

ENVIRONMENTAL EVIDENCE

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The voices of impacted people are some of the most important when trying to make improvements to social justice in a variety of contexts, including criminal policing, housing, and health care. After all, the people with on-the-ground experience know what is likely to truly effectuate change in their community, and what is not. Yet, such lived experience is also often significantly lacking and undermined in law and policy. People with lived experience tend to be seen as both community experts with valuable knowledge, as well as nonexperts with little valuable knowledge. This Article explores the lived experience with pollution as evidence in administrative and civil judicial cases involving pollution permits. In doing so, it makes three contributions to the literature. First, it articulates a vision for thinking about evidence in pollution permit cases that is not solely focused on conventional “scientific” evidence, but also includes what this Article calls “community” evidence. Community evidence is the range of tools accessible to local communities that document the reality of their experience with pollution, such as lay witness testimony, photos and videos, demographic data, and citizen science. Second, it identifies key challenges with using community evidence in pollution permit cases in both the administrative and judicial contexts. Some cases encounter evidentiary challenges regarding relevancy, reliability, and scope, and others face more practical challenges such as lack of funding and understanding of the legal system. Third, it advocates for increased use of community evidence, in conjunction with conventional scientific evidence, as a mechanism to uplift the influence of the lived experience in pollution permit cases. Suggestions for how to do so include paying local community members for their expertise, proactively discussing community evidence in

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briefs and case opinions, and creating rebuttable presumptions for certain kinds of community evidence. The goal is to validate community evidence as a source of knowledge and truth worthy of consideration.

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INTRODUCTION

We are living in a time of crisis for local communities as they manage impacts from climate change, the criminal justice system, and public health crises. People living in wildfire or flood prone communities are directly impacted by climate change.¹ People that live in communities with frequent police interaction are directly impacted by a disproportionate number of police stops, frisks, and arrests.² People that live in rural communities

1. Salvador Rodriguez, *Climate Migration Is Already Happening – For Homeowners Who Can Afford It*, CNBC, <https://www.cnbc.com/2021/09/16/homeowners-relocating-because-of-climate-change-wildfires-flooding.html> [<https://perma.cc/4BVL-JB5L>] (Sept. 16, 2021, 8:59 AM).

2. Anne McGlynn-Wright et al., *The Usual, Racialized, Suspects: The Consequences of Police Contacts with Black and White Youth on Adult Arrest*, 69 SOC. PROBS. 299, 299 (2022) (“Research on race and policing indicates that Black Americans experience a greater frequency of police contacts, discretionary stops, and police harassment when stops occur.”).

are directly impacted by a lack of health care access.³ The impacts are not one-off experiences but instead often lead to a range of long-term problems such as chronic illness, unemployment, and difficulty obtaining insurance and loans.⁴ Such long-term problems are often further compounded by systemic racism and poverty.⁵

There has long been recognition that listening to the experiences of impacted communities is essential for combating the very social, environmental, and justice crises that impact them the greatest.⁶ Criminal law scholars argue for reincorporating community voices into criminal justice decision-making, as a way to reimagine what is possible in criminal justice reform.⁷ Advocates that work with Indigenous communities argue that community knowledge about remote places fills in the gaps in climate change data that scientists often cannot regularly access.⁸ Public health experts argue that individuals that directly face difficulties accessing the health care system, such as the homeless, know best where the barriers and gaps are in the system.⁹ In the words of the Urban Institute, “lived experience is valuable expertise,” and “[f]inding

3. Thomas Waldrop & Emily Gee, *How States Can Expand Health Care Access in Rural Communities*, CTR. FOR AM. PROGRESS (Feb. 9, 2022), <https://www.americanprogress.org/article/how-states-can-expand-health-care-access-in-rural-communities> [https://perma.cc/UU77-KUU7]; Paul Constant, *Rural America Is Left Behind*, BUS. INSIDER (Sept. 11, 2020), <https://www.businessinsider.com/rural-america-left-behind-how-can-win-next-economic-revolution-2020-9> [https://perma.cc/Y22C-B792].

4. See Abigail A. Sewell & Kevin A. Jefferson, *Collateral Damage: The Health Effects of Invasive Police Encounters in New York City*, 93 J. URB. HEALTH S42, S43 (Supp. 2016); *Climate Effects on Health*, CTRS. FOR DISEASE CONTROL, <https://www.cdc.gov/climateandhealth/effects/default.htm> [https://perma.cc/42M3-UTZV].

5. Bettina M. Beech et al., *Poverty, Racism, and the Public Health Crisis in America*, FRONTIERS PUB. HEALTH, Sept. 6, 2021.

6. I. Bennett Capers, *Afrofuturism, Critical Race Theory, and Policing in the Year 2044*, 94 N.Y.U. L. REV. 1, 25–28 (2019) (contending that drawing upon the lived experiences of racially marginalized people can offer radical interventions that can produce true change).

7. See generally Symposium, *Democratizing Criminal Law*, 111 NW. L. REV. 1367 (2016).

8. Elizabeth Barrett Ristroph, *Integrating Community Knowledge into Environmental and Natural Resource Decision-Making: Notes from Alaska and Around the World*, 3 WASH. & LEE J. ENERGY, CLIMATE, & ENV'T 81, 87–89 (2012).

9. Bob Shaver, *Lived Experience as Expertise: Personal Interviews to Build Partnerships*, REDSTONE (June 2, 2022), <https://www.redstonestrategy.com/2022/06/02/lived-experience-expertise> [https://perma.cc/CV6V-PC4U].

opportunities for lasting change requires a robust understanding of current challenges and opportunities, which can only be fully achieved through ongoing input, collaboration, and investment in the people closest to the issues.”¹⁰

Incorporating the experiences of impacted people into legal and policy systems is no easy feat, but not for lack of trying. Community policing efforts that are designed to involve local residents in regular collaborative meetings to solicit input on policing practices often end up excluding the most marginalized and disadvantaged people.¹¹ A lack of time, access to the internet, and skepticism of outside “experts” limits the engagement of rural health populations in interacting with health and hazard mitigation policymaking.¹² Notwithstanding acknowledgment in the Paris Climate Accord, Indigenous knowledge continues to be sidelined as lesser to scientific knowledge.¹³ Fundamentally, despite the recognition that impacted people have valuable experiences, there is a tendency to simultaneously think of them as also presenting non-valuable information. It should not be surprising that impacted people feel as though they are left out of decision-making that directly implicates their lives, and when they are included, it is often as a token measure.¹⁴

10. *Community Voice Is Expertise*, URB. INST.: URB. WIRE (Feb. 19, 2021), <https://www.urban.org/urban-wire/community-voice-expertise> [<https://perma.cc/K65Y-SRAR>] (emphasis omitted).

11. Jocelyn Simonson, *Copwatching*, 104 CALIF. L. REV. 391, 402–03 (2016).

12. FED. EMERGENCY MGMT. AGENCY, A GUIDE TO SUPPORTING ENGAGEMENT AND RESILIENCY IN RURAL COMMUNITIES 7–8 (2021). See generally Aliza Petiwala et al., *Community Voice in Cross-Sector Alignment: Concepts and Strategies from a Scoping Review of the Health Collaboration Literature*, 21 BMC PUB. HEALTH, Apr. 2021 (discussing difficulties with actively seeking community voices in health care policymaking).

13. Pedram Rishidi et al., *Indigenous Knowledge Systems Are Vital to the Design of Solutions to Climate Solutions – So Why Are Indigenous Voices So Rarely Included in Deliberations?*, ABC, <https://www.abc.net.au/religion/why-exclude-indigenous-knowledge-from-climate-solutions/13631548> [<https://perma.cc/WC34-4XU2>] (Nov. 24, 2021).

14. Jaime Alison Lee, *Turning Participation into Power: A Water Justice Case Study*, 28 GEO. MASON L. REV. 1003 (2021) (legal and policy processes that provide for public participation that is really only a cosmetic exercise not only “fail to meet the needs of those whom they are meant to serve, but they further alienate and subordinate them by falsely claiming to address those needs”); Amanda Kenny et al., *Community Participation for Rural Health: A Review of Challenges*, 18 HEALTH EXPECT. 1906, 1909 (2015) (“Critical questions are posed as to whether community participation is simply governments’ attempts for legitimization or neoliberal underpinnings of passing responsibility for design and delivery of services to end-users.”).

This Article explores the role of the lived experience—as evidence—in pollution permit cases. In such cases, plaintiff environmental and community groups argue that polluting facilities did not get a requisite “permit” from a government agency to conduct business, or that the agency improperly issued the permit. Such permits go by many names in environmental law, including authorizations, licenses, certificates, and variances.¹⁵ These kinds of cases involve a mix of administrative adjudication and civil judicial litigation.¹⁶ They differ from environmental toxic tort litigation, where plaintiffs allege personal injury claims resulting from exposure to a toxic substance produced by the polluting facility.¹⁷ Because of overwhelming challenges in environmental toxic tort litigation associated with proving that the facility (and the associated pollution) caused the individual plaintiff’s injury, scientific/technical expertise is paramount as evidence in a toxic tort case.¹⁸ To be sure, pollution permit litigation also involves causation. However, the focus on permit decisions lends itself to opportunities to step outside the strong singular focus on conventional scientific expertise as evidence and to add in what this Article calls “community evidence.”

“Community evidence” is the range of tools that regular people can meaningfully and easily access, document, and present to judges to tell their story. “Access” might mean that

15. This Article will generally use the noun “permit” to constitute all types of permits, licenses, certificates, and variances that polluting facilities may need to conduct business.

