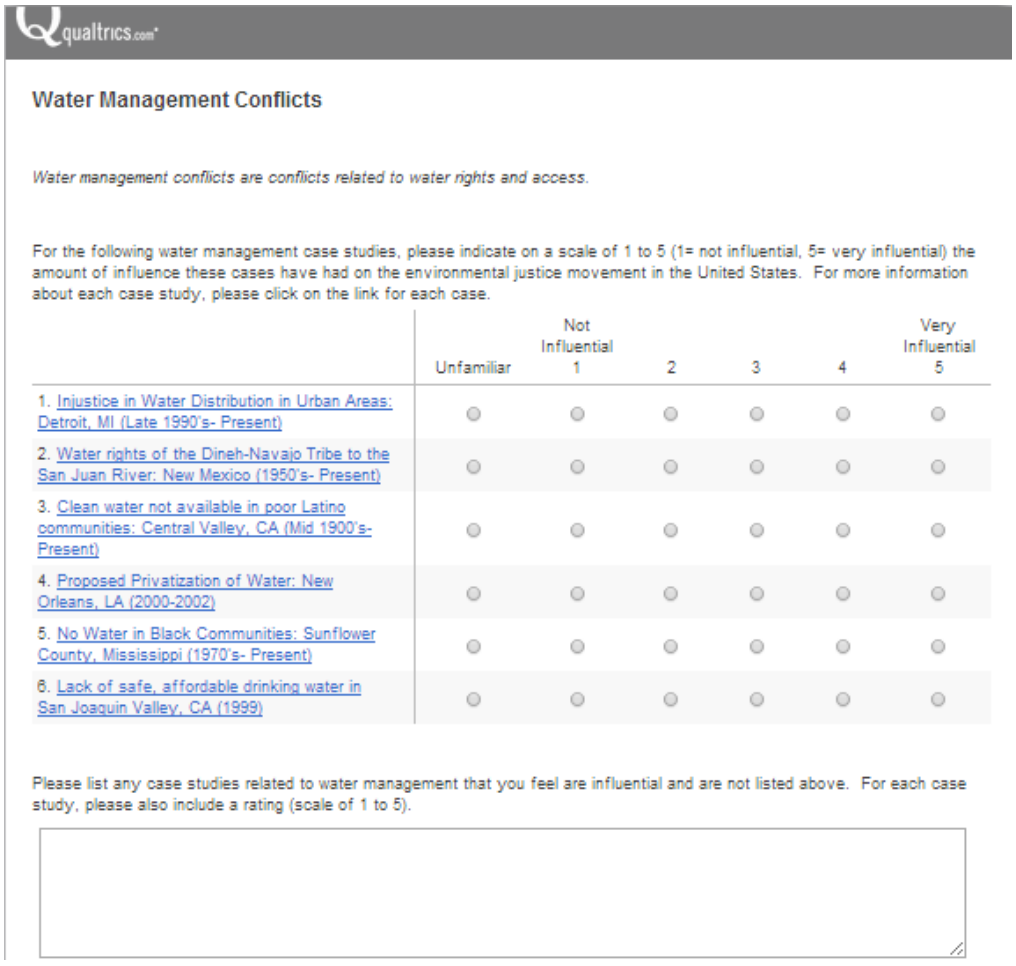
6.4 Selection of the forty influential environmental conflicts in the United States

In order to narrow down the ninety preliminary conflicts to the top forty, we designed a survey using Qualtrics software. This tool allowed us to very easily develop and disseminate the survey as well as download the responses for analysis. All data from the survey was password protected and available only to group members.

This survey was ultimately distributed to 250 environmental justice leaders and then featured on an online blog for public participation (for more details on survey distribution see section 6.4.1). To be respectful of our respondents' time, we split up the conflicts into two surveys so that each person did not have to evaluate ninety conflicts. There was some crossover between the two surveys because it was important that a few key historical conflicts appeared in both surveys.

The conflicts were grouped using the ten EJOLT categories. For each category, we provided the official definition from the EJOLT project. The prompt was beneath the definition and asked respondents to indicate on a scale of 1 to 5

the amount of influence the conflicts have had on the environmental justice movement in the United States. Each conflict also had a hyperlink which directed respondents to a short description of a particular conflict. These descriptions were written by our team during our initial research phase to determine the ninety conflicts. Figure 7 shows an example of the format of each question for the category of water management conflicts.



qualtrics.com

Water Management Conflicts

Water management conflicts are conflicts related to water rights and access.

For the following water management case studies, please indicate on a scale of 1 to 5 (1= not influential, 5= very influential) the amount of influence these cases have had on the environmental justice movement in the United States. For more information about each case study, please click on the link for each case.

	Unfamiliar	Not Influential 1	2	3	4	Very Influential 5
1. Injustice in Water Distribution in Urban Areas: Detroit, MI (Late 1990's- Present)	○	○	○	○	○	○
2. Water rights of the Dineh-Navajo Tribe to the San Juan River: New Mexico (1950's- Present)	○	○	○	○	○	○
3. Clean water not available in poor Latino communities: Central Valley, CA (Mid 1900's-Present)	○	○	○	○	○	○
4. Proposed Privatization of Water: New Orleans, LA (2000-2002)	○	○	○	○	○	○
5. No Water in Black Communities: Sunflower County, Mississippi (1970's- Present)	○	○	○	○	○	○
6. Lack of safe, affordable drinking water in San Joaquin Valley, CA (1999)	○	○	○	○	○	○

Please list any case studies related to water management that you feel are influential and are not listed above. For each case study, please also include a rating (scale of 1 to 5).

Figure 7 Question for water management conflicts showing the format of each question in the survey

One of the challenges our team encountered while developing this survey was language. Initially we had asked respondents to "rank" conflicts on a scale of 1 to 5. This implied that the conflicts have a hierarchy of importance and can be ordered when this was not our intention. Considering that the goal of the survey was to narrow the large list of ninety conflicts down to a list of forty for the purposes of mapping them for EJOLT, it was important that our respondents understood that they were not asked for a ranking, rather we were looking for them to consider the influence of each conflict individually in light of the environmental justice movement and not in relation to other conflicts. We were careful to clarify this in our opening letter to respondents on the first page of the survey [Appendix B].

Another point of consideration during the development of the survey was scale. Some questions we debated included: Should we include an option for "unfamiliar"? If so, should that receive a number? How many scale points should we include? In what order should the scale be? We ultimately decided that it would be best to give our respondents an option of "Unfamiliar" because many of the conflicts may actually have been unknown to people (and even if they read more about the conflict, they were still initially unfamiliar with it). We decided not to assign a number to "Unfamiliar" in order to keep it separate from the rest of the scale. This was something we revisited during our analysis of responses and a discussion of this will come later in this report. We ultimately decided to order the scale of 1 to 5 from left to right because of the way human eyes focus and how people behave when taking surveys of this format. We also came to the conclusion that "Unfamiliar" should be the furthest option to the left because people generally start from the outside (furthest right) and work their way in. If this was the case for respondents taking our survey, we had a better chance of people not choosing "Unfamiliar."

We pre-tested the survey before its official launch in order to ensure that it was clear, easy to take, and to determine how long it would take the average person to finish the survey. We sent an email to an internal email SNRE list of ninety members, including faculty and a group of current and former students of the Environmental Justice track. In that email we requested their feedback in order to make sure the survey was clear and professional and a good reflection of the caliber of work that, as SNRE students, we can produce.

6.4.1 Survey distribution

EJ Leader Survey Launch

With the help of our advisors, Professors Paul Mohai and Rebecca Hardin, we compiled a list of 250 environmental justice leaders (scholars and activists) using email lists from various national environmental justice conferences. These conferences include the 2011 Environmental Justice Conference in Detroit and the 2012 SNRE Legacy and Future of Environmental Justice Honoring the Career of Bunyan Bryant. We used these email lists to request that these leaders participate in the EJOLT project by taking this survey to help us determine the forty most influential conflicts in the United States. We decided to keep the survey anonymous to hopefully attract more participants. One week after the original email was sent, we sent a follow-up email to thank those who had taken our survey and incentivize others who had not yet taken it. Templates of these emails are in Appendix C.

Public Survey Launch

During the first week of the survey launch we received numerous responses and positive feedback about our project. As it spread through the environmental justice community, our work sparked the attention of the U.S. EPA. We were offered the opportunity to publish the survey in the EPA EJ blog "Environmental Justice in Action" in order to get input from the wider community interested in environmental justice [Appendix D]. To do this, we needed to have a way of distinguishing between those we intentionally emailed (known environmental justice leaders) and those who found our survey through the blog. We developed a second survey that we refer to as the "Public" survey. Although this survey contained the same questions, we modified the introduction material so that it addressed the general public rather than EJ leaders [Appendix B**]**. This survey, along with a blog article about the EJOLT mapping project, was published on the EPA EJ Blog website and received about 1,000 hits from the public in two weeks.

6.5 Analysis of Results

Our surveys remained active for about three weeks before we closed them for analysis. We received a total of 350 responses (101 from the environmental justice leaders and 249 from the public sample). After eliminating incomplete or duplicate responses we considered 165 in our analysis.

During our analysis we first decided how to weigh responses between environmental justice leaders and the public sample. The population of the public survey was more than twice the size of the environmental justice leader survey. Initially, we purely combined all results and found that the public responses lent too much weight to contemporary conflicts. Because we wanted to acknowledge the political, historical, and technical knowledge and expertise of environmental justice leaders which reflected more concern with legal and policy impacts rather than media visibility and public awareness, we decided to weigh the two groups at 50% each.

The second decision we made was how to quantify the "unfamiliar" option. We developed three scenarios and tested the results in each of them. These scenarios included: Is an unfamiliar conflict the least influential? (Scenario 1) Should unfamiliar and least influential be marked equally? (Scenario 2) Should we mark unfamiliar as "missing data"? (Scenario 3) A numerical representation can be seen in Table 3.

Table 3 Numerical representation of each scenario. This table shows how "unfamiliar" and each level of influence (1=not influential, 5=very influential) would be counted during analysis for each of the different scenarios

Response	Scenario 1	Scenario 2	Scenario 3
Unfamiliar	1	1	N/A
Level of influence 1	2	1	1
Level of influence 2	3	2	2
Level of influence 3	4	3	3
Level of influence 4	5	4	4
Level of influence 5	6	5	5

To make an informed decision, we analyzed and compared the results of our responses for each of these scenarios. For each of the above-mentioned scenarios we used Microsoft Office Excel to analyze the responses. We calculated (for each conflict) the average level of influence as indicated by our respondents and the conflicts were then ordered according to the average level of influence. The top forty conflicts were identified from this list. We compared the results of this analysis across each of the three scenarios. Although there was little variation across the three scenarios, our team ended up choosing Scenario 2 because it was the one with the most common cases across all three scenarios. Scenario 2 also produced conflicts that best matched the public sample (72.5 percent agreement) and we wanted to offset the decision to give greater weight to responses from experts (see Appendix E for further details about the analysis of results).

6.6 Discussion of Results

Once we had identified the top forty conflicts, we cross-checked our conflicts with the few U.S. cases that already existed in the EJOLT database (we discovered three) to make sure we were not creating duplicates (i.e. Gulf of Mexico BP Oil Spill was one of our top forty and this was already in the database). If one of the original top forty conflicts was already in the database, we removed that conflict and replaced it with the next conflict on the list. After cross-checking our conflicts with the database we finalized the list of the top forty most influential environmental justice conflicts (see Table 4).