16. See, e.g., Barbara J. Van Arsdale et al., *Administrative Review of NPDES Permits Issued by EPA*, 61C AM. JUR. 2D *Pollution Control* § 763, Westlaw (database updated Nov. 2022) (describing requirements such as commenting on draft permits in order to file for judicial review of agency permit decisions).

17. Kimberly C. Harris, *Use and Examination of Experts in Environmental Litigation*, 50 AM. JUR. TRIALS 471, 485 (1994) (“It has often been suggested that although expert testimony is found in many types of litigation, it is more often than not dominating in the trial of an environmental matter.”).

18. *Causation in Environmental Law: Lessons from Toxic Torts*, 128 HARV. L. REV. 2256, 2257 (2015) (“[D]ismissal of a toxic tort case for lack of causation is typically based on whether the plaintiffs have presented sufficient evidence on causation”); Laurie Alberts, *Causation in Toxic Torts Litigation: Which Way Do We Go, Judge?*, 12 VILL. ENV’T L.J. 33 (2001) (quoting Patricia E. Lin, *Opening the Gates to Scientific Evidence in Toxic Exposure Cases: Medical Monitoring and Daubert*, 17 REV. LITIG. 551, 552 (1998)) (describing the many reasons expert evidence is necessary to show causation in tort cases, including, “injuries are not immediately apparent, . . . symptoms may not be unique to the disease, . . . [and] the diseases remain latent for a long time . . . [providing] opportunity for other sources of injury to arise”).

communities do not have to pay high costs for conventional scientific experts but can instead conduct low-cost pollution sampling, testing, and laboratory analysis. “Document” might mean that communities know how to record personal observations and data from publicly available sources via charts and photographs. “Present” might mean that communities have an opportunity for judges to admit and give weight to the information that they accessed and documented. The point of including “community evidence” in pollution permit litigation is not to diminish the importance of conventional scientific/technical evidence.¹⁹ Rather, it is to provide an explicit avenue for impacted people to participate and influence decisions that, unlike broad rulemaking and legislative decisions, directly impact their daily lives.

Indeed, there are specific ways to increase community evidence in pollution permitting cases. At a most basic level, judges should discuss community evidence within written opinions so that communities can know when and how their voices are included in decision-making. In addition, lawyers should pay individuals who work to document their lived experience with pollution as community knowledge experts, much in the same way that a lawyer might pay a scientific expert. Moreover, legislators and agency rule writers should consider developing rebuttable presumptions for certain kinds of community evidence so that such evidence receives weight after it is admitted into a case proceeding.

This Article proceeds in four parts. Part I frames complex and nuanced key terms like “community,” “lived experience,” and “knowledge.” Part II gives legal background on three areas of law that intersect with and directly impact pollution permit litigation, including administrative law, civil procedure, and evidence law. Part III analyzes examples of pollution permit cases where community evidence, including citizen science, lay

19. In some areas of law, particularly criminal law, the multiple and deeply problematic aspects of science/technical-based evidence, have caused some to outright reject the continued use of such evidence. See Benjamin Levin, *Criminal Law Expertise*, 90 FORDHAM L. REV. 2777, 2782 (2022) (noting that activists, advocates, and scholars who decry the traditional metrics or markers of “expertise” (i.e., educational credentials, professional experience) as elitist and falsely “neutral” reject this “expertise” altogether); Erin Collins, *Abolishing the Evidence-Based Paradigm*, BYU L. REV. (forthcoming 2022) (manuscript at 1), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4089681 [<https://perma.cc/M3G8-CVTG>] (arguing that the “evidence-based” paradigm that is largely data driven must be abolished and replaced with a new approach).

witness testimony, and demographic information, was involved in some aspect of the permit case. Part IV discusses the overall importance of community evidence and offers suggestions on specific ways to increase its use in pollution permit cases. This Article concludes with brief commentary on the potential for community evidence to influence judges in the international context, particularly in developing countries where access to conventional scientific evidence is lacking.

I. FRAMING

In a 2021 state administrative board hearing for authorization of a new natural gas facility, a community nurse testified against the facility regarding her concerns for health and safety.²⁰ She stated, “[O]ur bodies are more sensitive than any instrument so far developed by scientists and engineers.”²¹ Indeed, pollution from factories, power plants, coal ash dumps, gas stations, and sewage treatment plants are what impacted people directly see, hear, taste, and smell—constantly.²² The question is how such experiences with pollution influence the legal system for controlling pollution. This Part provides an understanding of the lived experience, the complexity of pollution control, and community sources of knowledge as core framing concepts for considering community evidence in pollution permit litigation.

A. Lived Experience

Lived experience is the story of everyday people. It is “personal knowledge about the world gained through direct, first-hand involvement in everyday events rather than through

20. Va. Dep’t of Env’t Quality, *State Air Pollution Control Board Meeting (Day 1) – Dec. 2-3, 2021*, YOUTUBE at 4:13 (Dec. 2, 2021), <https://youtu.be/SnRABgh628> [<https://perma.cc/9S43-Y5Y9>] (Testimony of Suzanne Keller, VA Clinicians for Climate Action).

21. *Id.* at 4:14.

22. Joseph Glandorf, *Community Voices at the Center of Environmental Justice Now Tour*, ENV’T & ENERGY STUDY INST. (Oct. 8, 2020), <https://www.eesi.org/articles/view/community-voices-at-the-center-of-environmental-justice-now-tour> [<https://perma.cc/7T9X-QUNK>] (discussing a comment by Mark Lopez, co-director of an environmental justice advocacy organization in California, stating that “[c]ommunities are the first to spot an issue, the first to smell an issue, to taste an issue, and they’re going to be the first to feel the impact”).

representations constructed by other people.”²³ The lived experience is also “the experience of people on whom a social issue, or combination of issues, has had a direct impact.”²⁴ As a concept, lived experience derives from the early twentieth century phenomenological movement which focuses on a first-person point of view.²⁵ The movement “emphasiz[es] interior consciousness of oneself and the world around one[self]” and “reflection on everyday experiences” as “the true source of knowledge.”²⁶

There is wide recognition in multiple social justice arenas that legal and policy decision-making benefits from understanding the lived experience of individuals and communities. Governments put lived experience at the front and center of policy agendas, developing task forces that include “individuals with . . . lived experience,” and announcing dialogues with those with “lived experience” to strengthen equity in policymaking.²⁷ Researchers acknowledge that scientific expertise cannot solve all problems, and the voices of those who have been “closest to the problem and have the most experience with it, can elevate real concerns, devise the most pointed solutions, and engage community support.”²⁸ Scholars are advocating for increased attention to the voices of those with

23. *Lived Experience*, A DICTIONARY OF MEDIA AND COMMUNICATION (1st ed. 2011).

24. Baljeet Sandhu, *The Value of Lived Experience in Social Change: The Need for Leadership and Organisational Development in the Social Sector*, LIVED EXPERIENCE (July 2017), <https://thelivedexperience.org/wp-content/uploads/2017/07/The-Lived-Experience-Baljeet-Sandhu-VLE-summary-web-ok-2.pdf> [<https://perma.cc/G7VC-25ND>].

25. See *Phenomenology*, STANFORD ENCYCLOPEDIA OF PSYCH. (rev. 2013), <https://plato.stanford.edu/entries/phenomenology> [<https://perma.cc/LBB8-M248>].

26. Promise Frank Ejiofor, *The Limits of Lived Experience*, AERO MAG. (Apr. 2, 2021), <https://areomagazine.com/2021/02/04/the-limits-of-lived-experience> [<https://perma.cc/2EZD-TUVM>].

27. See, e.g., Executive Order on Ensuring Equitable Pandemic Response and Recovery, Exec. Order No. 13,995, 86 Fed. Reg. 7,193, WHITEHOUSE.GOV (Jan. 21, 2021), <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/21/executive-order-ensuring-an-equitable-pandemic-response-and-recovery> [<https://perma.cc/S2GQ-435Z>]; *US Department of Labor Opens Dialogue to Ensure Equity in Employment for People with Disabilities from Historically Underserved Communities*, U.S. DEP'T OF LABOR (Apr. 7, 2021), <https://www.dol.gov/newsroom/releases/odep/odep20210407> [<https://perma.cc/FLU8-GHJA>].

28. Victor Saucedo, *The Power of Lived Experience*, CODE FOR AM. (Apr. 27, 2021), <https://codeforamerica.org/news/the-power-of-lived-experience> [<https://perma.cc/FEK5-SW5G>].

lived experiences in reforming the criminal system.²⁹ Moreover, our notions of justice (and injustice) correspond with the idea that individuals' lived experience, particularly those from marginalized communities, should have value in decision-making.³⁰

In the context of environmental issues, lived experience is particularly valuable. In farming areas, Indigenous communities know how to use controlled burning to prevent wildfires.³¹ In watershed areas, local communities that live near rivers and streams use their eyes, ears, and noses to detect dumping and spills into the water.³² In urban areas, passengers know what specific public transportation routes are used or will be used.³³ These individuals are part of a community with a shared life experience that directly involves or impacts the natural environment. As a result, these community members have unique knowledge.

At the same time, because there is no one common lived experience for any particular community, there are limits to the role of lived experience.³⁴ Lived experience is deeply personal,

29. I. Bennett Capers, *Evidence Without Rules*, 94 NOTRE DAME L. REV. 867 (2018); Seema Tahir Saifee, *Decarceration's Inside Partners*, 91 FORDHAM L. REV. 53, 62 (2022) ("This Article argues that it is essential for legal scholars and stakeholders committed to large-scale decarceration to find ways to think alongside and invest in ongoing *conversation with people in prison* to cultivate decarceral moves and promote decarceral futures." (emphasis added)).

30. Ejiofor, *supra* note 26. See generally Kwame Anthony Appiah, *Why Are Politicians Suddenly Talking About Their 'Lived Experience'?*, GUARDIAN (Nov. 14, 2020, 3:00 AM), <https://www.theguardian.com/commentisfree/2020/nov/14/lived-experience-kamala-harris> [<https://perma.cc/G7CQ-W9BR>].

31. Chelsi Sparti & Chris Villarruel, *Utilize Knowledge of Indigenous People to Prevent Wildfires*, CALMATTERS: COMMENT. (Oct. 13, 2021), <https://calmatters.org/commentary/2021/10/utilize-knowledge-of-indigenous-people-to-prevent-wildfires> [<https://perma.cc/33GK-5KTD>]; see also Benji Jones, *Indigenous People Are the World's Biggest Conservationists, but They Rarely Get Credit for It*, VOX (June 11, 2021, 7:00 AM), <https://www.vox.com/22518592/indigenous-people-protect-nature-icca> [<https://perma.cc/9W7M-TQS6>].

32. *Report a Pollution Violation*, RIVERKEEPER, <https://www.riverkeeper.org/get-involved/violations> [<https://perma.cc/7F6L-APVP>].

33. Phillip Summers et al., *Influencing Public Transportation Policy Through Community Engagement and Coalition Building*, 14 PROGRESS CMTY. HEALTH P'SHIPS 489, 492 (2020), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8111683> [<https://perma.cc/89CA-EDGN>] ("Because the Coalition involved those who implemented the bus system, the policy recommendations were grounded in reality.").

34. Pamela Paul, *The Limits of 'Lived Experience'*, N.Y. TIMES: OP. (Apr. 24, 2022), <https://www.nytimes.com/2022/04/24/opinion/lived-experience-empathy-culture.html> [<https://perma.cc/MC3X-693A>] ("Clearly those who have lived through

complex, and multidimensional. There is no one Black lived experience, rural lived experience, or low-income lived experience. The lived experience of one individual cannot count as truly representative of a larger community's lived experience.³⁵ In addition, lived experience is not only one's experience of interactions with a particular social system, but is often also inclusive of someone with wider knowledge. For example, lived experience for former inmates might include what it's like to have freedom taken or to no longer be able to provide for children.³⁶ Thus, some argue that lived experience should be an invitation to a conversation in legal and policy decision-making, but should not replace more objective forms of knowledge.³⁷

It is also often difficult to define a particular community or who represents the community voice.³⁸ In the environmental context in particular, defining the impacted community can be quite complex. Sometimes the people who are most affected by something are the ones who are geographically closest, like when a manufacturing facility is located directly in a residential neighborhood. Yet, the same manufacturing facility may also have a very large smokestack that disperses its air pollution many hundreds of miles away such that the most affected communities are geographically very far from the polluting facility. Moreover, who is from a particular community is also difficult to define because we as individuals often belong to multiple communities and can change our perceptions of belonging to a certain community over time. I, for example, might belong to a neighborhood community in a specific county, but I also belong to a state-level community, regional-level community, and if measuring across the globe, an American community. Thus, geographic borders defining conceptions of community are themselves porous.

something — whether it's a tsunami or a lifetime of racial discrimination — have a story to tell. Their perspective is distinct and it's valuable. But it is, crucially, only one perspective.”).

35. Appiah, *supra* note 30.

36. Saucedo, *supra* note 28.

37. Ejiofor, *supra* note 26; Appiah, *supra* note 30.

38. Garrett Dash Nelson, *How NIMBYs Made “Backyard” Mean Entire “Neighborhood”*, BLOOMBERG: CITYLAB (Feb. 6, 2019, 9:12 AM), <https://www.bloomberg.com/news/articles/2019-02-06/where-does-a-nimby-s-backyard-begin-and-end> [<https://perma.cc/6TY4-KQP9>].

B. *Understanding Pollution*

On December 29, 2020, a couple of days before the Clean Air Act's (CAA) 50th anniversary, National Geographic published an article on the success of the seminal federal pollution statute.³⁹ The article included a photo of a smog-filled New York City headline with the captions, "[T]he air in New York City looked like this in 1970, before the Clean Air Act took effect," and "America's dramatically cleaner skies are evidence of what legislation and innovation can do."⁴⁰ However, it did not stop there but instead acknowledged that the work of the CAA is hardly done. The article acknowledged "more than 60,000 Americans still die prematurely from the effects of air pollution every year, and they are disproportionately poor, Black, and Latino."⁴¹

Modern federal environmental laws like the CAA emerged in the U.S. in the 1970s as Congress passed numerous environmental statutes dedicated to improving air, water, and waste pollution.⁴² In general, these framework environmental statutes have the goal of protecting and benefitting humans rather than species, plants, and ecosystems.⁴³ Further, the framework environmental statutes are utilitarian in nature and seek to provide general environmental improvement for the greatest number of people.⁴⁴ The tendency has been to focus on benefits and costs to society as a whole.⁴⁵ As a result, the

39. Beth Gardiner, *The Clean Air Act Has Saved Millions of Lives and Trillions of Dollars*, NAT'L GEOGRAPHIC (Dec. 29, 2020), <https://www.nationalgeographic.com/environment/article/clean-air-act-saved-millions-of-lives-trillions-of-dollars> [<https://perma.cc/RV8D-4JRN>].

40. *Id.*

41. *Id.*

42. See generally William H. Rodgers, Jr., *The Environmental Laws of the 1970s: They Looked Good on Paper*, 12 VT. J. ENV'T L. 1 (2011).

43. Jan G. Laitos & Lauren Joseph Wolongevicz, *Why Environmental Laws Fail*, 39 WM. & MARY ENV'T L. & POL'Y REV. 1, 1 (2014); Brian G. Wolff, *Environmental Studies and Utilitarian Ethics*, 34 BIOSCENE, no. 2, Dec. 2008, at 6–11.

44. Clifford Rechtschaffen, *Advancing Environmental Justice Norms*, 37 U.C. DAVIS L. REV. 95, 102 (2003) ("[M]ost environmental regulation has been premised on largely utilitarian principles of achieving the greatest good for the greatest number in society.").

45. David M. Konisky, *Introduction*, in FAILED PROMISES: EVALUATING THE FEDERAL GOVERNMENT'S RESPONSE TO ENVIRONMENTAL JUSTICE 4 (David M. Konisky ed., 2015).

statutes focus on the majority population rather than the needs of minority, and often vulnerable, subpopulations.⁴⁶

The federal environmental statutes, in practice, often produce hugely unjust results. We know that certain communities—“environmental justice communities”—face a disproportionate share of the country’s pollution. Some environmental justice communities deal with inequities due to exposure from extreme amounts of toxicity from one source of pollution. Other environmental justice communities deal with cumulative impacts from multiple individual pollution sources, such as the chemical manufacturing corridor in the Gulf Coast region.⁴⁷ Still other environmental justice communities deal with encroaching pollution from infrastructure that impacts subsistence living or rural lifestyles.⁴⁸ More often than not, environmental justice communities also face inequities that exist from intersectional spaces, including housing, employment, food access, and transportation.⁴⁹

The federal environmental statutes are often not even able to provide basic pollution information in an effective and consistent way to communities.⁵⁰ While facilities with Clean Water Act (CWA) discharge permits are required to monitor and self-report pollution data, much of the data is missing or inaccurate, and further, reporting requirements do not apply if the facility has certain kinds of water discharge authorizations.⁵¹ The federal Safe Drinking Water Act produces

46. Alice Kaswan, *Environmental Justice and Environmental Law*, FORDHAM ENV’T L. REV. 149, 158 n.33 (2012); Tseming Yang, *Melding Civil Rights and Environmentalism: Finding Environmental Justice’s Place in Environmental Regulation*, 26 HARV. ENV’T L. REV. 1, 29–30 (2002).

47. Halle Parker & Gordon Russell, *Louisiana Chemical Corridor Is the Country’s Largest Hot Spot for Toxic Air, Cancer Risk*, NOLA.COM (Nov. 5, 2021, 4:00 AM) https://www.nola.com/news/environment/article_852d98d0-3d81-11ec-a61f-0bf8e82339a8.html [<https://perma.cc/W69J-M5A7>]; CARLA TRUAX, DRIVING HARM: HEALTH AND COMMUNITY IMPACTS OF LIVING NEAR TRUCK CORRIDORS (2012).

48. See, e.g., J. Strube et al., *Proposed Pipelines and Environmental Justice: Exploring the Association Between Race, Socioeconomic Status, and Pipeline Proposals in the United States*, 86 RURAL SOCIO. 647 (2021).

49. Leah Thomas, *Intersectional Environmentalism: Why Environmental Justice Is Essential for a Sustainable Future*, GOOD TRADE (June 3, 2020), <https://www.thegoodtrade.com/features/environmental-justice> [<https://perma.cc/W96G-XFU8>].

50. See generally Adam Babich, *The Unfulfilled Promise of Effective Air Quality and Emissions Monitoring*, 30 GEO. ENV’T L. REV. 569 (2018).