Table 4 Top forty influential environmental justice conflicts in the United States according to our survey respondents

Alphabetical List of the Top 40 Conflicts in the U.S.
BP's Oil Spill Garbage: coastal communities of the Gulf (2010-Present)
CAFOs: Eastern North Carolina (1990-Present)
Chevron Refinery: Richmond, CA (1990's)
No clean water in poor Latino communities: Central Valley, CA (Mid 1900s-Present)
Climate change threatening lives and traditions: Shishmaref, Alaska (2010-Present)
Coal-fired power plants: Pilsen and Little Village, Chicago, IL (2002-2012)
Detroit's waste incinerator: Detroit, MI (1985-Present)
Displacement of Gullah Islanders: Sea Islands (South Carolina, Georgia, and Florida) (1900-Present)
Disproportionate impact of Hurricane Sandy on low- income households (2012-Present)
Extreme heat events and environmental injustices: Phoenix, AZ (2003-Present)
Genetically modified organisms and crop biodiversity loss: Washington (Jan 2013-Present)
Heavy polluting transit buses: Roxbury, MA (1998-Present)
High level radioactive waste in Skull Valley Goshute Indian Reservation, Utah (1998-2006)
Lack of access to green spaces: Los Angeles, CA (Current)
Lead paint and other toxics in Greenpoint/Williamsburg community in Brooklyn, NYC (2000's)
Love Canal: Niagara Falls, NY (1953-1980's)
Mountaintop mining removal in Appalachia: Boone County, WV
Nation's largest hazardous waste landfill in Emelle, AL (1978-1990s, possibly again in 2013)
No water provision in Texas Colonias: Mexico Chiquito and Agua Dulce (1950s-Present)
Offshore drilling and Gulf Coast: Louisiana Coast (2006-Present)
Oil drilling in the Arctic National Wildlife Refuge (ANRW), Alaska (1977-Present)
PCB contamination from GM and impacts to the Mohawk tribe: Turtle Cove (1980's-Present)
Pesticide exposure in Lindsay, CA: Tulare County, CA (1999-Present)
Petrochemical pollution in Cancer Alley: Norco, LA (1970-2002)
Plutonium production near Indian Tribes: Hanford, WA (1943-Present)
Pollution from hog farming: Halifax, NC (1991-Present)
Recovery after Katrina: New Orleans, LA (2005-Present)
Shintech PVC Plant: Convent, LA (1996-1998)
The toxic doughnout and the Altgeld Gardens housing development: Chicago, IL (Late 1970s-1990s)
Tourism and Indigenous rights in Hawaii (1900-Present)

Toxic chemical contamination from Dow Chemical: Plaquemines, LA (2011)
Toxic waste incinerator: Kettleman City, CA (1988-Present)
Uranium mining in the Southwest: Navajo Nation, New Mexico (1918-Present)
Ward Valley Nuclear Dump: California Mojave Desert (1988-Present)
Warren County PCB disposal site: Warren County, NC (1982-2000s)
Waste incinerators: Chester, Pennsylvania (Early 1990's-Present)
Water contamination from paper mills: Penobscot Reservation, ME (1972-Present)
Water rights of the Dineh-Navajo Tribe to the San Juan River: New Mexico (mid 1900s-Present)
West Harlem and the Metrolopolitan Transportation Authority: NYC (1988)
Yucca Mountain High-Level Nuclear Waste Repository: Western Shoshone lands (1951-Present)

Representing these conflicts geographically allowed us to visualize the distribution of the top forty most influential conflicts in the United States (Figure 8). From this map, it is clear that conflicts in the south and west dominate our top forty. Another emerging trend from our results is that conflicts within the category of "fossil fuels and climate justice" dominate the list. Of the eleven conflicts in this category that were part of the ninety initial conflicts, nine of them (81%) were identified by survey respondents as being some of the most influential conflicts in United States environmental justice history. So while fossil fuel and climate justice conflicts may not be the most prevalent conflict in this country, they have had a large disproportionate impact according to our respondents.

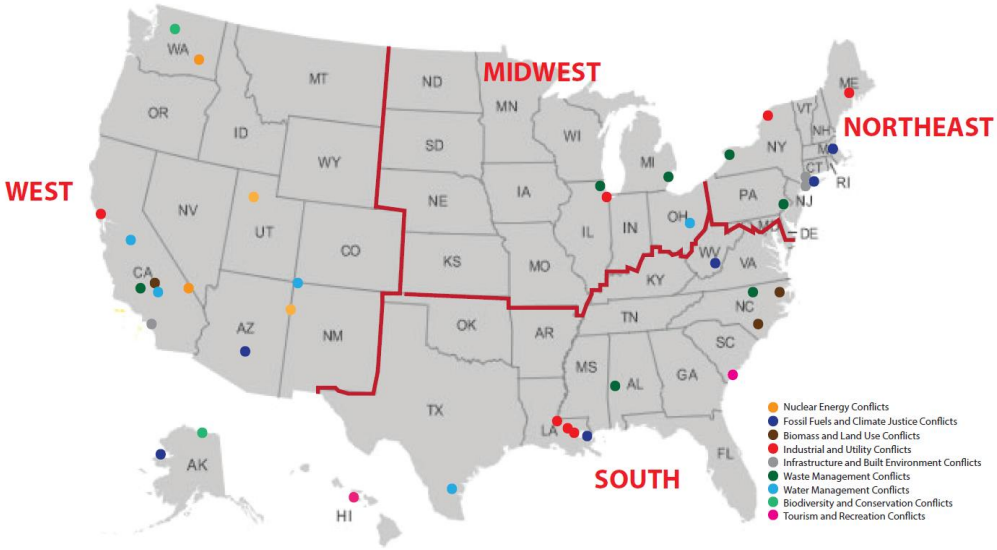


Figure 8 Geographic representation of the top 40 most influential environmental justice conflicts in the U.S. according to survey respondents

6.7 Mapping the top forty conflicts and project continuation

The final part of our first deliverable was to include and describe our forty conflicts to the EJ Atlas. In putting environmental justice conflicts of the United States on the map, it was important that each conflict be as thoroughly researched as possible to ensure meaningfulness of the final product. Our research was primarily internet-based, using peer reviewed journal articles, web pages of various environmental justice organizations and networks, various media outlets, online blogs, and scientific reports. Descriptions of the forty conflicts and sources used can be accessed in the EJ Atlas (http://ejatlas.org).

The EJ Atlas was launched in March 2014 with 1,000 conflicts. The end goal is to map at least 2,000 conflicts by 2015. Our team plans to share this resource with environmental justice activists, academics, and others in the movement,

encouraging them to participate in this project by contributing to the map and by sharing this with other people in their networks.

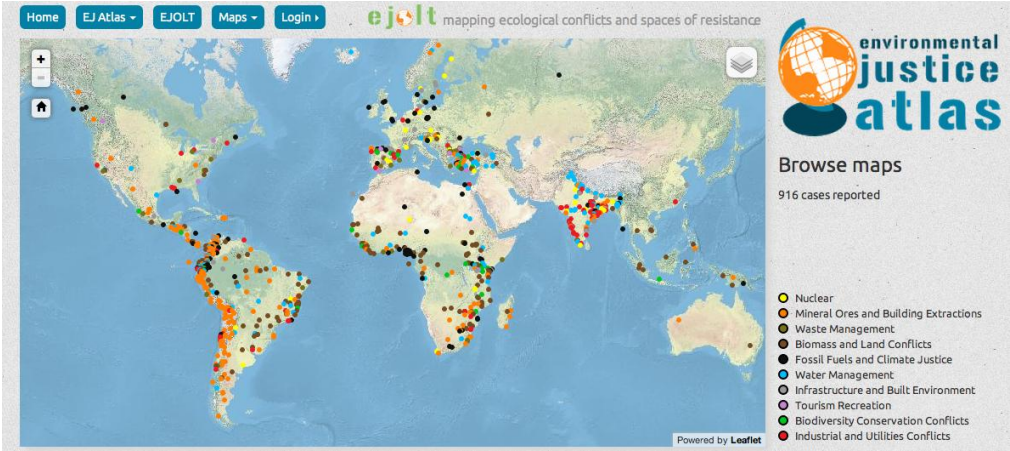


Figure 9 Image of the EJOLT interactive EJ Atlas where conflicts can be browsed and filtered

Part 2: History of the EJ Movement through the Lens of Community Activism

7. Part 2: Article about the history of environmental justice organizations in the United States

7.1 Introduction

For our second deliverable we analyzed the history of the environmental justice movement through the lens of community activism in order to share information on the evolution of the U.S. environmental justice movement with the international community. The knowledge acquired from more than three decades of political and social activism on environmental justice issues in the U.S. is a valuable resource to share best practices and experiences with other activists around the world. Our goal for this article was to understand the evolution of the movement, looking in particular at the changes in organizational structures of EJOs. We also wanted to evaluate if changes in organizational structure have made environmental justice groups and the movement more effective. For the purposes of our research, we defined an EJO as a registered non-profit organization whose core mission involves protecting people of color, low-income communities and indigenous organizations from environmental and health hazards and advocating for equal access to the decision making process.

No study of the evolving role of EJOs would be complete without the voices of the activists and scholars fighting environmental injustices whose efforts have built and shaped the movement. Taking this into consideration, we conducted in-depth interviews with leading environmental justice scholars and activists involved in a range of conflicts representing diverse communities and geographies across the U.S. These conversations with environmental justice leaders touched on themes central to the movement's historic success and future potential.

The interview process included developing research questions, creating relevant interview questions, finding potential respondents, organizing interview methods and analyzing results.

7.2 Conceptual Model

To better articulate the goals of this effort we first developed a conceptual model that outlines variables. The complexity of environmental justice issues is something that scholars have only begun to scratch the surface of. Our team seeks to contribute to ongoing research and exploration of these conflicts by looking specifically at the involvement of environmental justice organizations in the evolution of the environmental justice movement within the United States.

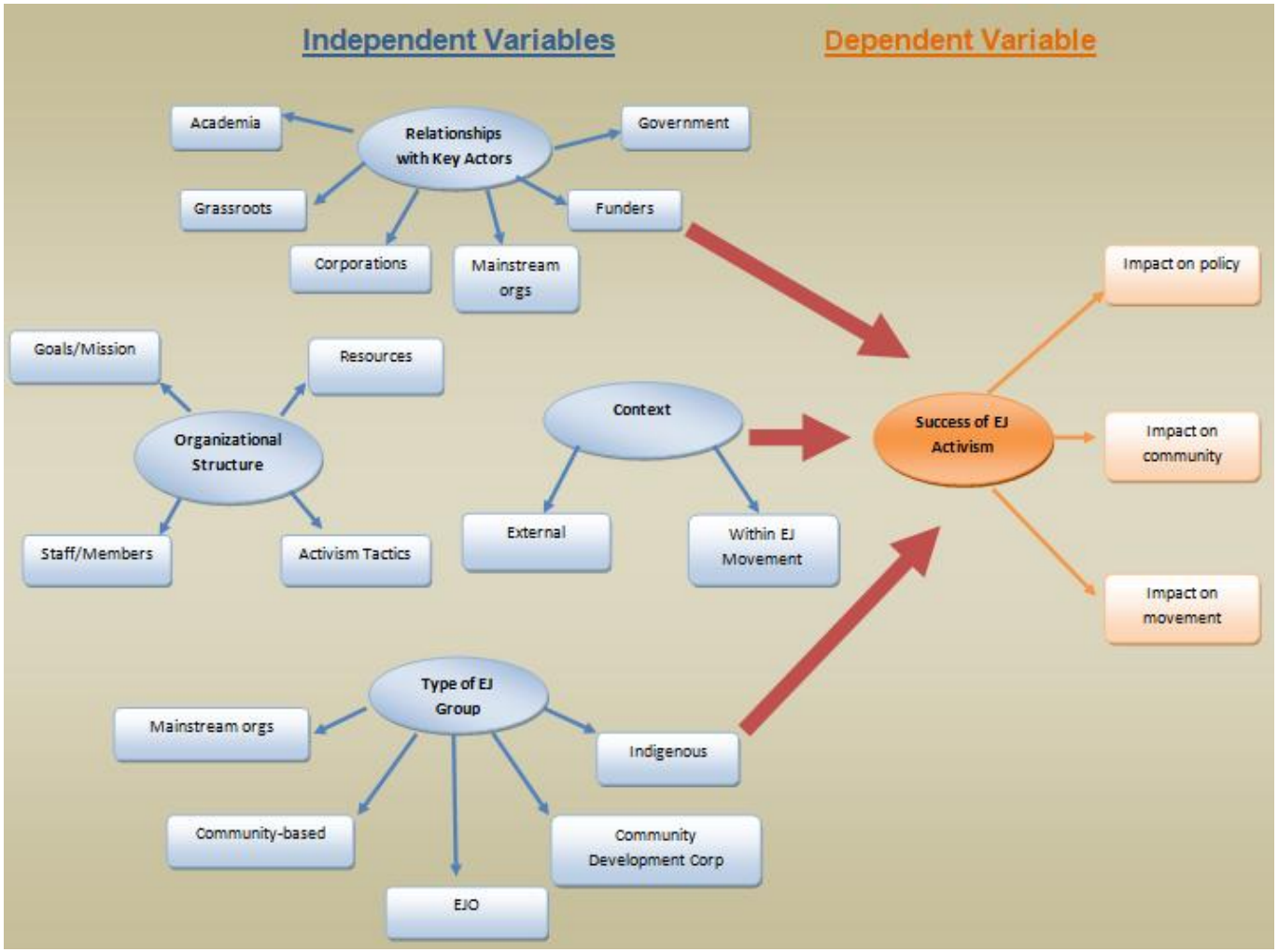


Figure 10. Conceptual model representing major independent variable (Relationships with Key Actors, Organizational Structure, Context, and Type of EJ Group) and the dependent variable (Success of EJ Activism)

Our research is based on two core hypotheses.

1. There has been an evolution of environmental justice groups from community groups to registered non-profit environmental justice organizations (EJOs)
2. The emergence of EJOs (registered non-profit status) has allowed for the environmental justice movement in the United States to be more effective

To investigate these hypotheses we have developed some key independent and dependent variables and represented them in a conceptual map (Figure 10). Independent variables include the type of environmental justice groups, relationships with key actors, organizational structure, and context. The major dependent variable has been identified as the success of environmental justice activism which can be measured by activists' and academics' perspectives on an organization's impact on policy, the community, and the overall movement.

As a team, we understand that there are several other factors that have contributed to the evolution of the environmental justice movement and the success of grassroots environmental justice activism. These include the influence of state legislation and policy as well as increased NGO presence in environmental justice conflicts. Additionally, the environmental justice movement has developed through legal action, conferences, protests and academic research. Many events have also helped shape the evolution of the movement. These include Title VI appeal to the EPA through the Tulane University Law Clinic, the First National People of Color Environmental Leadership Summit, and growing academic methodologies studying environmental justice. We realize that none of these factors alone determines the success or failure of a community in fighting for environmental justice and the overall success of the movement. Through the use of literature reviews and interviews, our team sought to measure all of the independent variables shown in Figure 10, developing a deeper understanding of the many factors contributing to the overall success of these communities and the movement.