51. U.S. GOV’T ACCOUNTABILITY OFF., GAO-21-290, CLEAN WATER ACT: EPA NEEDS TO BETTER ASSESS AND DISCLOSE QUALITY OF COMPLIANCE AND

limited data since it only covers public drinking water systems, and over 15 percent of the country uses private water systems.⁵² Federal air quality index scores are also vastly inaccurate with government air monitoring devices nationwide routinely missing major toxic releases.⁵³ Several of the databases the U.S. EPA uses to track facility compliance with federal environmental statutes are also missing basic information, including inspection and facility location data.⁵⁴

Budgets for regular oversight and enforcement of polluting facilities are also very limited. In December 2021, Maryland's attorney general made public statements warning about the significant understaffing in the state's water supply program, which is responsible for regular onsite inspections of water systems and responses to water supply emergencies.⁵⁵ The attorney general stated that it needs 187 percent more full-time employees than currently staffed and 93 percent more funding than currently available to effectively implement the program and ensure safe drinking water for the public.⁵⁶ In general, studies find that regular oversight and enforcement resources for pollution permits are also disproportionately lacking in environmental justice communities.⁵⁷

Moreover, the framework environmental statutes do not always address the kinds of environmental issues as experienced

ENFORCEMENT DATA 2 (2021); see also Carla Campbell et al., *A Case Study of Environmental Injustice: The Failure in Flint*, INT'L J. ENV'T RSCH. & PUB. HEALTH, Sept. 2016, at 1, 2 (“[P]ublished instructions by EPA for collection of water samples for lead analysis were biased in the direction of underestimating the lead content of the water samples.”).

52. KRISTI PULLEN FEDINICK ET AL., NAT. RES. DEF. COUNCIL, WATERED DOWN JUSTICE (2020).

53. Tim McLaughlin et al., *Special Report: U.S. Air Monitors Routinely Miss Pollution - Even Refinery Explosions*, REUTERS (Dec. 1, 2020, 6:00 AM), <https://www.reuters.com/article/usa-pollution-airmonitors-specialreport-idUSKBN28B4RT> [<https://perma.cc/WYL6-5C23>].

54. ERIC NOST ET AL., ENV'T DATA & GOVERNANCE INST., HOW DATA GAPS AND DISPARITIES IN EPA DATA UNDERMINE CLIMATE AND ENVIRONMENTAL JUSTICE SCREENING TOOLS (2022).

55. Press Release, Brian E. Frosh, Md. Att'y Gen., to Governor Hogan, Understaffing at State Agency Has Put Maryland's Drinking Water at Risk (Dec. 1, 2021), <https://www.marylandattorneygeneral.gov/press/2021/120121.pdf> [<https://perma.cc/5LXH-QC5H>].

56. *Id.*

57. David M. Konisky et al., *Environmental Injustice in Clean Water Act Enforcement: Racial and Income Disparities in Inspection Time*, ENV'T RES. LETTERS, July 2021, at 1, 2; PULLEN FEDINICK ET AL., *supra* note 52; Zhengyan Li et al., *Racial, Ethnic, and Income Disparities in Air Pollution: A Study of Excess Emissions in Texas*, PLOS ONE, Aug. 2019, at 1, 12.

by local communities. Some of a community's most fundamental concerns regarding pollution relate to legal issues at state and local levels. Communities often want to know why a polluting facility is going in a specific neighborhood, how the pollution from the facility relates to other sources of pollution or natural resources in the community, and the impact of the facility on property values. Such questions and concerns are most often addressed via a patchwork of laws in zoning, housing, economic development, and labor. Framework environmental law addresses broad pollution that often does not directly relate to what individuals and communities actually experience.

C. *Conceptualizing Knowledge*

Environmental law is replete with opportunities for the public to participate in decision-making.⁵⁸ The nation's federal environmental laws provide for explicit public participation through public comment processes. Other mechanisms, such as the ability for citizens to bring enforcement actions, are also lauded as examples of opportunities for public participation.⁵⁹ A significant reason for this opportunity is the belief that actively considering input from the public will improve the quality of government decisions regarding the environment.⁶⁰ Moreover, the idea is that opportunities for public participation in environmental decision-making engages local citizens in the overall democratic process.

Yet, the opportunity to participate in environmental decision-making does not always lead to actual participation by all—particularly in the context of broad rulemaking.⁶¹ While the larger nongovernmental organizations (NGOs) may actively

58. See Victor B. Flatt et al., *Let the People Speak: Notice-and-Comment Rulemaking (Lessons from the Controversial New Source Review Proposal of the Clean Air Act)*, 34 ENV'T L. REP. 10115, 10115–18 (2004).

59. Sanne Akerboom & Robin Kundis Craig, *How Law Structures Public Participation in Environmental Decision-Making: A Comparative Law Approach*, 32 ENV'T POL. & GOVERNANCE 232, 241 (2022) (“Citizen suits are thus a form of public empowerment and citizen enforcement actions are an important component of overall environmental enforcement in the US, providing a backstop when the government's enforcement enthusiasm wanes.” (citation omitted)).

60. THOMAS C. BEIERLE, PUBLIC PARTICIPATION IN ENVIRONMENTAL DECISIONS: AN EVALUATION FRAMEWORK USING SOCIAL GOALS 7 (1998).

61. Flatt et al., *supra* note 58, at 10115 (“Unfortunately, the ‘notice-and-comment’ process is often underutilized and misunderstood. Underutilized in the sense that very few of those affected actually participate in the process . . .”).

participate in administrative rulemaking and process within the environmental legal system, at the same time, “the man or the woman in the street who lives . . . next to or works in a particular factory has been conspicuously missing from the discussion.”⁶² Indeed, public comments from impacted individuals are not always useful for the particular environmental regulatory decision at hand.⁶³ Not all who are impacted by a proposed environmental rule or authorization decision have the capacity or incentive to prepare the detailed kinds of comments that often elicit real consideration by agencies.⁶⁴ So, while regulatory decision-makers may solicit input from local communities, they often ultimately disregard that input, simply viewing it as a “not in my backyard” (NIMBY) concern.⁶⁵ Such dismissive labeling results in a perpetual cycle of performative public participation in administrative processes.⁶⁶ Thus, while in theory the lived experience has a seat at the environmental decision-making table, the reality is much different.

A real accounting for the lived experience in the environmental legal system requires a shift in thinking about the value and knowledge that impacted communities bring to the decision-making table. A similar discussion has taken root in recent years within criminal justice scholarly discussions. Professor Miranda Fricker discusses bias against marginalized

62. ADMIN. CONF. OF THE U.S., TRANSCRIPT OF FORUM ON ENHANCING PUBLIC INPUT IN AGENCY RULEMAKING 13 (2021), <https://www.acus.gov/sites/default/files/documents/204774%20-%20Forum%20on%20Enhancing%20Public%20Input%20in%20Agency%20Rulemaking.pdf> [https://perma.cc/W7NP-QP8D].

63. *See generally* ADMIN. CONF. OF THE U.S., *supra* note 62 (discussing generally, different kinds of public comments, including form letters, fake comments, one sentence comments, as well as “legitimate” comments).

64. *Id.*; *cf.* Nina A. Mendelson, Opinion, *Democracy, Rulemaking, and Outpourings of Comments*, REGUL. REV. (Dec. 20, 2021), <https://www.theregreview.org/2021/12/20/mendelson-democracy-rulemaking-and-comments> [https://perma.cc/6EKE-RW4F] (“Comments from individuals can be informational, supplying on-the-ground experiences, data, or arguments relevant to an agency’s decision. All agree that these submissions are valuable. The critique of individual comments is aimed at expressions of preference. But views and preferences, including those expressed by individuals, are very frequently relevant to agency decisions.”).

65. Alice Kaswan, *Distributive Justice and the Environment*, 81 N.C. L. REV. 1031, 1088 (2003); Wyatt G. Sassman, *Community Empowerment in Decarbonization: NEPA’s Role*, 96 WASH. L. REV. 1511, 1529 (2021); Emeka Duruigbo, *Fracking and the NIMBY Syndrome*, 26 N.Y.U. ENV’T L.J. 227, 244 (2018) (observing that “the sobriquet ‘NIMBY’ has apparently morphed into a pejorative appellation”).

66. Lee, *supra* note 14, at 1009–10.

groups that causes a listener to give a deflated level of credibility to the word and voice of someone from the marginalized group.⁶⁷ Professor Jocelyn Simonson promotes organized local resident copwatching groups, who wear uniforms, carry visible recording devices, patrol neighborhoods, and film police-citizen interactions, as a mechanism for disenfranchised communities to meaningfully participate in policing and policing policy.⁶⁸ Professor Ngozi Okidegbe advocates for increased use of knowledge produced by communities most impacted by the criminal legal system in the development of pretrial algorithms, even though such “community knowledge sources” have traditionally been discredited and excluded.⁶⁹ Professor Erin Collins argues for a need “to value the insights of people who are the most impacted by criminal legal policies *as evidence of the policies’ impact*—regardless of whether their observations and experiences have been ‘validated’ by a controlled trial or quasi-experimental study.”⁷⁰ Such discussions do not need to be limited to the criminal justice context alone.

The idea in this Article is to push the environmental legal system to think of impacted communities as helpful, not helpless; as powerful, not powerless; as experts, not amateurs. Legal challenges to pollution permits can require significant information and expertise as evidence that a facility has not obtained the correct permit, is not abiding by conditions in an existing permit, or should not have received the permit to begin with. Those familiar with pollution permit cases will likely envision evidence as highly technical expert reports, water/air/soil sampling and testing, and economic modeling. That kind of conventional scientific evidence is often necessary in either bringing a legal challenge on an environmental permit or defending a legal challenge on an environmental permit. Yet, a step back reveals that the idea of “evidence” in environmental law does not need to ground itself in conventional scientific expertise alone.