7.3 Methodology

7.3.1 Research Questions

Our article is centered on two research questions directly derived from our hypotheses:

1. How has the structural organization of environmental justice groups evolved in the last thirty years in the US?
2. Has the emergence of registered non-profit EJOs allowed for the environmental justice movement to be more effective? If so, how?

7.3.2 Developing Lists of Potential Respondents

The environmental justice movement has evolved and expanded quickly and the number of stakeholders involved has increased. The overall research goal was to evaluate the evolution of the movement through community activism and increasing transition from informal community groups to non-profit organizations. However, there are several other independent variables that have influenced these changes and need to be included in the evaluation and research. We wanted a wide variety of expertise and knowledge within the environmental justice movement. To contact a representative group of environmental justice academics and activists, we used an email list of attendants to The National Planning Committee for the 20th Anniversary Commemoration of Environmental Justice Executive Order 12898. We also wanted to include activist and academic experts who have familiarity with more specialized areas of environmental justice, such as indigenous communities and concentrated animal feeding operations (CAFOs). In order to expand our interview base, the last part of each interview was to perform a snowball sampling method to further our contact with environmental justice experts and give us the most comprehensive understanding of the evolution of the environmental justice movement. Additionally, in the past decade there has been a growing effort by governmental agencies to include environmental justice into consideration and legislation. To understand this trend better we also interviewed representatives from federal and state agencies.

7.3.3 Developing Interview Questions

We used our core research questions as the foundation to develop two sets of interview questions: one for academics and one for activists. We interviewed a mix of scholars and activists in order to represent both holistic knowledge of the movement and more localized experiential knowledge.

In the first part of the interview both academics and activists were asked to address our definition of an EJO and how ours differed from their perception. This helped us to understand how EJOs were perceived by both academics and activists and understand how the larger movement would define this emerging actor. Since there is no consensus within the U.S. environmental justice movement on the definition of an EJO, it was essential to evaluate where this new, more formalized structure fits in the traditional grassroots movement.

The questions designed for academics focused on analyzing comprehensive trends of the movement. Most academics had a specialty within the environmental justice field and this allowed us to see several different evolutions within the larger movement. We asked about how their research interests have changed and tailored our questions to fit their particular expertise. This allowed us to collect information of a wide variety of sub-issues and new trends within the environmental justice movement.

The set of questions we generated for activists focused on understanding how their individual participation in the movement, the activism tactics of their organization, and their understanding of the environmental justice movement had evolved over time. This included questions that evaluated the historic and contemporary relationships between community-based environmental justice groups, NGOs, and government decision makers. Many of the activists we spoke with have been involved since the beginning of the environmental justice movement in the 1980's and were able to give first-hand accounts of the most significant changes, both positive and negative.

7.3.4 Method of Interviewing

Each interview was approximately one hour long and consisted of three main parts including an introduction of the EJOLT project as well as of our goals for the interview, expert-specific questions, and the efforts to continue our research through additional contacts. Expert-specific questions refer to either academic- or activist- focused questions in which we asked respondents about their experiences or research as well as their perspective on the evolution of environmental justice groups and the movement as a whole. In order to have reliable data on our interviews we recorded with permission of the interviewee and we took extensive notes to ensure that we would be able to both adequately represent the interviewees feeling about the movement as well as obtain data that could be easily analyzed.

7.4 Results

7.4.1 Analyzing Results

We interviewed a total of thirty people over a four week process that included: fifteen men, fifteen women; thirteen activists, twelve academics, and two governmental actors (one federal, one state). These interviews also represented twenty-seven different organizations, a wide geographic distribution and a range of actors from informal groups to registered non-profits.

In order to analyze our responses, we divided the interview questions in four themes and then used our notes and recordings to summarize trends and extract relevant quotes. The four trends include:

1. The Movement: This theme refers to the history of the movement and where the movement is going. This includes how academic research has evolved and what key events have set precedent within the movement, such as the PCB landfill in Warren County. Within this theme we also considered respondents' opinions and predictions about how the movement will progress in the next decade.

2. Organizational structure of environmental justice groups: This theme focuses on how the structure of environmental justice groups (staffing, leadership, resource base, etc.) has changed over time. It also refers to how changes in these groups have impacted their ability to influence political decisions, relate to the local community, and build relationships with other actors in the movement.

3. Relationship between activists and academia: This theme focuses on how the partnership between academics and activists surrounding environmental justice has changed. It also includes the pros and cons of these collaborations. Examples of collaborations are academia led projects and initiatives by environmental justice organizations. One main idea within this theme is the relationships built between academics and activists through Community Based Participatory Research as a means of collaboration.

4. Successes and Challenges: This theme encompasses overlapping trends in the successes and challenges faced by organizations, academics, activists and the movement as a whole.

In addition to thematic categorization, we also summarized responses by actor categories, including mainstream NGOs, funders, government actors, and grassroots organizations. We evaluated impacts on the movement in relation to other actors and interactions with these overarching themes.

By dividing the interview questions into themes and actors we were able to review each interview multiple times and pull out the major trends we were hearing about our specific actor or theme. Overall, we were able to find overarching trends surrounding each of these topics and put together a larger understanding, based on our interviews, of how the movement has changed and even find trends for the potential growth of the movement.

7.4.2 Preliminary Results

At this stage of our research we are able to discuss some preliminary findings for each of the categories described above.

The Movement

The great majority of respondents agreed that the spirit from the Civil Rights Movement and the series of events occurring in the late 1980s and early 1990s (e.g. Warren County, UCC Report, First People of Color Leadership Summit, and Clinton's Executive Order) was essential in creating the current collective environmental justice movement. These events put it all together for activists and academics in order to realize that it was not about individual actions, but a national trend of environmental racism. They also agreed in recognizing how environmental justice groups have evolved from having local and narrow strategies to multifaceted strategies, characterized by increasing sophistication (political, technological, and activist action) and the development of partnerships and networks. Finally, we have also found an interesting dilemma around the EJ principle that says "we speak for ourselves", meaning that only vulnerable communities should have a say about the issues within the communities. One group of respondents believes this concept is negative because, in order to become a bigger social movement, communities need people to speak for them (e.g. Washington D.C.); they call it natural evolution of social movements. Another group believes that big environmental groups or big EJOs are becoming political actors and this is distorting the foundations of the movement.

In the future, most respondents expect that groups will keep the trend of expanding their focus, not only focusing on issues of equity in the distribution of environmental burdens but ensuring equal access to environmental goods. Further, attention to cumulative impacts will be crucial to the expansion of the movement and climate change will be a central focus.

Organizational Structure

One central theme that several respondents addressed was the idea of working within the system versus against the system. This was also expressed as advocacy (acting as a voice for the community) versus activism (direct involvement in the fight

alongside the community). Many emphasized small informal environmental justice groups as being the "heart of the movement." However, those organizations that had taken steps towards a more formal structure consistently felt this decision had increased their legitimacy in the eyes of government and funders and magnified their voice. Some respondents who were connected to more established EJOs felt that the increasing role of environmental justice groups in government decision making and public discourse was a success of the movement. Many sought out closer connections to political channels at the state and federal level a means of increasing their influence. They felt that this was the most effective way to create systemic change.

Other smaller organizations expressed the idea that these very well established groups were resting on their laurels and "could do no wrong." They discussed the idea that some organizations were more comfortable partnering with government and corporate groups and that as a result they had more influence in politics. They also expressed that constraints around funding meant those willing to work within the system were more likely to have access to resources and sustain their efforts. Several people mentioned the idea that as the movement progresses, two paths are possible. Environmental justice activists can dedicate time and resources to influencing the dominant political and economic system or they can stand in opposition to that system. There was no consensus among respondents as to which path would be most effective in the long run.

Academia-Grassroots Relationship

While many respondents agree that the collaboration between academia and grassroots organizations is an essential relationship in the future of the environmental justice movement, historically there have been varied feelings about the effectiveness of this relationship. Many interviewees described a relationship in which some institutions benefit more from the relationship than the grassroots groups and communities, both financially and practically, through the results that come from the research. While the relationship between academia and grassroots environmental justice efforts has several positive aspects, it has been affected by difficulties in the collaboration. Some organizations and activist we spoke with felt that the researchers from the universities had not immersed themselves in the community and had not "paid their dues" in terms of helping the community before asking for information in return. Uneven partnerships have occurred when communities feel that academia has used the community struggles for its own gain, either intellectually, institutionally, or financially. One respondent noted that "One of the biggest barriers to getting things done is that most of the money from federal agencies goes to programs like this (University-led research) to do the research and a small amount goes to the actual communities to address the problem." Many communities have historically felt "exploited" by the academia – grassroots relationship.

Many respondents also acknowledged that if the relationship is nurtured and respected there can be productive outcomes from the collaboration. The academia and grassroots partnership has been able to provide funding and opportunities for communities to become involved in researching their particular environmental justice conflict. Additionally, when both sides are equally involved it can allow for communities to be empowered as well as helping academic agendas.

The majority of our respondents believed that the most successful type of partnership between academia and grassroots efforts has been Community Based Participatory Research (CBPR). They believe that this empowers community members and provides positive outcomes for both parties. This type of research is not a new technique, but has been effective in overcoming problems associated with the grassroots-academia relationship. Both activists and academics find research from CBPR beneficial. Academics can use the information gathered for their own research while community groups can use the technical results as leverage in their fight for environmental justice. However our respondents acknowledged that are some negative aspects to this type of research, including difficulty building the relationships to conduct this research, problems surrounding equity of power in the relationship and unequal funding resources. Overall, respondents agreed that the relationship between environmental justice academics and grassroots organizations is one with great potential in the future but continues to face obstacles.

Successes and Challenges

One of the successes noted by many of our respondents is an increasing recognition of environmental justice groups as being legitimate by government, corporations, and mainstream organizations. Some respondents described a feeling of increased productivity in terms of affecting change as a result of this recognition. Another success that many respondents highlighted is an increasing number of young adults joining the movement. This is particularly important because this helps ensure a continuation of the fight to achieve environmental justice.

Two main challenges were addressed throughout our interviews. Many respondents described a competition for resources within the movement which has led to strained relationships among many of the actors. However, some respondents added that although funding is getting tighter, internet and other technologies have provided organizations with new opportunities. Despite these new outreach opportunities, some relationships have been strained and difficult to foster. Some grassroots organizations continue to face challenges while working with mainstream NGOs. One of our respondents described a lack of understanding of environmental justice communities because many NGOs have never stepped foot in the communities dealing with environmental injustices.

7.5 Summary of Preliminary Results

In investigating our main research questions through the interview process we were able to find trends within our sample. Both the trends and competing ideas we uncovered gave us a better understanding of the environmental justice movement and how community activism through environmental justice organizations has evolved. The main trends we found were surrounding the themes of organizational structure, the academia-grassroots relationship, organization of the movement and general successes and challenges. There was belief that this evolution to registered non-profit EJOs was essential while others felt that the original community based organizations are a crucial part of the movement. Lastly, we are finding that the movement has expanded through increased involvement of mainstream environmental groups, NGOs, and government. These new actors have expanded the movement and the organization of the movement leading to new collaborations and networks which will greatly affect future growth. While we are in the preliminary stages of analysis our research has the potential to be influential in both the American context as well as giving the international community a better understanding of the U.S environmental justice movement.

Overall Conclusions

This master's project team has carried out the first U.S. collaboration with the EJOLT project, a groundbreaking initiative to formalize environmental justice collaboration at the international scale.

In order to produce our first deliverable, our team developed a methodology that enabled us to identify, describe and add to the EJ Atlas the forty most influential environmental justice conflicts in the United States both ongoing and historical. Our client has recognized the value of our methodology and has recommended its use to other collaborators that are starting to add conflicts from other areas of the world (e.g. Italy). Our team recognizes that several factors that contributed to the success of our methodology in the United States, such as the existence of a solid network of environmental justice leaders and the existence of widely spread access to internet, might not be available in other parts of the world. However, seeking input from actors with different levels of both technical and experiential knowledge to identify pivotal environmental justice conflicts represents the basis of our methodology and could be replicated or adapted elsewhere.

For our second deliverable, our team conducted in depth research about the evolving history of environmental justice activism. Based on one-hour phone interviews with key environmental justice academics and activists, our team has compiled a historical record with more than thirty hours of histories and experiences of some of the most important leaders within the movement. As our preliminary findings have showed, results from this report could represent valuable and practical information to improve the relationship between key actors within the environmental justice movement in the United States. Moreover, our findings will serve as a tool for activists across the world that could benefit from knowledge about tactics, successes and challenges in resolving environmental justice conflicts.

Doors are being opened for increased collaboration between SNRE and EJOLT within the next couple of years. There is potential for a future master's project that will help EJOLT map environmental justice conflicts in areas that have not been included in the map yet, such as China and South-East Asia. Finally, ideas are also being generated for future work that can be done to strengthen these international ties and to increase awareness and understanding of environmental justice as a social movement

EJOLT and ENTITLE Conferences in Lund, Sweden

Figure 11 EJOLT Conference. Pictured from left to right Joan Martinez-Alier (EJOLT), Bernadette Grafton, Katy Hintzen, Alejandro Colsa-Perez, Paul Mohai

Figure 12 ENTITLE Conference. Pictured from left to right Joan Martinez-Alier (EJOLT), Katy Hintzen, Bernadette Grafton (front), Alejandro Colsa, Beatriz Rodriguez Labajos (EJOLT), Paul Mohai (back left), Alf Hornborg (EJOLT)

Appendices

Appendix A: Summary of the 90 environmental justice conflicts in the United States

Infrastructure and the Built Environment

Conflicts related to infrastructure, city planning and inequitable access to green spaces.

1. West Harlem and the Metropolitan Transportation Authority, NY (1988-Present). In 1988, the MTA attempted to build a second bus depot in the already heavily burdened neighborhood of West Harlem the community organized to protest. The controversy sparked one of the most successful large scale environmental justice social marketing campaigns and the formation of WE ACT.

2. Smart Growth Issues in West Oakland, CA (2010-Present). Planners and developers want to build housing near transportation services in order to reduce air pollution, however this places people closer to sources of toxic air pollution such as diesel emissions. Bay Area environmental health advocates are warning that planners may be heading towards a collision between smart growth and environmental justice. Low-income residents of this area have no affordable housing options except those near freeways, ports, industrial facilities, and other polluting areas. If affordable housing continues to be sited next to sources of toxic pollution, a closer look at current environmental and health conditions in impacted communities reveals what could be in store for coming generations—West Oakland has one of the highest asthma hospitalization rates in the region.

3. Attempted Privatization of Riverside Park in Detroit, MI (2000-Present). The Riverside Park, located next to the Ambassador Bridge, has been a site of continued tension as the Detroit International Bridge Co. (owners of the Ambassador Bridge) have tried for years to restrict access to the park for security reasons. After a lawsuit, the park was reopened but then declared a dangerous environmental hazard site in 2012. The park is now officially closed but continues to be used by the local community as a recreation and fishing site.

4. Heavy polluting transit buses in Roxbury, MA (1998-Present). Asthma is an ongoing environmental justice concern in Roxbury, an urban neighborhood of Boston, Massachusetts. Residents, especially local youth, were the first to investigate the potential links between high asthma rates and air pollution, particularly from diesel buses and trucks. This community-based

participatory research project was designed to answer community questions about whether there are pollution "hot spots" in Roxbury and the degree to which diesel emissions are contributing to health problems.

5. Military contamination in Tucson, AZ (1985). The highly toxic trichloroethylene (TCE) was used by military operations for degreasing machinery at air fields. The chemical was then dumped in the surrounding areas and made its way into South Tucson ground water. In 1982 an area of 30 sq. miles in the south of the city was declared a Superfund site. A community group in the primarily Mexican American and immigrant community brought suit against Hughes Air Force Missile Plant which resulted in the largest settlement in history for groundwater contamination at that time - $84.5 million.

6. Lead paint and other toxics in Brooklyn's Greenpoint/Williamsburg community, NY (1990s). A diverse ethnic population, many immigrants had high levels of lead poisoning in children who live near these particular bridges. In 1994, the community brought a lawsuit to get the New York Department of Transportation (NYDOT) to conduct an Environmental Impact Statement (EIS) on its bridge repainting protocol. After several years of litigation, the case was settled. In the lawsuit settlement, NYDOT was required to develop technical specifications for its lead paint removal activities on New York City bridges.

7. Lack of access to effective transportation in NYC's Bronx, NY (Current). This county has one of the longest commuter times in the nation. For many residents, limited access to public transportation has meant greater difficulty accessing healthcare and getting fresh foods to maintain a healthy lifestyle. The median income is about half of the US median income.

8. Lack of safe, affordable drinking water in the San Joaquin Valley, CA (Current). Much of California's water infrastructure systems are old and degraded. Access to clean drinking water is limited in communities that cannot afford to purchase bottled water for all their needs. These communities are often poorer and have high populations of immigrant families as well as a variety of non-white, non-Hispanic people.

9. Lack of Access to Green Spaces in Los Angeles, CA (Current). Los Angeles is park-poor, and there are unfair disparities in access to parks and school fields. Children of color living in poverty with no access to a car have the least access to parks and to school fields with five acres or more of playing fields, and suffer from the highest levels of child obesity.

10. Industrial Zoning in the City of Austin, TX (1982). East Austin has a long history of being segregated as a minority neighborhood, first with African American and later Mexican American residents. The area is also disproportionately zoned for industrial use.

11. Heavy Industrial Areas in Brooklyn, NYC (2000s). Sunset Park contains zones called Significant Maritime and Industrial Areas (SMIA's) — zoning distinctions which are designed to encourage the clustering or concentration of heavy industrial and polluting infrastructure uses. There are only six SMIA's in New York City (in the South Bronx, Sunset Park, Red Hook, Newtown Creek, Brooklyn Navy Yard & North Shore of Staten Island) — all located in predominantly low-income communities of color. This cluster of industrial uses combines with Sunset Park's proximity to the Gowanus Expressway to pose serious health risks to the workers and residents of Sunset Park.

12. Expansion of Runway at Atlanta Hartsfield International Airport, GA (2011-Present). There is high concern among nearby residents about the possible negative impacts that the runway extension might have on existing and future home ownership, loss of neighbors, displacement, and overall disruption of community life. They estimated that 3,120 homes in College Park and 7,031 homes in and around Old National Highway would need to be relocated to make way for the new runway extension.

13. CSO -Combined Sewer Overflows in Indianapolis, IN (1990s). An earlier environmental equity study of CSOs in Indianapolis demonstrated a significant bias towards lower income families and a lower and marginally significant bias towards minorities living within 2 kilometers of CSO outfalls.

14. Cross Bronx Highway, NY (1948-1972). This expressway is often regarded as a symbol of changing urban geographies and the growth of car culture. Tied to the urban regeneration policies of Robert Moses, the expressway divided vibrant South Bronx neighborhoods cutting of social and economic ties in a primarily minority and low income neighborhood.

15. The Bronx River Greenway, NY (2005). Youth Ministries for Peace and Justice has advocated intensively for the restoration of the Bronx River and for improved access to the river for local residents. Together, the organizations in the Bronx River Alliance and its predecessor, the Bronx River Working Group, succeeded in creating the Bronx River Greenway, which is currently under construction by the NYC Parks Department. To ensure that the Greenway is not just a recreational resource for residents but also an economic one, YMPJ is investigating possibilities for structuring

and managing concessions in the park so that they can most effectively benefit local residents. The Greenway includes walking/biking paths. During the process of making this a reality there were numerous public meetings informing citizens about the project.

Nuclear Energy Conflicts

Cradle to grave perspective of nuclear power production from the extraction of uranium, to the operation of plants, to the disposal of nuclear waste.

16. Disposal of low-level nuclear waste in Sierra Blanca, TX (1994-1998). In 1994, nuclear waste disposal facility was proposed in Serra Blanca, Texas which is 2/3 Hispanic and already hosts a site that takes NYC sludge. It is located 16 miles from Mexico border, is on top of an aquifer, and is in an active earthquake area. There have been numerous cries of "environmental racism" and a suit was filed under Title VI of the 1964 Civil Rights Act. The fight was won in Sierra Blanca but it is expected to be proposed elsewhere in Texas.

17. High-Level Radioactive Waste in Skull Valley Goshute Indian Reservation, UT (1998-2006). The Goshute reservation is surrounded by of hazardous and low-level radioactive waste dumps, an electrical power plant, and a Federal Government weapons-testing site. In the 1960's, accidental nerve gas leakage from the weapons testing facility led to the deaths of 6,000 sheep on the reservation. Private Fuel Storage (PFS) wants to "temporarily" store 40,000 tons of commercial high-level radioactive waste (nearly the total amount that presently exists in the U.S.) next to the Goshute Reservation. Many of the tribal leadership support this move but others in the community and in the state of Utah vehemently oppose it. The Skull Valley proposal advanced further than any before but the tribe saw their victory in September of 2006.

18. Plutonium Production near Indian Tribes in Hanford, WA (1943-Present). In 1943, Hanford, Washington became home to the world's first full-scale nuclear weapons production complex. By 1988, the site had been declared the nation's most contaminated site under the CERCLA's National Priorities List (NPL) and is now widely considered the most contaminated site in the Western hemisphere. Some of the consequences for native people: displacement, loss of ties to the landscape including ceremonial and sacred sites, poverty, lack of access to quality education and health care, and exposure to multiple point sources of long-term industrial pollution including consumption of contaminated fish.

19. The Yucca Mountain High-Level Nuclear Waste Repository, NV-AZ-UT-CA (1951-Present). Yucca Mountain has been set aside by the U.S government as a final repository for high-level nuclear waste. The site is still being investigated by the Department of Energy (DOE) but they are not considering any other locations. The tribe is concerned about health and environmental impacts on its members but the government has not initiated any health studies, remedies to the environmental pollution, or disease prevention/ surveillance programs.

20. Uranium Mining in the Navajo Nation, NM (1918-Present). When the government opened up the region to mining, work was hard to come by for the Navajo. Many worked the mines to support their families but were not paid a just wage and were subject to many dangers and unfair policies. RECA law was passed in 1990 requiring compensation to those who can prove they worked in the mines and are suffering health (often cancer) consequences now. Records were poor among Navajo people because wages were too low to pay taxes on and obtaining other records proved to be very difficult.

21. Ward Valley Nuclear Dump in Mojave Desert, CA (1988-Present). Proposed waste disposal site for radioactive waste dump on lands considered sacred by the five lower Colorado River Indian tribes. The site was also about 20 miles from the Colorado River above a major aquifer. The issue spiraled quickly as grassroots advocates were joined by major environmental organizations, federal politicians, and local state leadership. Protestors occupied the site in a 113-day demonstration. Concerns now: who pays and who cleans?

Fossil Fuels and Climate Justice Conflicts

Conflicts focused on the extraction and processing of oil and gas resources as well as their relation to climate justice issues.

22. Climate change threatening lives and traditions in Shishmaref, AL (2010). Climate change has resulted in melting permafrost that much of this village was established on. Disappearing ice, seals, and polar bears has greatly affected the people in this village since hunting and fishing provides them with their primary source of food. Some residents have been forced to move and are unable to continue their way of life. Traditions and their language are threatened and the people living here may become climate refugees. There is little funding for relocation and what funding there is available from the government is highly competitive.

23. Coastal communities in Terrebonne County, LA (2005-Present). Low income coastal communities are more vulnerable to flooding and extreme weather incidents. They are also increasingly being pushed out of their homes and neighborhoods by skyrocketing insurance rates.

24. Extreme Heat Events and Environmental Injustices in Phoenix, AZ (2003-Present). Urban core neighborhoods in Phoenix (especially low income minority areas) lack green spaces and are more vulnerable when the city is affected by extreme heat events.

25. Fisk and Crawford Coal Plants in Chicago's Pilsen and Little Village Neighborhoods, IL (1903-2013). The Fisk and Crawford Power Plants in Chicago, located in the predominantly Hispanic neighborhoods of Pilsen and Little Village, had some of the worst environmental compliance records in the country (Environmental Law and Policy Center of the Midwest 2010). A 2001 study by the Harvard School of Public Health estimated that each year pollution from the plants led to forty-one premature deaths, 550 emergency room visits, and 2,800 asthma attacks (Moon et al. 2002). Local community groups such as the Little Village Environmental Justice Organization, Pilsen Alliance, and Pilsen Environmental Rights and Reform Organization (PERRO) demanded the plants be shut down and they were successful in their efforts (NAACP 2012).

26. Feeding my Family-Food Insecurity in the Arctic, AL (Present). For a community used to a traditional subsistence way of life, unpredictable weather effects like changing ice freezing patterns, rising temperatures and more frequent and intense storms and blizzards are making it increasingly difficult to adapt. The results of this climate change include altering animal migration routes, making hunting harder; delayed food shipments; and rising food prices. For Inuit, achieving food and nutrition security is about more than ensuring people are free from hunger, it is about the right to harvest and pursue a traditional subsistence way of life. In other words, Inuit view food security as a right that encompasses the cultural and environmental aspects of their lives.

27. Disproportionate impact of Hurricane Sandy on low income households, Eastern USA (2012-Present). A study finds that low income, minority, and elderly residents were more likely to be impacted negatively by Hurricane Sandy because they live in older buildings often with fewer resources to respond to storms and less alternate housing options.

28. Keystone XL Pipeline, Alaska-Golf of Mexico (Projected). This pipeline system aims to transport oil sands bitumen from Canada and the northern

United States primarily to refineries in the Gulf Coast of Texas. The pipeline will affect indigenous peoples (i.e. Southern Cherokee) and their sacred lands, specifically the waters and land they depend on for their survival. No one has consulted with these people as is required according to the treaty when territories established. President Obama rejected the pipeline but Congress kept pushing it with various new legislations.

29. Mountaintop Removal in Appalachia, Appalachia Mountains (1970-Present). Mountain Top Removal is destroying the communities of the poorer people living in the mountains who have enjoyed the natural beauty, fresh water, and wildlife that come with the mountains. Excess rock and soil laden with toxic mining byproducts are often dumped into nearby valleys, in what are called "holler fills" or "valley fills."