67. Gender Talks, *Miranda Fricker on Testimony and the Power of Words*, YOUTUBE (June 16, 2020), <https://www.youtube.com/watch?v=VpnzEErB-r8> [<https://perma.cc/8Q6X-6VW2>]. Professor Miranda Fricker gives the example of a woman who feels as though she is discounted, or worse, not believed, by listeners when she recounts her experience with an act of sexual violence. *Id.*

68. Simonson, *supra* note 11, *passim*.

69. Ngozi Okidegbe, *Discredited Data*, 107 CORNELL L. REV. 2007 (2022).

70. Erin Collins, *Abolishing the Evidence-Based Paradigm*, 48 BYU L. REV. 403, 459 (2022).

Indeed, a historical look at evidence shows us that a fundamental goal of evidence is to gain knowledge and discover truth.⁷¹ Black's Law Dictionary defines evidence as "[s]omething (including testimony, documents, and tangible objects) that tends to prove or disprove the existence of an alleged fact; anything presented to the senses and offered to prove the existence or nonexistence of a fact"⁷² Under the Federal Rules of Evidence, experience and education are in fact two of the ways for an individual to qualify as an expert.⁷³ Accordingly, appropriate evidence is not only conventional scientific information—it is also facts, information, and skills acquired by a person through experience or education. The question becomes how to advance such evidence in the legal system for pollution control.

II. LEGAL BACKGROUND

The legal system for pollution control in the United States largely involves issuing permits for facilities to operate (and hence pollute), under certain conditions. There are multiple interests often at stake in the issuance of such permits. Challenges on pollution permits may be against agencies, facility owners, or both. Challenges on pollution permits may also involve both administrative and judicial processes. Thus, while the world of litigation involving pollution permits may seem, at first blush, to be a narrow field of focus, it intersects multiple legal practice arenas. This Part provides background on three legal arenas—administrative law, civil procedure, and evidence law—that are relevant to considering how, where, when, and what kind of community evidence may be needed in the pollution permit process.

A. *Administrative Law*

Under the legal system for controlling pollution, one polluting facility usually needs multiple permits for various kinds of pollutants (e.g., water, air, waste) at multiple intervals

71. Robert Alan Kelly, *Applicability of the Rules of Evidence to the Capital Sentencing Proceeding*, 60 UMKC L. REV. 411, 418 (1992).

72. *Evidence*, BLACK'S LAW DICTIONARY (11th ed. 2019).

73. FED. R. EVID. 702 ("A witness who is qualified as an expert by . . . experience . . . or education may testify . . .").

in the facility's life cycle (e.g., new, expanded, or continuing operation and disposal).⁷⁴ Moreover, environmental permits involve multiple executive branch agencies. The U.S. EPA issues certain kinds of permits, including where states and tribes have not assumed permitting authority under EPA statutes.⁷⁵ For example, the EPA issues all CWA National Pollutant Discharge Elimination System (NPDES) water pollution permits in Massachusetts, New Hampshire, New Mexico, the District of Columbia, U.S. territories, and on federal and tribal lands; but all other states have been delegated by the EPA to issue their own NPDES permits.⁷⁶ The Federal Energy Regulatory Commission (FERC) issues certificates for interstate natural gas pipelines that implicate environmental pollution, called "certificates of public convenience and necessity" (CPCN).⁷⁷ At the same time, state agencies are the primary issuer of some pollution permits, and many states also have their own state laws that require additional approvals or environmental analysis.⁷⁸ Local governments also authorize polluting facilities to locate in a specific geographic area, through use of conditional uses or variances within zones which act as a kind of "permit" to

74. See, e.g., Robert Stonestreet & Kip Power, *FWS Sued Over 16-Year Permit Delay, Proposes to Expand Locations for "Experimental Populations"*, BABST CALLAND (June 13, 2022), <https://www.babstcalland.com/news-article/fws-sued-over-16-year-permit-delay-proposes-to-expand-locations-for-experimental-populations> [https://perma.cc/YG69-XQBX].

75. See Modernizing the Administrative Exhaustion Requirement for Permitting Decisions and Streamlining Procedures for Permit Appeals, 84 Fed. Reg. 66,084, 66,086 (proposed Dec. 3, 2019) (to be codified at 40 C.F.R. pts. 1, 22, 23, 49, 52, 55, 71, 78, 124, 222) ("For example, 47 states and one territory have assumed authority to administer NPDES permits under the Clean Water Act. In the context of RCRA, 48 states, the District of Columbia, and Guam have been authorized to implement either all or parts of state hazardous waste programs in lieu of RCRA subtitle C. Under the Clean Air Act, 43 states fully administer the PSD program, and EPA has approved Title V permit programs in all 50 states.").

76. *NPDES Permits Around the Nation*, EPA, <https://www.epa.gov/npdes-permits> [https://perma.cc/G3NA-LWSU] (Mar. 30, 2022).

77. Natural Gas Act of 1938, 15 U.S.C. § 717(c); PAUL W. PARFOMAK, CONG. RSCH. SERV., INTERSTATE NATURAL GAS PIPELINE SITING: FERC POLICY AND ISSUES FOR CONGRESS 4 n.13 (9th ed. 2022). In addition, an FERC permit "confers on the developer . . . eminent domain authority" and "preempts any state or local law that duplicates or obstructs that federal law," such as state siting or zoning laws. *Id.* at 8; see also 15 U.S.C. § 717f(h).

78. *Permitting Under the Clean Air Act*, EPA, <https://www.epa.gov/caa-permitting> [https://perma.cc/A9ZY-GT93] (Oct. 4, 2022) ("The Clean Air Act (CAA) establishes a number of permitting programs designed to carry out the goals of the Act. Some of these programs are directly implemented by EPA through its Regional Offices but most are carried out by states, local agencies and approved tribes.").

operate.⁷⁹ As a result, one facility may need permits from local, state, and federal executive branch agencies in order to conduct business.

When an agency receives an application for a pollution permit, the agency typically engages in a public comment process.⁸⁰ The public can submit comments, request a public meeting or hearing, and eventually contest permit decisions by the agency.⁸¹ In many situations, the state or federal authorizing entity requires members of the public that want to contest issuance of a pollution permit to request a hearing in front of the agency, as an intervenor.⁸² Such contested cases on pollution permits are conducted by administrative law judges (ALJs) within the agency.⁸³

Federal ALJs are appointed under the Appointments Clause of Article II of the U.S. Constitution.⁸⁴ The ALJ position, originally called a hearing examiner, “was created by the Administrative Procedure Act (APA) in 1946 to ensure fairness in administrative proceedings before Federal Government agencies.”⁸⁵ ALJs do not exercise full judicial power and are also not constrained to rendering opinions for only a “case or

79. TISHMAN ENV'T & DESIGN CTR., THE NEW SCH., LOCAL POLICIES FOR ENVIRONMENTAL JUSTICE: A NATIONAL SCAN 10 (2019).

80. *See, e.g.*, PAUL W. PARFOMAK, CONG. RSCH. SERV., INTERSTATE NATURAL GAS PIPELINES: PROCESS AND TIMING OF FERC PERMIT APPLICATION REVIEW 3 (2015) (“Upon receiving an application, the commission issues a public Notice of Application for authorization to construct and operate a new pipeline in the Federal Register and begins the application review process.”).

81. *See, e.g., id.*

82. *See Permit Adjudications*, COLO. DEPT OF PUB. HEALTH & ENV'T, <https://cdphe.colorado.gov/permit-adjudications> [<https://perma.cc/28AH-VB82>] (describing required intervenor status for water pollution permit challenges); PARFOMAK, *supra* note 80, at 5 (describing that simply filing comments on a permit application does not make a commentator a party to an FERC permit proceeding, intervenor status is required).

83. *See, e.g., Administrative Law Contested Case Hearing Guide*, MINN. OFF. OF ADMIN. HEARINGS, <https://mn.gov/oah/self-help/administrative-law-overview/contested-case-hearing-guide.jsp> [<https://perma.cc/LQ7S-CRY5>].

84. U.S. CONST. art. II, § 2, cl. 2. The Appointments Clause requires “Officers of the United States” to be appointed only by the president, “Courts of Law,” or “Heads of Departments.” *Id.*; *see also Lucia v. SEC*, 138 S. Ct. 2044, 2051–55 (2018) (discussing when ALJs are “Officers of the United States,” and when they are “mere employees” of the agency and do not require appointment).

85. *Qualification Standard for Administrative Law Judge Positions*, U.S. OFF. OF PERS. MGMT., <https://www.opm.gov/policy-data-oversight/classification-qualifications/general-schedule-qualification-standards/specialty-areas/administrative-law-judge-positions> [<https://perma.cc/4QMK-KWJ6>].

controversy” before them.⁸⁶ Unlike the agency, ALJs are not policy or rulemakers, even though they are considered to be part of the executive branch. ALJs operate under power afforded to them under the APA as triers of fact insulated from political influence.⁸⁷ Pursuant to the APA, each agency appoints as many ALJs as necessary to conduct the agency’s administrative hearing proceedings.⁸⁸ For example, the Environmental Appeals Board (EAB), which is located within the EPA, hears pollution permit appeals from a variety of permit decisions made by EPA offices.⁸⁹ The FERC Office of ALJs hears contested cases on a wide range of matters, including certificates for natural gas pipelines.⁹⁰

States have their own state administrative procedure acts and state ALJs. Some states have ALJs within specific agencies, other states have removed “hearing functions from . . . agencies and vest[ed] them in a single, adjudicatory entity” like a state office of administrative hearings.⁹¹ For example, in New Hampshire, zoning boards review applications for zoning variances, special exceptions, and waivers of dimensional requirements.⁹² In Maryland, appeals of a final decision issued by the state environmental agency regarding the grant, denial, renewal, suspension, or amendment of a license, certificate, or permit becomes a contested case hearing with the state Office of Administrative Hearings.⁹³ There is significant variety in administrative adjudicatory processes for pollution permits at state levels.