30. Native Alaskan Communities Climate Refugees, AK (2003-Present). Several Native Alaskan Villages are facing relocation as melting ice increases flooding and threatens the safety and viability of their communities. With no real legal or federal administrative infrastructure established for dealing with climate change, the villages have experienced 10 years of stalling by the authorities.

31. Offshore Drilling and Gulf Coast, LA (2006-Present). The BP oil spill is only part of a very long history of repeated spills along the Louisiana shoreline some small and some much more devastating. Many coastal communities are especially dependent on natural resources for their livelihoods and over time have developed very unique ways of coping with and protesting these spills.

32. Recovery after Katrina in New Orleans, LA (2005-Present). Results reveal strong racial and class differences, indicating that neither of these dimensions can be reduced to the other when seeking to understand responses by survivors themselves. Low income black home owners from New Orleans are those most in need of targeted assistance as residents work to put themselves and the region back together. Social vulnerability influenced outcomes at various stages of the Hurricane Katrina catastrophe, including mitigation, preparation, evacuation, storm impacts, and recovery.

Biomass and Land Conflicts

Land use conflicts related to both ownership and dedication of land resources such as deforestation and agricultural practices

33. Confined Animal Feeding Operations (CAFOs), NC (1990-Present). North Carolina swine CAFOs are located disproportionately in low-income and African American communities and in areas heavily dependent on ground water. Numerous human health and environmental impacts of fecal waste getting into the water supply, air, and food chain. Many African Americans live in floodplain areas which are at great risk for flooding, which results in overflow of fecal waste pits of CAFOs.

34. Pesticide Exposure in Lindsay, CA (1999-Present). Lindsay, CA is a largely Hispanic community. People who live near agricultural fields have concerns about their own health and the health of their families, especially during spraying season. Because of this concern, they monitored the air surrounding their homes and schools for chlorpyrifos, a pesticide they know is linked to negative health effects and used on the orange groves nearby. The Drift Catcher was used by many residents to measure exposure around their homes.

35. Pesticides and childhood cancer in McFarland, CA (1970s-2000s). In 1995, a group of McFarland residents (poor and Hispanic community) petitioned the US Environmental Protection Agency, Region 9 for assistance in evaluating the community's environment. Concerns were raised about cases of childhood cancer, exposure to pesticides and hazardous wastes, potentially contaminated drinking water, and other health problems. In an investigation that spanned from 1997 to 2002, EPA collected soil, drinking water, outdoor air, and indoor dust samples. EPA ruled the area not eligible to be on NPL and that the town is similar to other towns in California.

36. Pollution from hog farming in Halifax, NC (1991-Present). Over the past decade, the number of hog producers in the state of North Carolina has fallen from 23,000 to 8,000, but the number of hogs in the state has nearly tripled. Large hog farming corporations have come into N.C. and have bought out smaller family farms, or have integrated with the smaller farms by providing hogs and materials in exchange for the use of the farmer's land. In this time, a population of 7 million hogs has invaded and taken over the land and lives of residents of this town, while contributing pollution to both the water supply and the air.

37. Poultry CAFOs, environmental impacts, and worker's rights, AK (1990s-Present). Tyson poultry plants are some of the most dangerous places to work. Several chemicals in chicken feed and manure including arsenic and ammonia contaminate air and ground water. Bird flu is also a concern. In Arkansas the industry is under-regulated and frequently preys upon new immigrants and those without legal immigration status threatening deportation if laborers attempt to organize.

38. Riverside Park, contamination, and restricted access to residents in Detroit, MI (2012-Present). The Riverside Park located directly next to the Ambassador bridge in Detroit has been a site of continued tension as the Detroit International Bridge Company which owns the Ambassador bridge tried to restrict access to the park for security reasons. The community took the issue to court and then won. In 2012 the Detroit International Bridge Company reported to the city that the soil and groundwater in the park was contaminated with a petroleum-like substance and the park was closed for cleanup. However, residents continue to use the park for recreation and fishing.

39. Proposed Crandon Mine in Crandon, WI (1975-Present). The Crandon Mining Company proposed to build an immense copper and zinc mine near the Mole Lake Sokaogan Chippewa reservation (Crandon Mining Company is composed of the Exxon Corporation and Rio Algom Ltd.). Their plan is to put a mine on 865 acres of Wisconsin's North Woods, a region of dense forests, numerous wetlands, and rivers (including the Wolf and Wisconsin Rivers). This has turned into one of the country's fiercest grass-roots environmental face-offs. CMC contends that the mine would help the area's economy, and would not pollute its streams and lakes. The tribe also contends that Exxon is considering at least 10 other mineral deposits for development in the northern Wisconsin area, a number the company does not dispute. Halting the Crandon project, they argue, could prevent the development of other big mines. Mine still has not been built but they keep pressing on.

40. Triangle Lake Pesticide Exposure in Lane County, OR (1970s- Present). Triangle Lake is a very poor, rural area. Pesticide spraying by helicopter is exposing many people, especially children to harmful chemicals. Health studies showed herbicides in urine of residents. Grassroots organization around the effort to battle pesticide drift began in 2005. This organization got the attention of national media and the EPA.

Industrial and Utilities Conflicts

Contamination stemming from industrial facilities mainly relating to manufacturing and utilities.

41. ALCOA, General Motors, Reynolds Metals Company and the Akwesasne Nation, NY (1960s-2013). General Motors, Reynolds Metals Company, and the Aluminum Company of America (ALCOA) on the American banks, have economically thrived from the low-cost electricity produced by the hydro-electric project. In the process, Akwesasne, the first community down-river from them, has born a disproportionate share of environmental, socio-cultural and economic impacts resulting from pollution from these industries. Many toxic substances including PAHs, PCBs, dioxins, dibenzofurans, metals, cyanide and styrene have been discharged into the air, land or water in and around Akwesasne. All three companies used polychlorinated biphenyls (PCBs), human-made chemicals that were ideal for industrial purposes, in their plants. A land mark case in the question of Native American rights the case was settled for $20 million dollars.

42. Biomass combustion power facilities in Lithonia, GA (2011-Present). Residents of Lithonia, Georgia recently forced a biomass gasification company, GreenEnergy Partners, LLC -to move their proposal out of the 80% African American community. They know that research has shown incineration to be environmentally unhealthy and can cause or worsen lung diseases such as asthma. They tried to help their rural neighbors of DeKalb County to oppose their further permitting and construction, and examined political action and civil rights litigation to stop the $60 million dollar project. The project was just given the permit to go ahead in May 2013.

43. Chevron Refinery in Richmond, CA (1990s-Present). Chevron stores over 11 million pounds of toxic, explosive, and corrosive chemicals at this refinery near Richmond California in a mostly low income and African American community. The company had 304 accidents between 1989 and 1995 -- major fires, spills, leaks, explosions, toxic gas releases, flaring, and air contamination. In 1993, Chevron made plans to increase its chemical storage and the number of hazardous chemicals in the Richmond area. A series of letter writing campaigns, demonstrations, and protests related to the issue attracted major media attention and turned the tide of public opinion away from Chevron. After raising more than 5 million dollars the local community managed to attract the attention of national environmental organizations and shut down the plant.

44. Contamination from Kelly Air Force Base in San Antonio, TX (1960-2001). In a predominantly Hispanic region, there were high rates of cancer, especially in children; elevated levels of disease; contaminated water and topsoil; open acid pits. Grassroots activists from the community held protests, conducted health surveys, and provided education to the community. Successful in getting 3 jet fuel tanks (from which odors and contaminants were coming) demolished- this gave them some confidence in their influence. Major struggle was groundwater contamination; residents demanded more aggressive cleanup and wanted area declared federal Superfund site (officials opposed this). Residents were exposed to toxic chemicals through inhalation, ingestion, and skin contact. Partial remediation was done by AFB as well as provision of money for health tests and installation of technologies meant to help contain chemicals (AFB had a focus of containment rather than cleanup). A lack of enforcement of regulations at military bases in U.S. led the military to think it is exempt. AFB is now closed.

45. Detroit Intermodal Freight Terminal (DIFT), MI (1990s-2000s). New truck routes would significantly impact quality of life for residents in the area; asthma would increase, the truck route would deteriorate already poor air quality, displace home and business owners, physically divide strong communities, and make the streets less safe for motorists and pedestrians. According to the Mexican town Development Corp the DIFT project area is one of the only growing communities in the City of Detroit.

46. Intel Expansion in Rio Grande and Corrales, NM (1980s-1990s). In the late 1980s, Intel began to expand its Rio Rancho operations using industrial revenue bonds sponsored by county government. In 1993, residents began to wonder if there was a connection between their illnesses and disorders and possible air pollution from Intel.

47. Lockheed Martin contaminates groundwater in Tallevast, FL (2000-2006). African American community was not told of spillage of industrial solvents and cancer-causing chemicals into soil and groundwater (they learned of it 3 years later). High rate of cancer and many other health issues in the community led Laura Ward and Wanda Washington to investigate. They found that at least 9 wells were contaminated (sampling was paid for by residents because no sampling was being done by industry or officials). A health study was organized by residents. The company eventually announced a 20 year cleanup plan, however residents were unsatisfied and wanted to be relocated. Lockheed Martin officials deny any risk to residents. This case shows a power imbalance favoring a corporate giant, thus an uphill legal battle for residents.

48. PCB Contamination GM and the Mohawk tribe, NY **(**1980s-Present). General Motors Power Plant contributed to high PCB levels in the St Lawrence River inlet Turtle Cove used by the St. Regis Mohawk Reservation. The site was listed as a Superfund site in 1984 and capped the 12 acre hazardous waste landfill next to the reservation.

49. Superfund Site in Pensacola, FL (1980-2000s). The Escambia Wood Treating Company (ETC) Superfund site in Pensacola, FL is contaminated with polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans (PCDD/F), benzo(a)pyrene, lead and arsenic from pentachlorophenol (PCP), creosote, and other compounds used to treat utility poles and foundation pilings. Although ETC's operations ceased in 1982, soils in the areas surrounding the facility continue to exhibit elevated levels of contaminants attributable to ETC operations.

50. Petrochemical Pollution in Cancer Alley - Norco, LA (1970-2002). The predominantly African American community of Diamond in Norco, LA was situated just across the "fence line" from a major Shell Chemical facility. With increasing awareness of high cancer rates and respiratory illness in the 1970s, residents began advocating for a fair buyout of their dangerously contaminated properties. After attracting the attention of major media sources and using a combination of legal and citizen science techniques, the community was successful in 2002 in securing full relocation and buyout by Shell.

51. Seneca Sawmill biomass energy plant in Lane County, OR (2011-Present). This community has higher densities of low-income residents, many of whom are Latino families. Most residents were not informed of the permitting process and subsequent plans to build the facility in their community. This biomass incinerator emits many pollutants into the air and has resulted in increased rates of asthma in the community.

52. Shintech PVC Plant Convert, LA (1996-1998). In 1996, Shintech proposed the building of a large PVC plant in Convent Louisiana. The plant would add three new factories and an incinerator to a region already heavily burdened by industrial pollution. Hundreds of citizens from the predominantly African American community turned out to oppose the plant construction at EPA hearings. After two years of legal battles, Shintech decided not to build the plant in Convent.

53. Toxic Chemical Contamination from Dow Chemical in Plaquemines, LA (2011). On the banks of the Mississippi, this area has suffered from contaminated water, dominated by the web of chemical tanks and pipes

that weave through Dow Chemical's nearby vinyl chloride monomer (VCM) factory. In the grounds of this plant, Dow dumped over 275 million pounds of toxic waste into unprotected landfills.

54. Water contamination from Paper Mills in Penobscot Reservation, ME (1972 to Present). The processes from paper making, leather, and textile plants in the lower Penobscot watershed have caused the continuous discharge of large amounts of organic matter and solids which have rapidly depleted oxygen in the receiving water. Residents (especially Native American populations) have begun to voice concerns about the pollution's effect on fisheries and drinking water supplies. After banning water and fish consumption, the health and culture of native populations is at high risk.

55. Water Contamination from chemical companies in Woburn, MA (1960s-1970s). As populations grew in the city during the 1960's, two new wells were drilled along an industrial area in order to develop additional community water supply. Almost immediately, residents began to complain about the water, suspecting that it was responsible for the occurrence of childhood leukemia and the increase in birth defects. Ten years after the development, an analysis determined those wells were contaminated with trichloroethylene (highly carcinogen) and shut the wells down.

Waste Management Conflicts

Conflicts related to the disposal of waste including toxic waste and illegal disposal conflicts.

56. Asthma and cancer linked to coal ash dump site in Bokoshe, OK (2001-Present). Bokoshe (Pop. 450), a poor rural town, is the location of an offsite surface impoundment for the Shady Point power plant in Panama, Oklahoma. The dumpsite is located 7 miles from the power plant and approximately 80 trucks a day pull thru the heart of town loaded with fly ash. The dump is unlined and many people who live nearby depend on wells for their water. Of the 20 homes in the immediate neighborhood, 14 have one or more cancer victims and more than half of the students in the public school have asthma.

57. BP's oil spill garbage in coastal counties, AL-LO-FL-MS (2010- Present). Not a lot of attention has been paid to see which communities were selected as the final resting place for BP's oil-spill garbage. According to Bullard's analysis of BP's Oil Spill Waste Summary, as of July 15, 2013, more than 39,448 tons of oil garbage had been disposed at nine approved landfills in Alabama, Florida, Louisiana, and Mississippi. More than half (five out of nine) of the landfills receiving BP oil-spill solid waste are located in

communities where people of color comprise a majority of residents living near the waste facilities. In addition, a significantly large share of the BP oil-spill waste (61 percent) is dumped in people of color communities. This is notable since people of color comprise about 26 percent of the coastal counties in Alabama, Florida, Mississippi, and Louisiana.

58. Detroit's Waste Incinerator in Detroit, MI (1986- Present). The largest solid waste incinerator in the United States, the Greater Detroit Resource Recovery Facility incinerator burns an estimated 2800 tons of commercial and household waste each day. This incinerator, owned by Covanta, the world's largest incinerator company, is one of the most iconic environmental and social justice fights in the U.S. today. The incinerator is deeply implicated in Detroit's budget crisis as well. The incinerator is one of the worst polluters in Wayne County for criteria pollutants. Particulate matter emissions contribute to Detroit's high asthma hospitalization rate for children, at three times the state average. In 2010 the incinerator was bought and renamed Detroit Renewable Energy in an effort to "green wash" the facility although it remains a toxic, polluting facility.

59. Innovative Waste Utilization and the Concerned Residents of South Phoenix, AZ (1999- Early 2000s). Innovative Waste Utilization (IWU) is one of many hazardous waste facilities located in the area of South Phoenix, Arizona. The company had proposed an expansion of their 4-acre facility in 1999, which is located at 2575 South Sixteenth Avenue. The neighborhood surrounding this hazardous waste facility is comprised of mostly African American and some Latino families. Residents received help from the environmental justice law advocates at The Center on Race, Poverty and the Environment.

60. Hazardous waste in Love Canal, NY (1953-1980s). Hooker Chemical sold its land to the Board of Education in 1953 for one dollar after filling the canal and covering the hazardous chemical waste. In the deed transfer was a warning of the wastes buried on the property and a disclaimer absolving Hooker of any future liability. Despite this warning, the Board built an elementary school on the property in 1954 followed by residential home building in the late 1950s. Low-income housing was also built around the canal. Residents were not informed of the risk, however they began complaining of odors and these complaints only led to temporary "fixes" in covering up the substances with dirt or clay. Investigation did not begin until the late 1970s. This has been described as the landmark case that began the modern environmental movement and is a fundamental contributor to most of the major environmental legislation of the 1970s.

61. Nation's Largest Hazardous Waste Landfill in Emelle, AL (1978-Present). Chemical Waste Management, Inc landfill is in one of the nation's most impoverished regions. Over 90% of residents near this landfill are black. The landfill sits on top of an aquifer that provides water to a large part of Alabama. Leaking of the landfill as well as improper burial of waste and chemicals has been noted. Government finally increased fees to reduce amount of waste entering landfill, however, this lowered business so in April 2013, lawmakers approved lower fees for this landfill to increase business once again.

62. North River Sewage Treatment Plant in Harlem, NY (1985-1994). Ever since its construction, members of the community have complained about overbearing odors emanating from the North River Sewage Treatment Plant. The plant processes over 170 million gallons of raw sewage a day. Due to the noxious odors, most often described as resembling the smell of rotten eggs, residents complained about not being able to go out on their terraces or open up their windows. The odor became even more potent during the hot summer months. Led to WE ACT and was settled in 1994 for $1.1 million and other environmental conservation projects.

63. Southside Sewage Treatment Plant in Syracuse, NY (2004-2008). The county is placing sewage facilities throughout Syracuse to comply with a 1998 federal court order to prevent overflows from further polluting the lake. While the more affluent Northside neighborhood will house small control centers, Southside—a low-income community where 83.7 percent of the population is African American—is being forced to take a large, obtrusive chemical treatment plant.

64. Springfellow Toxic Waste Dump in City of Jurupa Valley, CA (1956-2012). Legal toxic dump opened in 1956 and accepted legal hazardous waste through 1990s. Leaking and overflow occurred after heavy rains in the 60s and 70s. Following this, there were chemical fires on the surface of ponds. Glen Avon was the first community to do a lot of things (to get an information center on the site in the community instead of in Sacramento; first to get a technical advisor paid for by the state and polluters; first to establish a Community Advisory Committee). This case also changed federal law and is responsible for new protective public policies on hazardous materials. Supreme Court ruled in August 2012 that insurance companies are liable for damages and must pay.

65. The toxic doughnut and the Altgeld Gardens housing development in Chicago, IL (1970s-1990s). Built on an abandoned landfill, the Altgeld Gardens community was a predominantly African-American community

surrounded by several landfills and a chemical waste incinerator. One of the most famous environmental justice advocates, Hazel Johnson, began organizing the community after horrible health impacts of the toxic surroundings became clear, including abnormal cancer rates and birth defect rates.

66. Toxic Waste Incinerator in Kettleman City, CA (1988-Present). In this town, nearly half its 1,500 residents live below the poverty line. The biggest environmental villain, in the view of local residents, is Waste Management Inc., which operates a vast hazardous-waste dump three miles from town. And there are projects in the works to build a massive natural gas power plant nearby, as well as to deposit 500,000 tons per year of Los Angeles sewage sludge on farmland a few miles from the town. In a three year span, residents say at least 11 babies were born with serious birth defects. Center on Race, Poverty and the Environment (CRPE) helped fight this injustice.

67. Under-regulated Hazardous Waste Facility in Mecca, CA (2004-Present). Western Environmental, which is not tribally owned, has been operating on the reservation for seven years without a state permit, but didn't attract the attention of authorities until complaints began in 2010. Extreme odors, nausea, vomiting, light-headedness, faintness, and increased asthma attacks in children experienced by the entire community which is 99% Hispanic and houses tribal communities. Western Environmental is directly across the street from two low-income housing communities and barely two miles from Saul Martinez Elementary.

68. Warren County PCB disposal site, NC (1982-2000s). This landmark environmental justice case study of siting a PCB waste dump in a primarily African American community is often cited as the case that first gave rise to the concept of environmental racism. Leaking was identified as early as 1993 but it took more than two decades for Warren County residents to get the leaky landfill site detoxified by the state and federal government.

69. Waste incinerators in East St. Louis, IL (1930s-Present). Along the southern edge of East St. Louis, chemical plants such as Monsanto, Big River Zinc, Cerro Copper, and one of the largest hazardous waste incineration companies in the U.S., American Bottom Sewage Plant and Trade Waste Incineration, line impoverished neighborhoods. Nearly a third of the residents live on less than $7,500 a year and 98% of residents are black.

70. Waste incinerators in Chester, PA (1990s-Present). Chester Pennsylvania, a primarily low income African American community near Philadelphia, is the site of several toxic and medical waste incinerators. The EPA found very high

instances of low birth weight, infant mortality, lung cancer, and blood stream lead levels. The Public Interest Law Center of Philadelphia got involved in fighting the environmental injustice in 1993.

71. Environmental racism in Dickson, TN (). Dickson (pop. 12,244) is a town located about 35 miles of Nashville, Tennessee. African Americans make up less than 5% of the county's population and occupy less than 1% of its territory. The Dickson County Landfill is located 50 feet from the small mostly black community of Eno Road. For more than three decades manufacturing companies from across the county dumped hazardous waste to this landfill, contaminating the surrounding groundwater resources. Even two decades after the first signs of contamination were detected, no action was taken by authorities to remove the environmental burden. In 2008, and after years of litigation, a legal settlement ensured the protection of this community against water contamination and provided compensation to those affected by exposure.

Water Management Conflicts

Conflicts related to water rights and access.

72. Injustice in Water Distribution in Detroit, MI (1990s-Present). Studies have shown that low-income and/or African American communities suffer loss of access to water and sewage because they cannot afford to pay for repairs to water infrastructure. Race was largely correlated with environmental injustice in this area. It was found that between 2001 and 2002, some 40,700 people were without water.

73. Clean water not available in poor Latino communities of Central Valley, CA (1950s-Present). In the Central Valley of California water is scarce and often diverted to agriculture and development rather than low income communities or minorities. Migrant farm workers and new immigrants have an especially difficult time getting fair access to water. Communities such as Seville in Tulare County are subject to nitrate contamination in their water from fertilizers and they cannot afford backup systems when their pipes are corroded.

74. Access to water in Zanesville, OH (1956-2003). Government discriminated against this largely African American community by running water lines in and throughout the area, starting in 1956, but not in Coal Run. Coal Run didn't get public water until 2003 when the lawsuit was filed. Until then, residents had to either pay to water trucked in or collect rainwater. They couldn't dig wells because the water was so contaminated from years of

coal mining. East Muskingum Water Authority, along with the city and the county, denied discrimination.

75. No Water in Black Communities of Sunflower County, MS (1970-Present). Ninety-seven percent of residents in Mississippi are connected to a water system. The residents of Sunflower County belong to the other 3 percent. Though one-third of households without adequate water live below the federal poverty level, geographic isolation and a lack of political will also are factors. Discrimination has been a common thing throughout the history of this area.

76. No Water Provision in Mexico Chiquito and Agua Dulce, TX (1950s-Present). Colonias are impoverished communities along the US-Mexico border created by predatory developers. These communities often have no running water or access to wastewater treatment.

77. Proposed Privatization of Water in Stockton, CA (2002-2008). On March 1, 2008, after the community spent years fighting for public water, and after the city spent millions of dollars defending its privatization contract with OMI/Thames Water, public operators reclaimed control of Stockton's water and sewer systems. This was a legal victory. Stockton is only about 30% white with most of the population being of some other race whether African American, Hispanic, Asian, mixed, or other.

78. Proposed Privatization of Water in New Orleans, LA (2000-2002). In 2002, the New Orleans Water and Sewerage Board rejected a proposal to privatize its water and sewer system under strong pressure from citizen groups concerned about service and cost to low-income city residents, impact on city employees, compromise of environmental standards, and other public-impact issues. low-income people, who may struggle to afford all basic needs (e.g., water, housing, food, energy, medical care), benefit from public sector water system water rates that are often below-market, or essentially publicly subsidized.

79. Water rights of the Dineh-Navajo Tribe, NM (1950s- Present). In December of 2010, a court settlement granted the Navajo Nation increased access to and usage of water from the San Juan River. This was the culmination of a long history of legal battles but there is still very strong tension between local agriculture and the Navajo People over water rights and usage.

Biodiversity and Conservation Conflicts

Conflicts related to the protection and conservation of biodiversity and habitat.

80. Oil drilling in the Arctic National Wildlife Refuge (ANRW), AK (1977-Present). ANWR comprises 19,000,000 acres of the north Alaskan coast. It is the largest protected wilderness in the United States and was created by Congress under the Alaska National Interest Lands Conservation Act of 1980. The Alaska Inter-Tribal Council, which represents 229 Native Alaskan tribes, officially opposes any development in ANWR, which they believe would have serious negative effects on the calving grounds of the Porcupine Caribou herd that they partially rely on for food.

81. Genetically Modified Organisms and Crop Biodiversity Loss, WA (Present). A Kansas farmer has recently brought suit against Monsanto when Roundup Ready wheat was discovered in Washington farm fields leading to a plunge in U.S. wheat prices on the national market.

82. Indian Nations and Wolf Hunting in the Upper Peninsula, MI (1996). The Michigan State Government has approved a wolf hunt in the Upper Peninsula after a long debate from local residents, animal rights organizations, and tribal representatives. Environmentalists argue that wolves are a vital keystone predator that preserve biodiversity. Five native tribes are protesting the decision to approve the wolf hunt on the grounds that wolves are a vital part of their historic and cultural heritage and that decision to enact the wolf hunt did not consult tribes violating their legal treaty rights.

83. Off Road Damage in Southern California Deserts, CA (1973-Present). Irresponsible off road vehicle (ORV) usage has been destroying desert lands, specifically on the reservation lands noted by Chemehuevi Indian Tribe members. There has been an increase of riders going off trails and increase of garbage. This has ruined habitats as well as cultural lands.

Mineral Ore and Building Material Extraction Conflicts

Conflicts related to the extraction of non-fossil fuel resources including minerals and building materials.

84. Gold Mining in Montana, MT (1980s-Present). Located on the Fort Belknap Indian Reservation, the Zortman-Landusky gold mine in Montana was one of many early heap leach mines that experienced problems with spills and contamination of surface and groundwater. Although the leaks happened in the 1980s, and the mine was eventually shut down in 1996, health problems

on the reservation continue to be a problem, and, since the entire mine was not properly cleaned up, could potentially cause further damage to the people of Fort Belknap.

85. Iron mining in the Penokee Hills, WI (Present). There is a proposal to build a 4 ½-mile long open pit iron ore mine in the Penokee Hills of Northern Wisconsin. The potential mining zone impacts more than 50 miles of streams and rivers, many of them designated trout streams. It is in the recharge zone of the Penokee Aquifer, which many residents rely on for clean drinking water. Mining would transform the area from forested hills to an industrial strip, with heavy machinery, truck traffic, deep pits, and waste rock piles hundreds of feet high.