In general, once an administrative agency issues a final permit and has proceeded through all required administrative

86. See Alan B. Morrison, *Administrative Agencies Are Just Like Legislatures and Courts—Except When They’re Not*, 59 ADMIN. L. REV. 79, 102–11 (2007).

87. *Id.* at 92.

88. 5 U.S.C. § 3105.

89. *Id.*

90. See *Office of Administrative Law Judges (OALJ)*, FED. ENERGY REGUL. COMM’N (Sept. 12, 2022), <https://www.ferc.gov/office-administrative-law-judges-oalj> [<https://perma.cc/8WSM-7VQE>].

91. Peter L. Plummer, *The State Office of Administrative Hearings and Rules*, 85 MICH. BAR J. 18, 19 (2006) (“By removing hearing functions from the departments and agencies and eliminating the adjudicator’s status as an employee of that department or agency, the creation of central panels reduces the appearance, if not the reality, of bias and the structural dependence the adjudicator has on the regulating department or agency.”).

92. N.H. ZONING BD. OF ADJUSTMENT, A HANDBOOK FOR LOCAL OFFICIALS v (2021).

93. MD. CODE ANN., STATE GOV’T §§ 10-201–226.

appeals, it is subject to challenge in judicial courts. The Federal Rules of Appellate Procedure (FRAP) apply to judicial review of final federal agency decisions.⁹⁴ The FRAP allows certain parties to intervene, providing a potential mechanism for various kinds of environmental and community organizations to get involved in review of an agency pollution permit decision.⁹⁵ States have their own rules for filing for judicial review of agency decision. For example, under Maryland's appellate rules, a petition for judicial review must state whether the petitioner was a party to the agency proceeding and describe the party's standing for seeking judicial review.⁹⁶ Judicial review of agency decisions are limited to issues presented on the administrative record in front of the agency.⁹⁷

B. Civil Procedure

In the federal judicial court system, the Federal Rules of Civil Procedure (FRCP) apply to pollution permit challenges that proceed to federal district court. In general, the FRCP provides the process by which plaintiffs file complaints and defendants respond. The FRCP also allows for more than one plaintiff as well as plaintiff-intervenors, so multiple environmental and community groups may be involved in one civil judicial action.⁹⁸ The FRCP specifically governs how and when plaintiffs and defendants present their arguments as well as how they get information from each other in the process of "discovery." Much of the presentation on both sides is done by asking the court to make mini determinations throughout the case process in what is generally called "motions practice."

While the purpose of the FRCP is "to secure [a] just, speedy, and inexpensive determination," the process for a case to proceed through the FRCP can take a long time.⁹⁹ Pursuant to the FRCP, a plaintiff commences a civil action by filing a complaint.¹⁰⁰ Because the federal courts do not have the power

94. FED. R. APP. P. 15.

95. FED. R. APP. P. 15(d).

96. MD. R. CIR. CT. 7-202.

97. *See, e.g.*, MD. CODE ANN. ENV'T § 1-601(d).

98. *See* FED. R. CIV. P. 3.

99. FED. R. CIV. P. 1; Benjamin V. Madison, III, *Proposed Changes to Federal Rules of Civil Procedure: Applying Lessons on Institutional Change to Predict Their Effectiveness* (July 25, 2014) (manuscript).

100. FED. R. CIV. P. 3.

under Article III to resolve legal questions that do not arise out of an actual dispute—a case or controversy—a plaintiff must have legal standing.¹⁰¹ While exact standing requirements vary depending on the claim, typically plaintiffs must demonstrate direct injury or harm that is redressable.¹⁰² If plaintiffs are an organization, which is often the case in pollution permit litigation, injury to members of the organization may suffice for standing.¹⁰³ Thus, even at the early complaint stage in litigation, plaintiff environmental or community groups might need evidence to demonstrate legal standing.

Once a lawsuit has been initiated by the filing of the complaint, which alleges claims against a defendant, that defendant has certain options for how to respond to those claims. In general, the defendant can either answer those claims by responding to each paragraph of the complaint either admitting or denying the allegations, or the defendant can attack the complaint for insufficiency, usually by a motion to dismiss.¹⁰⁴ A court may enter summary judgment at a middle stage of litigation if everything in the record demonstrates the absence of a genuine issue of material fact.¹⁰⁵ A summary judgment motion must claim that there is evidence in the record in support of an asserted fact, as well as where that evidence is located in the record.¹⁰⁶ If a complaint survives motions to dismiss and motions for summary judgment, the case will proceed to trial.

The use of motions to strike and motions in limine also have relevance in pollution permit litigation. A motion to strike is “a request that part of a party’s pleading or a piece of evidence be removed from the record,” and is made pursuant to FRCP Rule 12(f) or a state equivalent.¹⁰⁷ Under Rule 12(f), for example, a part of a pleading can be removed if it is redundant, immaterial,

101. *Lujan v. Defs. of Wildlife*, 504 U.S. 555, 560–61 (1992).

102. *Id.*; *Standing*, LEGAL INFO. INST., <https://www.law.cornell.edu/wex/standing> [<https://perma.cc/K4TT-VXKS>].

103. Sam Shapiro, *A Refresher on Organizational Standing*, ABA (Mar. 3, 2017), <https://www.americanbar.org/groups/litigation/committees/civil-rights/practice/2017/a-refresher-on-organizational-standing> [<https://perma.cc/ALH5-FUZP>].

104. FED. R. CIV. P. 12.

105. Federal Rule of Civil Procedure 56(a) authorizes summary judgment when “the movant shows there is no genuine dispute as to any material fact and the movant party is entitled to judgment as a matter of law.” FED. R. CIV. P. 56(a).

106. FED. R. CIV. P. 56(c)(1)(A).

107. *Motion to Strike*, LEGAL INFO. INST., https://www.law.cornell.edu/wex/motion_to_strike [<https://perma.cc/47V7-U92L>].

impertinent, or scandalous. Motions to strike “are generally viewed with disfavor because striking a portion of a pleading is a drastic remedy and because it is often sought by the movant as a dilatory tactic.”¹⁰⁸ A motion in limine is a pretrial motion asking a court to find “that certain evidence be found inadmissible, and that it not be referred to or offered at trial.”¹⁰⁹ A motion in limine to exclude testimony specifically asks the court to exclude all or some of a lay or expert witness testimony.

At trial, the court has no obligation to consider evidence that is not cited, even if the evidence is in the record.¹¹⁰ The court may, however, consider admissible evidence in the record even if a party does not cite to the evidence.¹¹¹ The trial court may also consider the evidence on summary judgment provided the submitting party demonstrates that it would be possible to present the evidence in admissible form at trial.¹¹² A movant must submit affidavits in connection with a summary judgment motion that are based on personal knowledge and include facts that would be admissible in evidence.¹¹³ Ultimate or conclusory facts and conclusions of law are inappropriate.¹¹⁴

C. Evidence Law

In general, evidence is any “item which a litigant proffers to make the existence of a fact more or less probable.”¹¹⁵ Evidence can take a variety of forms including testimony, photographs, videos, voice recordings, or samples.¹¹⁶ Not all forms of evidence are treated the same. For example, photographs are types of evidence that have been used in court for a long time, but also can be problematic as they do not typically provide information about the location (with respect to viewers of that photograph)

108. *Waste Mgmt. Holdings v. Gilmore*, 252 F.3d 316, 347 (4th Cir. 2001) (quoting Charles Alan Wright & Arthur Miller, *Federal Practice & Procedure* § 1380, 647 (2d ed. 1990)).

109. *Motion in Limine*, LEGAL INFO. INST. https://www.law.cornell.edu/wex/motion_in_limine [<https://perma.cc/EU8N-22HJ>].

110. FED. R. CIV. P. 56(c)(3).

111. *Carmen v. S.F. Unified Sch. Dist.*, 237 F.3d 1026, 1030 (9th Cir. 2001).

112. *See Celotex Corp. v. Catrett*, 477 U.S. 317, 325 (1986).

113. FED. R. CIV. P. 56(c)(4).

114. *BellSouth Telecomms. v. W.R. Grace & Co.-Conn.*, 77 F.3d 603, 615 (2d Cir. 1996).

115. *Evidence*, LEGAL INFO. INST., <http://www.law.cornell.edu/wex/evidence> [<https://perma.cc/MS8K-56LE>].

116. *Id.*

of the objects they depict.¹¹⁷ The manner in which evidence is collected or stored also varies greatly.

In the federal judicial court system, the Federal Rules of Evidence (FRE) apply to all civil case proceedings. Under the FRE, all relevant evidence is admissible, except if specifically excluded.¹¹⁸ Testimony that is hearsay, for example, is usually excluded.¹¹⁹ Evidence is relevant if it is material and probative, that is, it relates to an issue in the case and tends to prove the proposition for which it is offered.¹²⁰ But relevant evidence may be excluded if its probative value is substantially outweighed by countervailing considerations that include waste of time and the danger of unfair prejudice.¹²¹ The admissibility of evidence is governed to ascertain the truth and secure a just determination.¹²²

There are two kinds of witness opinion testimony: lay and expert. Lay witness opinion testimony is only admissible as to common sense impressions such as appearance, state of emotion, or the speed of a vehicle, which is helpful in resolving issues.¹²³ Opinion testimony by a lay witness must be derived from her personal knowledge or experience.¹²⁴ Opinion testimony by a lay witness must not be based on scientific, technical, or specialized knowledge, which is instead reserved for opinion testimony by an expert witness.¹²⁵ Pursuant to the FRE, “a witness who is qualified as an expert may testify . . . if the expert’s “scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue.”¹²⁶ The distinction between an expert and a nonexpert witness is that a nonexpert witness’s testimony results from a process of reasoning familiar in everyday life and an expert’s testimony results from a process of reasoning which can be

117. Aaron Meskin & Jonathan Cohen, *Photographs as Evidence*, in PHOTOGRAPHY AND PHILOSOPHY: ESSAYS ON THE PENCIL OF NATURE 4 (Scott Walden ed., 2008).

118. FED. R. EVID. 402.

119. Hearsay is an out-of-court statement offered for its truth or as testimony from a witness, made by someone other than the testifying witness, that is being offered to prove the truth of the matter asserted. FED. R. EVID. 801(c).

120. FED. R. EVID. 401.

121. FED. R. EVID. 403.

122. FED. R. EVID. 102.

123. FED. R. EVID. 701.

124. FED. R. EVID. 701 advisory committee’s note to 2000 amendment.

125. FED. R. EVID. 701.

126. FED. R. EVID. 702.

mastered only by specialists in the field. There is no stated preference in the FRE for lay witness testimony or expert witness testimony.

Courts review admissibility of expert opinion testimony based on the tests outlined in two cases: *Frye v. United States* and *Daubert v. Merrell Dow Pharmaceuticals, Inc.*¹²⁷ The federal court system exclusively follows *Daubert*, while state courts are divided between *Daubert* and *Frye*. The *Frye* case articulates a “general acceptance” test for the admissibility of experts where courts admit scientific testimony if the technique has been generally accepted by the relevant scientific community.¹²⁸ To be admissible under *Daubert*, expert testimony must be both reliable and relevant. The scientific methodology underlying the testimony is reliable if it is “grounded in the methods and procedures of science” and “supported by appropriate validation.”¹²⁹ The *Daubert* case outlined a series of factors for courts to consider when determining whether a methodology is reliable, including the theory’s or technique’s error rate and control standards and whether it has been tested, peer reviewed, and generally accepted.¹³⁰ In addition, courts must consider whether the testimony is relevant to the questions at hand and whether it assists the trier of fact in understanding the evidence or helps them determine a fact in issue.¹³¹

The role of evidence in administrative proceedings is different than in the judicial context. Under the APA, cases are not governed by the strict rules of evidence that apply to the admissibility of evidence in judicial cases.¹³² Courts have found that agencies have discretion in admitting or excluding testimony.¹³³ However, the APA also provides that agencies, as

127. *Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923); *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579 (1993).

128. The appellant in *Frye* had been convicted of second-degree murder and claimed the trial court erred by not allowing into evidence expert testimony concerning the results of a systolic blood pressure deception test the appellant had taken before trial. The court refused to allow the expert testimony about the results from the appellant’s systolic blood pressure deception test because it was not yet generally accepted among physiological and psychological authorities. *Frye*, 293 F. at 1014.

129. *Daubert*, 509 U.S. at 590.

130. *Id.* at 593–94.

131. *Id.* at 591.

132. *Brockton Taunton Gas Co. v. Sec. & Exch. Comm’n*, 396 F.2d 717, 721 (1st Cir. 1968).

133. *Bd. of Assessors v. Ogden Suffolk Downs*, 499 N.E.2d 1200, 1202–03 (Mass. 1986) (testimony on the depreciated reproduction cost of improvements to

a matter of policy, should exclude immaterial or unduly repetitious evidence.¹³⁴ In addition, while the APA provides that a reviewing court will set aside agency action found to be arbitrary, capricious, and an abuse of discretion, a reviewing court will also set aside agency action found to be “unsupported by substantial evidence.”¹³⁵ Moreover, many state administrative agencies provide their own evidentiary rules.¹³⁶

Fundamental to the role of evidence in any litigation “is the distinction between admissibility and weight.”¹³⁷ In general, rules of evidence are about whether factfinders (judges or juries) may consider a piece of evidence at all, rather than how the factfinder should weigh the piece of evidence after it is admitted.¹³⁸ The factfinder decides the measure of credible proof on one side of a dispute compared to the credible proof on the other.¹³⁹ For example, in a case involving testimony about DNA, the assertion that a particular method of testing DNA is reliable is a matter of admissibility, while an opinion regarding a case-specific fact, such as whether the technician properly labeled the samples prior to testing, is a matter of weight.¹⁴⁰ Administrative agencies have rules concerning weight, such as the Social Security Administration’s rules regarding the weight of treating physician’s testimony in adjudicating benefits claims, or the EPA’s rules regarding weight given to self-serving statements by corporate officers about a company’s ability to pay a fine in

Suffolk Downs stricken for failure of expert to consider \$1.6 million in improvements to the property); *Yaffe Iron & Metal Co. v. EPA*, 774 F.2d 1008, 1016 (10th Cir. 1985) (no error in excluding testimony from witness concerning PCB, or polychlorinated biphenyl, volatility when his area of expertise was primarily air and water quality).

134. 5 U.S.C. § 556(d) (“Any oral or documentary evidence may be received, but the agency as a matter of policy shall provide for the exclusion of irrelevant, immaterial, or unduly repetitious evidence.”).

135. *Id.* § 706.

136. See ILL. ADMIN. CODE tit. 35, § 101.626(a) (2022) (describing how the rules of the Illinois Pollution Control Board favor a liberal construction of admissible evidence and provide that the hearing officer may admit evidence that is material, relevant, and would be relied upon by prudent persons in the conduct of serious affairs).

137. David Faigman, *Evidence: Admissibility vs. Weight in Scientific Testimony*, 1 THE JUDGES’ BOOK 45, 45 (2017).

138. Charles L. Barzun, *Rules of Weight*, 83 NOTRE DAME L. REV. 1957, 1958 (2008).

139. *Weight of Evidence*, LEGAL INFO. INST., https://www.law.cornell.edu/wex/weight_of_evidence [https://perma.cc/5C8W-BYPY] (Mar. 2022).

140. Faigman, *supra* note 137, at 48.

enforcement cases.¹⁴¹ Thus, even though evidence may be admissible, it is not always clear what weight it will be given by a judge, jury, or ALJ in a particular case.

Also relevant to evidence law are burdens of proof, or standards by which a party must prove facts. In most civil cases, including pollution permit cases, plaintiffs must prove their case by a “preponderance of the evidence”—that is, the facts at issue are more likely true than not.¹⁴² Statutes or rules can also alter the normal burden of proof by creating legal presumptions—that is, “inferences that must be made in light of certain facts.”¹⁴³ The standard of proof may change with a rebuttable presumption, from “preponderance of the evidence” to “clear and convincing.”¹⁴⁴ Rebuttable presumptions are significant in civil litigation and can be a deciding factor in a case.¹⁴⁵

III. COMMUNITY EVIDENCE

Within the formal rules and processes of the environmental regulatory and legal system permitting pollution, there is room to consider community evidence. The concept of community evidence focuses on accessible tools that everyday people can use to document and present their lived experience to decision-makers as a mechanism to uplift the experience within the pollution permit process. This Part provides examples of cases involving a pollution permit that used (or attempted to use) community evidence as part of the overall evidence in the case. It highlights three kinds of community evidence presented by environmental and community groups: citizen science, lay witness testimony, and demographic information. The case examples are varied in the kind of “permit” at issue in the

141. Barzun, *supra* note 138, at 1977–78.

142. *Burden of Proof*, LEGAL INFO. INST., https://www.law.cornell.edu/wex/burden_of_proof [<https://perma.cc/E6GK-MAXN>] (June 2022).

143. *Presumption*, LEGAL INFO. INST., <https://www.law.cornell.edu/wex/presumption> [<https://perma.cc/U3CE-62RJ>].

144. See, e.g., William J. Anaya & Matthew E. Cohn, *Hydraulic Fracturing in Illinois, A Remarkable Presumption, Evidence, and Making a Record*, GREENSFELDER (June 2013), https://www.greensfelder.com/media/publication/184_Anaya-Cohn-Hydraulic-Fracturing-Illinois_June-2013_.pdf [<https://perma.cc/V7XW-QVDR>].

145. Joel S. Hjelmaas, *Stepping Back from the Thicket: A Proposal for the Treatment of Rebuttable Presumptions and Inferences*, 42 DRAKE L. REV. 427, 429 (1993).

litigation and include water and air pollution permits, natural gas infrastructure certificates, and zoning variances.