86. Solution Mining in White Pine, MI (1955-Present). In 1995, the Copper Range Mining Company, after 40 years of operation, ceased conventional shaft mining (i.e., bringing copper bearing ore to the surface for further refining) at the Michigan, White Pine location, due to cost concerns. The company is currently testing the viability of utilizing the less expensive method of solution mining. Tribes living next to this area fear the use of sulfuric acid will contaminate their land and water.

87. The Pebble Mine in Bristol Bay, AK (Proposed). In order to mine billions of tons of raw ore from the earth, an enormous open pit, two miles across and 2,000 feet deep, would be gouged into the ground. The billions of tons of mine waste would be dumped into man-made lakes created by flooding 10 square miles of land behind earthen dams more than 600 feet high. The site of these lakes is an active earthquake zone. The environmental risks of this project are enormous, but equally important are the devastating repercussions the mine will have on the indigenous peoples of Bristol Bay, who have lived on these lands for generations and depend on the bay's salmon for their survival. The practice of intentionally selecting communities of color for wastes disposal sites and polluting industrial facilities – essentially condemning them to contamination – is known as "environmental racism."

Tourism and Recreation Conflicts

Conflicts centered on the ecological, economic, and cultural impacts of the tourism industry on both natural resources and minority communities.

88. Displacement of Gullah Islanders, SC-GA-FL (1900-Present). The Gullah Islands off the eastern U.S coast are home to a unique African-American history and culture. They have also been the target of expansive commercial and resort development. Golf courses, retirement communities, shopping

centers and leisure developments raise the price of land. The consequences for local residents are increasing taxes beyond the means of a community that traditionally survives on subsistence farming and fishing.

89. The Havasupai Nation and Grand Canyon Tourism, AZ (1970-Present). The Havasupai have resided in the Grand Canyon for centuries but as tourism increased they began to be systematically pushed out of their homelands. In the 1970s they were given rights to a protected area. Now the Havasupai advocate for environmental protections in the face of air and noise pollution from helicopters and planes as well as serious liquid water problems from excessive tourism.

90. Tourism and Indigenous Rights in Hawaii, HI (1900-Present). The growing tourism industry in Hawaii is increasing leading to crowding, pollution, resource pressures and edging native residents out of important economic and cultural spaces including fishing, and agriculture. The result has been record Indigenous Hawaiian forced migration from their homeland and difficulties surviving on the margins of low wage tourism industry.

Appendix B: Survey Introductions

Expert

EJOLT Survey: Choosing the Most Influential Environmental Justice Case Studies of the United States EJ Movement

Dear Environmental Justice Leader:

We are graduate students at the University of Michigan School of Natural Resources and Environment working in collaboration with Environmental Justice Organizations, Liability and Trade (EJOLT) to identify, analyze and report on the environmental justice movement in the United States. Our project is being advised by Professors Rebecca Hardin and Paul Mohai from the University of Michigan and Professor Joan Martinez Alier from EJOLT.

This 5-10 minute survey is a fundamental piece of our search for forty case studies that represent the environmental justice movement and its historical evolution in the United States. After several decades of constant fighting against environmental injustices throughout our country, the identification of forty influential case studies is a difficult task. In order to increase the legitimacy of our research we are sending this survey to experts and activists of the environmental justice movement, such as yourself, in order to help us identify which conflicts should be included in our project. Your responses to this survey will be kept completely confidential.

The final result will be an analysis of these case studies through a universal database for the general public outlining the details of landmark environmental justice conflicts in the United States. This analysis will be included in the EJOLT project, an international effort to compile a comprehensive central database documenting environmental justice conflicts around the world. We will also produce a detailed report on a subset of eight case studies selected from the forty conflicts. This report will be aimed at an audience of environmental justice researchers and activists and provide an in-depth comparative analysis of the conflicts with particular focus on public health implications, community education and activism, and policy changes.

When answering the following questions, please keep in mind that we are not asking you to rank the case studies. Instead, we are looking for your help to accomplish the difficult task of selecting which case studies should be included in this international database as influential of the environmental justice movement in the United States. All of the case studies have been divided into ten categories defined by EJOLT. For each category you will be given the option to write in any case studies that are not in this survey and that you feel should be included in the database.

We truly appreciate your collaboration. You will be receiving at a later date the aggregate results of this survey plus updates on the EJOLT project.

Thank you.

Public

EJOLT Survey: Choosing the Most Influential Environmental Justice Case Studies of the United States EJ Movement

Dear friend:

We are graduate students at the University of Michigan School of Natural Resources and Environment working in collaboration with Environmental Justice Organizations, Liability and Trade (EJOLT) to identify, analyze and report on the environmental justice movement in the United States. Our project is being advised by Professors Rebecca Hardin and Paul Mohai from the University of Michigan and Professor Joan Martinez Alier from EJOLT.

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When answering the following questions, please keep in mind that we are not asking you to rank the case studies. Instead, we are looking for your help to accomplish the difficult task of selecting which case studies should be included in this international database as influential of the environmental justice movement in the United States. All of the case studies have been divided into ten categories defined by EJOLT. For each category you will be given the option to write in any case studies that are not in this survey and that you feel should be included in the database.

If you are personally involved in or impacted by one of the environmental justice conflicts listed in the survey and are interested in working with our team as we begin to research these conflicts in-depth please email us at ejolt.us@gmail.com.

We truly appreciate your collaboration.

Thank you.

Appendix C: Email Templates for Survey Launch

Original email

Dear Environmental Justice Colleague,

Professor Rebecca Hardin and I at the University of Michigan's School of Natural Resources and Environment are working with a team of graduate students who are involved in an international project to map environmental justice conflicts around the world. This international project is entitled Environmental Justice Organizations, Liability and Trade (EJOLT) [link]. EJOLT has reported on and analyzed environmental conflicts in more than sixty countries, including India, Ecuador, Turkey, Mexico, and South Africa. To date, environmental justice cases in the U.S. have not been included in this international effort. Given your knowledge, expertise, and involvement in the environmental justice movement, we are seeking your help in identifying cases influential to the environmental justice movement in the U.S. to be included in EJOLT's international effort.

Please click on the following link to find out more about this project and to fill out a 5 to 10 minute survey: ___ LINK____

If you have any questions about this survey, please contact Alejandro Colsa at ___@umich.edu

As a leader in the environmental justice arena your input will be critical in shaping the outcome of this effort. We very much appreciate your time and effort.

Follow up email

Dear Environmental Justice Colleague,

Last week you received an e-mail message asking you to assist us in the monumental task of identifying the most influential cases of the United States Environmental Justice movement. The cases chosen with help from you will be shared on an international level through the EJOLT project. This global initiative aims to connect communities and activist in the EJ movement.

If you have filled out the survey, thank you! We appreciate your time and expertise!

If you have not had a chance to take the survey yet, we would appreciate your contribution to our project. If you would like to participate please click the link below to fill out the 5 to 10 minute survey. All individual responses are anonymous and confidential.

___ link____

At the completion of the survey process we will be disseminating the aggregate results as well as updating you on the progress of this ongoing project. If you wish to not be updated or have questions about the project please contact _____ at ---@ umich. edu

*This message has gone to everyone in the selected sample population. Since no personal data is retained with the surveys for reasons of confidentiality, we are unable to identify whether or not you have already completed the survey.

Appendix D: EPA EJ Blog

Help Us Map Environmental Justice Conflicts in the United States

2013 AUGUST 2

By Alejandro Colsa, Bernadette Grafton, Katy Hintzen, and Sara Orvis

As students at the University of Michigan's School of Natural Resources and the Environment we consider ourselves lucky to be part of an institution that has played a major role in the historic evolution of the United States environmental justice movement. Coming from different backgrounds, the four of us have found environmental justice to be a unifying passion.

When we first encountered the Environmental Justice Organizations, Liability and Trade (EJOLT) project we recognized its potential to further global collaboration among EJ activists and scholars. The EJOLT project allows us to explore a wide array of environmental justice issues, giving us a richer understanding of what environmental justice is and how it's been manifested in

Click to find out more about the EJOLT Project

RECENT POSTS

- EPA's 20th Anniversary on Environmental Justice: A Perspective on Community Work
- Protecting Those That Need it Most
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- March 2014
- February 2014
- January 2014
- December 2013

Appendix E: Analysis of Results

The following table describes the analysis of results across the three scenarios. The conflicts highlighted green are those that were NOT common across the 3 scenarios.

Method		1		2		3	
		WATER	G1	WATER	G1		
WASTE	G14	WASTE	G14	WASTE	G14		
WASTE	G15	WASTE	G15	WASTE	G15		
WASTE	G16	WASTE	G16	WASTE	G16		
WASTE	G17	WASTE	G17	WASTE	G17		
WASTE	G18	WASTE	G18	WASTE	G18		
WASTE	G19	WASTE	G19	WASTE	G19		
FOSSIL	G20	FOSSIL	G20	FOSSIL	G20		
FOSSIL	G21	FOSSIL	G21	FOSSIL	G21		
FOSSIL	G22	FOSSIL	G22				
FOSSIL	G23	FOSSIL	G23	FOSSIL	G23		
INFRASTRUC	G24	INFRASTRUC	G24	INFRASTRUC	G24		
INDUSTRIAL	G25	INDUSTRIAL	G25	INDUSTRIAL	G25		
INDUSTRIAL	G26	INDUSTRIAL	G26	INDUSTRIAL	G26		
BIOMASS	G3	BIOMASS	G3	BIOMASS	G3		
INDUSTRIAL	G30	INDUSTRIAL	G30	INDUSTRIAL	G30		
NUCLEAR	G5	NUCLEAR	G5	NUCLEAR	G5		
NUCLEAR	G6	NUCLEAR	G6	NUCLEAR	G6		
NUCLEAR	G8	NUCLEAR	G8	NUCLEAR	G8		
NUCLEAR	G9	NUCLEAR	G9	NUCLEAR	G9		
				BIOMAS	S11		
BIOMAS	S13	BIOMAS	S13				
TOURISM	S14	TOURISM	S14	TOURISM	S14		
TOURISM	S16	TOURISM	S16				
WASTE	S19	WASTE	S19	WASTE	S19		
WATER	S2	WATER	S2	WATER	S2		
				WATER	S3		
				WASTE	S20		
WASTE	S23	WASTE	S23	WASTE	S23		
FOSSIL	S27	FOSSIL	S27	FOSSIL	S27		
FOSSIL	S28	FOSSIL	S28	FOSSIL	S28		
FOSSIL	S30	FOSSIL	S30				
FOSSIL	S31	FOSSIL	S31	FOSSIL	S31		
FOSSIL	S32	FOSSIL	S32	FOSSIL	S32		
INFRASTRUC	S34	INFRASTRUC	S34	INFRASTRUC	S34		
INFRASTRUC	S37	INFRASTRUC	S37	INFRASTRUC	S37		
INFRASTRUC	S44						
INDUSTRIAL	S45	INDUSTRIAL	S45	INDUSTRIAL	S45		
INDUSTRIAL	S46	INDUSTRIAL	S46				
INDUSTRIAL	S47	INDUSTRIAL	S47	INDUSTRIAL	S47		
INDUSTRIAL	S48	INDUSTRIAL	S48	INDUSTRIAL	S48		
				INDUSTRIAL	S50		
INDUSTRIAL	S51	INDUSTRIAL	S51	INDUSTRIAL	S51		
BIODIVERSIT	S57	BIODIVERSIT	S57	BIODIVERSIT	S57		
WATER	S6	WATER	S6	WATER	S6		
				BIOMAS	S7		

The following table describes the mean value for each of the 40 environmental justice conflicts by its code in the final scenario chosen to conduct the analysis (Scenario 2)

Code	Mean Value
G20	4.391847826
S19	4.240896359
S23	4.114973262
G21	3.986725664
G25	3.972222222
S32	3.961805556
G8	3.893179765
G18	3.701923077
G9	3.69212963
S57	3.586752137
S28	3.464985994
S51	3.422941176
S45	3.367301232
S13	3.292397661
G15	3.283653846
G19	3.215739821
G17	3.212646609
G30	3.209285714
S31	3.201480263
G14	3.169047619
G26	3.07437408

Code (con't)	Mean Value
G5	3.044305214
S58	3.027777778
G24	3.015553289
G6	2.989259342
S34	2.927083333
G16	2.925689223
G3	2.921906467
S6	2.920498084
S30	2.910590278
S14	2.897619048
G1	2.894298246
S37	2.861842105
S16	2.834545455
S47	2.828947368
S48	2.791666667
G7	2.791509434
S2	2.776506484
S7	2.736185383
S39	2.733552632

The following table describes the code used for each of the conflicts.

Conflict Name	Code
Clean water not available in poor Latino Communities: Central Valley, CA (Mid 1900s-Present)	G1
Proposed Privatization of Water: New Orleans, LA (2000-2002)	G2
CAFOs: Eastern North Carolina; example in town is Kenansville (1990-Present)	G3
Disposal of low-level nuclear waste at Texas site: Sierra Blanca, TX (1994-1998)	G4
Plutonium Production near Indian Tribes: Hanford, WA (1943-Present)	G5
High level radioactive waste in Indian Reservations: Skull Valley Goshute Indian Reservation, Utah (1998-2006)	G6
Ward Valley Nuclear Dump: California Mojave Desert (1988-Present)	G7
The Yucca Mountain High-Level Nuclear Waste Repository: Western Shoshone lands (NV,AZ,UT,CA) (1951-Present)	G8
Uranium Mining in the Southwest: Navajo Nation, New Mexico (1918-Present)	G9
Gold Mining in Montanta: Phillips County, Montana (Fort Balknap Indian Reservation) (1980s-Present)	G10
Solution Mining in White Pine, MI (1955-Present)	G11
The Pebble Mine: Bristol Bay, Alaska (expected to happen in the future)	G12
Iron Mining in the penojee Hills: Northern Wisconsin (Present)	G13
Nation's largest Hazardous waste landfill in Emelle, AL (1978-1990s, possibly again in 2013)	G14

Detroit's waste incinerator, Detroit, MI (1985-Present)	G15
The toxic doughnout and the Altgeld Gardens housing development: Chicago, IL (Late 1970s-1990s)	G16
Toxic Waste Incinerator in Kettleman City, CA (1988-Present)	G17
Warren County PCB disposal site: Warren County, NC (1982-2000s)	G18
Waste incinerators in Chester, Pennsylvania (Early 1990's-Present)	G19
Recovery after Katrina: New Orleans, LA (2005-Present)	G20
Mountaintop Mining Removal in Appalachia: Boone County, WV	G21
Fisk and Crawford Coal Plants: Chicago Pilsen and Little Village Neighborhoods, IL (1903-2013)	G22
Native Alaskan Communities Climate Refugees: Kivalina, Newtok, Shishmaref and Shaktoolik, Alaska (2003-Present)	G23
West Harlem and the Metropolitan Transportation Authority: NYC (1988)	G24
Petrochemical Pollution in Cancer Alley: Norco, LA (1970-2002)	G25
Shintech PVC Plant Convent, LA (1996-1998)	G26
Contamination from Kelly Air Force Base: San Antonio, TX (1960-2001)	G27
Detroit Intermodal Freight Terminal (DIFT); Detroit, MI (Early 1990's- early 2000's)	G28
Lockheed Martin contaminates groundwater: Tallevast, FL (2000-2006)	G29
Toxic Chemical Contamination from Dow Chemical in Plaquemines, LA (2011)	G30

Injustice to water distribution in Urban Areas: Detroit, MI (Late 1990's-Present)	S1
Water Rights of the Dineh-Navajo Tribe to the San Juan River: New Mexico (mid 1900s-Present)	S2
No water in Black communities: Sunflower County, Mississippi (1970s-Present)	S3
Lack of safe, affordable water in San Joaquin Valley, CA (1999)	S4
Making Water a Matter of Race: Coal Run neighborhood of Zanesville, Ohio (1956-2003)	S5
No water provision in Texas Colonias: Mexico Chiquito and Agua Dulce are two of these colonias in Texas (1950s-Present)	S6
Pesticide Exposure in Lindsay, CA, Tulare County, CA (1999-Present)	S7
Riverside Park, contamination, and restricted access to residents: Detroit, MI (2012-Present)	S8
Pesticides and childhood cancer: McFarland, CA (Mid 1970s-Early 2000)	S9
Triangle Lake Pesticide Exposure: Lane County, OR (Late 1970s-Present)	S10
Poultry CAFOs, environmental impacts, and worker's rights: Springdale and Delaware, Arkansas (Early 1990s-Present)	S11
Proposed Crandon Mine in Northeast Wisconsin (1975-Present)	S12
Pollution from hog farming: Halifax, NC (1991-Present)	S13
Displacement of Gullah Islanders: Sea Islands (South Carolina, Georgia, and Florida) (!900-Present)	S14
The Havasupai Nation and Grand Canyon Tourism: Arizona (1970-Present)	S15
Tourism and Indigenous Rights in Hawaii (1900-Present)	S16

Disposal of low-level nuclear waste at Texas site, Sierra Blanca (1995-1998)	S17
Asthma and cancer linked to coal ash sump site: Bokoshe, Oklahoma (2001-Present)	S18
Love Canal: Niagara Falls, NY (1953-1980's)	S19
North River Sewage Treatment Plant: New York, NY (1985-1994)	S20
Waste incinerators in East St. Louis, IL (1930's-Present)	S21
Innovative Waste Utilization and the concerned residents of South Phoenix, AZ (1990-Early 2000s)	S22
BP's Oil Spill Garbage: coastal communities of the Gulf (2010-Present)	S23
Southside Sewage Treatment Plant: Syracuse, NY (2004-2008)	S24
Springfellow Toxic Waste Dump: Glen Avon Community in Pyrite Canyon in City of Jurupa Valley, CA (1956-2012)	S25
Under-regulated Hazardous Waste Facility in Mecca, CA (2004-Present)	S26
Coastal communities in Louisiana: Terrebonne County, Louisiana (2005-Present)	S27
Disproportionate impact of Hurricane Sandy on low income households (2012-Present)	S28
Food Insecurity in the Arctic: Alaska (2011)	S29
Climate change threatening lives and traditions: Shishmaref, Alaska (2010-Present)	S30
Extreme Heat Events and Environmental Injustices: Phoenix, AZ (2003-Present)	S31
Offshore Drilling and Gulf Coast: Louisiana Coast (2006-Present)	S32

Industrial Zoning in the City of Austin: Texas (1982)	S33
Lead Paint and other toxics in Greenpoint/Williamsburg community in Brooklyn, NYC (2000's)	S34
Heavy industrial areas: Brooklyn, NYC (2000s)	S35
Lack of access to effective transportation: Bronx neighborhood, NY (Current)	S36
Heavy polluting transit buses: Roxbury, MA (1998-Present)	S37
The Bronx River Greenway: South Bronx, NYC (2005)	S38
Lack of Access to Green Spaces: LA, CA (Current)	S39
CSO in Indiana, IN (1990's)	S40
Military Contamination and the Tucson International Airport Authority: Tucson, AZ (1985)	S41
Cross Bronx Highway: NYC (1948-1972	S42
Expansion of runway at Atlanta Hartsfield International Airport, GA (2011-Present)	S43
Smart Growth Issues: West Oakland, CA (2010-Present)	S44
Chevron Refinery, Richmond, CA (1990's)	S45
Water contamination from chemical companies: Woburn, MA (1960's-1970s)	S46
PCB Contamination from GM and impacts to the Mohawk tribe: Turtle Cove (1980's-Present)	S47
Water Contamination from paper mills: Penobscot Reservation, ME (1972-Present)	S48
Seneca Sawmill biomass energy plant: West Eugene and Lane County, OR (2011-Present)	S49
ALCOA, General Motors, Reynolds Metals Company and the Akwesasne Nation: Massena, NY (1960's-2013)	S50

Coal Fired Power Plants in Chicago; Pilsen and Little Village, Chicago, IL (2002-2012)	S51
Intel Expansion in New Mexico, Rio Grande and Corrales, NM (Early 1980's-Late 1990's)	S52
DDT Contamination in Triana, AL (1970;s-1995)	S53
Pensacola Florida Superfund Site (1980-Early 2000s)	S54
Indian Nations and Wolf Hunting: Upper Peninsula, MI (1996)	S55
Off-Roading Damage in Southern California Deserts (1973-Present)	S56
Oil Drilling in the Arctic National Wildlife Refuge (ANRW), Alaska (1977-Present)	S57
Genetically Modified Organism and Crop Biodiversity Loss: Washington (Jan 2013-Present)	S58

Appendix F: Sweden Conferences Featured on SNRE Blog

Building New Ties to International EJ Movement

From March 25th to April 1st, Professor Paul Mohai and SNRE students Alejandro Colsa-Perez, Bernadette Grafton and Katy Hintzen made a trip to Europe to present results from their master's project to their client, the European Union-funded Environmental Justice Organizations, Liabilities and Trade (EJOLT) project, which hosted its annual conference in Lund, Sweden. Trying to make the most of their trip, the SNRE group also participated in a conference on Political Ecology and met decision-makers at the European Environmental Agency in Copenhagen, Denmark.

The EJOLT project is an international initiative to support the work of Environmental Justice Organizations, uniting scientists, activist organizations, think tanks, and policy-makers from several fields, to talk about issues related to Ecological Distribution. EJOLT has previously reported on and analyzed 1,000 environmental conflicts in more than 60 countries, including India, Ecuador, Turkey, Mexico and South America (see EJ Atlas). But until now, U.S. conflicts have not been included in EJOLT's efforts. U-M students are helping to change that. For their contribution to the global atlas, the U-M students—with the help of faculty advisers Mohai and Professor Rebecca Hardin of SNRE—surveyed more than 200 environmental justice leaders, including activists and scholars.

EJOLT Workshop On Ecologically Unequal Exchange And Ecological Debt

The EJOLT Project Workshop in Lund was organized by Prof. Joan Martinez-Alier of the Autonomous University of Barcelona and Prof. Alf Hornborg of Lund University. It brought together activists and academics from fifteen different countries to share environmental justice relevant research and strategies to improve the movement's effectiveness. The two-day workshop was divided in different session topics, which included the theory, methodology, and ethics of ecologically unequal exchanges and ecological debt as well as political and legal dimensions of addressing these injustices. The SNRE students and Professor Mohai led one of these sessions and presented their research on the evolving history of environmental justice movement and activism in the United States. After the conference, EJOLT leadership proposed the idea of replicating the methodology designed by the SNRE students in other regions of the world that are contributing to the EJOLT atlas. There was also a lot of enthusiasm for using the insights and experiences of activists in the U.S. to strengthen collaboration with environmental justice activists abroad.

This was the fifth workshop the EJOLT project has organized and the project has an extremely well established international reputation. EJOLT workshops attract

influential environmental justice researchers and activists from around the globe. The University of Michigan team has been the first EJOLT collaborators from the United States to attend one of these workshops. “We had a unique opportunity to act as ambassadors communicating best practices and policies from the United States environmental justice movement to an international audience” said Alejandro Colsa-Perez. “By attending the EJOLT conference we were able to network with environmental justice leaders from diverse backgrounds and establish new connections for future collaboration”, said Bernadette Grafton.

ENTITLE Workshop

After the EJOLT Workshop concluded, the SNRE team joined a political ecology conference organized by ENTITLE program also hosted at Lund University. The ENTITLE program is funded by the European Union and supports the development of human resources in Europe. More specifically, its goal is to strengthen the human potential in research and technology in Europe by “stimulating people to enter into the profession of researcher, encouraging European researchers to stay in Europe, and attracting to Europe researchers from the entire world, making Europe more attractive to the best researchers.” ENTITLE is coordinated by the Institute for Environmental Science and Technology (ICTA) at the Autonomous University of Barcelona with the collaboration of eight universities, two NGOs and one Small Medium Enterprise (SME). ENTITLE will train 18 researchers in the emerging interdisciplinary field of political ecology.

ENTITLE is the first attempt to build a European network of research and training of political ecology, bringing together scholars and fellows from a variety of disciplinary and geographical backgrounds. Training includes an integrated curriculum of courses, summer schools, and work. As part of the ENTITLE program, political ecology doctoral students organize several meetings throughout the year where research can be presented and discussed and they invited the University of Michigan team collaborating with the EJOLT project to present their research. After their presentation, the students and Prof. Mohai engaged in interesting conversation about the different meaning environmental justice could have when shifting the scale (US. vs. the world) or the geographic location (developed vs. developing countries).

Prominent figures in a variety of research areas were also at this meeting including Professors Guy Baeten, Alf Hornborg, Joan Martinez-Alier, and Susan Paulson. “Their expertise and experience in human-ecology interactions, social movements, and political dimensions of environmental issues gave the students and myself a unique opportunity to gain further understanding of international environmental conflicts and the complex relationships that exist between humans and their environment around the world”, said Prof. Paul Mohai.

Meeting With European Environmental Agency

To complement their experience meeting with academics and activists at the EJOLT and ENTITLE workshops, the SNRE group also traveled to Copenhagen to meet with decision makers involved in designing and implementing policies related to environmental justice in the EU's European Environmental Agency (EEA). They had the opportunity to participate in a discussion with a team of EEA employees led by David Stanners, responsible for the strategic development and implementation of the Agency's engagement and cooperation internationally. The SNRE group and the EEA team discussed environmental contamination and the methods used in the EU for data collection, the analysis of data, and its implementation in policy decision making.

"This discussion has been a great opportunity to increase our knowledge about environmental analyses conducted outside of the United States as well as to learn about the various types of environmental data collected and analyzed in the European Union," said Katy Hintzen.

As masters students specializing in environmental justice, environmental education, and environmental policy, this experience has offered significant long term career benefits. First, the students were able to connect the pedagogical foundation of environmental theory and methodology to the experience of networking with academics, activists, and policy makers engaged in global environmental justice challenges. This experiential learning also gave students the opportunity to compare policy approaches and activism techniques in the U.S. with those abroad. Finally, the students and Prof. Mohai had the opportunity to interact with peers from European campuses, and enjoyed critical feedback from European faculty.

You can hear more about this project on the freeform environmental talk show "It's Hot in Here" on Ann Arbor's WCBN FM 88.3 which aired last Friday.

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