A. *Citizen Science*

Acceptance of citizen science in environmental decision-making is growing.¹⁴⁶ Citizen science is the practice of public participation and collaboration in scientific endeavors to increase knowledge.¹⁴⁷ To date, citizen science has largely been used in scientific research, such as community bird count projects, which help generate data for ornithologists to use in studying how birds are affected by habitat loss, pollution, disease, and climate change.¹⁴⁸ Yet, one type of citizen science—community pollution monitoring—is gaining traction for its potential to influence not only research, but law as well. A particular community pollution monitoring technique may involve sampling and lab testing of water near the discharge point of a sewage treatment plant, or neighborhood use of handheld air monitors that read levels of particular matter pollution near a gas station.¹⁴⁹ These types of community pollution monitoring, particularly when focused on one polluting

146. See Anna Berti Suman & Sven Schade, *The Formosa Case: A Step Forward on the Acceptance of Citizen-Collected Evidence in Environmental Litigation?*, CS TRACK (Nov. 3, 2021), <https://ctrack.eu/format/reports/the-formosa-case-a-step-forward-on-the-acceptance-of-citizen-collected-evidence-in-environmental-litigation> [<https://perma.cc/V8R9-AP42>]; Jennifer Hijazi, *Community Air Monitoring Is an “Inevitable” Issue for Industry*, BLOOMBERG L. (Dec. 8, 2021, 4:00 AM), <https://news.bloomberglaw.com/environment-and-energy/community-air-monitoring-is-an-inevitable-issue-for-industry> [<https://perma.cc/BW8R-UALJ>] (describing growing use of community air monitoring in air pollution cases).

147. *Citizen Science*, NAT'L GEOGRAPHIC, <https://education.nationalgeographic.org/resource/citizen-science> [<https://perma.cc/KXW9-YABB>]. Note that citizen science has many names, including “community” science, to denote that not all members of the public that engage in “citizen” science are indeed citizens of the United States. See *We’re Changing from “Citizen Science” to “Community Science”*, AUDUBON CTR. (May 2, 2018), <https://debspark.audubon.org/news/why-were-changing-citizen-science-community-science> [<https://perma.cc/F2FS-ABZY>].

148. *Citizen Science*, CORNELL RIVERKEEPER LAB, <https://www.birds.cornell.edu/citizen-science> [<https://perma.cc/9LQ9-YR45>].

149. *What We Do*, ALTAMAHA RIVERKEEPER, http://altamahariverkeeper.org/?page_id=365 [<https://perma.cc/CE5M-AJL3>] (“The Altamaha Riverkeeper aggressively monitors pollution and polluters throughout the watershed through a program of water sampling and analysis.”); see Hijazi, *supra* note 146.

facility over a long period of time, create a record of a community's lived experience with pollution.

Perhaps the best examples of using community pollution monitoring in pollution permit litigation involve the work of national waterkeeper organizations in CWA NPDES permit cases.¹⁵⁰ The CWA provides that all point sources of water pollution must obtain a NPDES permit before discharging any pollutant into any navigable waters of the United States. NPDES permits spell out pollution limits for numerous water pollutants and requires that facilities self-monitor compliance and report such compliance data in a publicly available "discharge monitoring reports."¹⁵¹ Legal challenges brought by the waterkeepers often involve claims that a point source (e.g., a sewage treatment plant) discharged a pollutant (i.e., sewage) and did so without obtaining a permit. To prove these kinds of claims, plaintiffs bear the burden of proving that a defendant (1) "discharged," or added; (2) a pollutant; (3) to navigable waters; (4) from a point source; (5) without a permit (or in violation of a permit).¹⁵² As this Section describes, the waterkeeper organizations have largely employed a combined approach in proving NPDES permit cases, using both community and more conventional scientific evidence.

The 2017 case *San Antonio Bay Estuarine Waterkeeper v. Formosa Plastics Corp., Texas* is a noteworthy example of how community evidence can directly influence pollution permit litigation.¹⁵³ In *San Antonio Bay Estuarine Waterkeeper*, environmental and community group plaintiffs sought a declaratory judgment that a plastics manufacturing company had violated, and continued to violate, its NPDES permit.¹⁵⁴ These plaintiffs introduced into evidence over two thousand

150. See George Wyeth et al., *The Impact of Citizen Environmental Science in the United States*, 49 ENV'T L. REP. 10237, 10250–52 (2009).

151. 33 U.S.C. § 1342; David E. Adelman & Jori Reilly-Diakun, *Environmental Citizen Suits and the Inequities of Races to the Top*, 92 U. COLO. L. REV. 377 (2021); Peter A. Appel, *The Diligent Prosecution Bar to Citizen Suits*, 10 WIDENER L. REV. 91, 98–99 (2003) (designating the following as "conventional" pollutants: biochemical oxygen demand (BOD₅), total suspended solids (TSS), fecal coliform, pH, and any additional pollutants the EPA defines as conventional).

152. *Parker v. Scrap Metal Processors, Inc.*, 386 F.3d 993, 1008 (11th Cir. 2004); see also *Altamaha Riverkeeper, Inc. v. U.S. Army Corps of Eng'rs*, 309 F.App'x 355, 356 (11th Cir. 2009) (citing 33 U.S.C. § 1311(a)).

153. Suman & Schade, *supra* note 146.

154. *San Antonio Bay Estuarine Waterkeeper v. Formosa Plastics Corp.*, No. 6:17-CV-0047, 2019 WL 2716544 (S.D. Tex. June 27, 2019).

samples they had collected over an almost three-year period stored in zip-lock bags and quart-sized bottles marked with dates, times, and locations.¹⁵⁵ They also introduced thousands of photos and videos of pellets and powders in the water and along the shore.¹⁵⁶ The community evidence played a significant role because the defendant company's NPDES permit prohibited the "discharge of floating solids or visible foam in other than trace amounts."¹⁵⁷ The plastic company did not dispute the community evidence, but instead argued that the discharges were within the exception for "trace" amounts and that the experts had no scientific basis for concluding the origin of the discharge.¹⁵⁸ The court rejected both of these arguments, finding that the samples did not meet the definition of "trace," that the independent experts had reliable principles and methods to analyze the information, and that the Texas Commission of Environmental Quality further verified the origin of the pollutants.¹⁵⁹

Another case, *Charleston Waterkeeper v. Frontier Logistics, LLP*, shows how community pollution monitoring can also benefit the early phases of pollution permit litigation.¹⁶⁰ In July 2019, coastal community residents and the local waterkeeper began to collect and sample spilled plastic pellets at various locations within the Charleston Harbor watershed.¹⁶¹ Soon thereafter, these groups filed a complaint under the CWA and Resource Conservation and Recovery Act (RCRA), alleging that the groups consistently recorded the highest concentration of pellets at the collection closest to the specific plastics factory.¹⁶² The defendant company argued in a motion for judgment on the pleading that the plaintiffs lacked standing and failed to state a claim under the RCRA or CWA.¹⁶³ The judge denied the motion,

155. *Id.* at *8.

156. *Id.*

157. *Id.*

158. Defendant Formosa Texas' Response to Plaintiffs' Motion for Partial Summary Judgment and Memorandum in Support, *San Antonio Bay*, 2019 WL 2716544 (No. 6:17-CV-00047).

159. *San Antonio Bay*, 2019 WL 2716544.

160. See *Charleston Waterkeeper v. Frontier Logistics*, 488 F. Supp. 3d 240, 254 (D.S.C. 2020).

161. Complaint for Declaratory and Injunctive Relief at 1–2, *Charleston Waterkeeper*, 488 F. Supp. 3d 240 (No. 2:20-cv-0189-DCN).

162. *Id.* at 20.

163. Defendant's Motion for Judgment on the Pleadings at 7–34, *Charleston Waterkeeper*, 488 F. Supp. 3d 240 (No. 2:20-cv-0189-DCN).

reiterating in its holding on standing that one “must only plead plausible, good-faith allegations” and that the samples collected around the facility in combination with the South Carolina 2019 report of a spill in the area clearly meet the traceability standard.¹⁶⁴ The pellets qualified as “discarded material” and thus “solid waste” under the RCRA because the plastics were abandoned and ceased to be useful.¹⁶⁵ In denying the defendant’s motion, the court also made particular reference to plaintiff’s allegations in its complaint that, as of the filing of the complaint and after six months of concerted sampling, the plaintiff community groups continued to find plastic pellets in significant concentrations, thus demonstrating ongoing violations.¹⁶⁶

Properly placed community pollution monitoring can influence causation arguments. In the 2019 case *Black Warrior River Keeper, Inc. v. Drummond Company, Inc.*, the plaintiff waterkeeper organization sued a mining company in part for polluting a nearby river, Locust Fork, without a CWA NPDES permit.¹⁶⁷ Based on the plaintiff’s expert water samples collected prior to litigation and the community collected surface water, ground water, and sediment samples, the plaintiff moved for partial summary judgment on the CWA claim.¹⁶⁸ The defendant countered, arguing that acid mine discharges could not flow into the sampling location based on the nature of acid mine discharges, and that, further, the specific sampling location exited into a creek that was not regulated as a navigable water of the United States.¹⁶⁹ However, the defendant did not collect its own samples to support this argument.¹⁷⁰ The court granted the plaintiff’s partial summary judgment motion because the only evidence before the court was the plaintiff’s river samples.¹⁷¹

Instances where communities do not physically sample or monitor but instead visually keep track of facility self-reported

164. *Charleston Waterkeeper*, 488 F. Supp. 3d at 254.

165. *Id.* at 255–56.

166. *Id.* at 258.

167. Complaint at 1–2, *Black Warrior River-Keeper, Inc. v. Drummond Co.*, 387 F. Supp. 3d 1271 (N.D. Ala. 2019) (No. 2:16-cv-01443-AKK).

168. Plaintiffs’ Motion for Partial Summary Judgment at 11–13, *Black Warrior River-Keeper*, 387 F. Supp. 3d 1271 (No. 2:16-cv-01443-AKK).

169. Defendant’s Motion for Partial Summary Judgment at 17, 30–32, *Black Warrior River-Keeper*, 387 F. Supp. 3d 1271 (No. 2:16-cv-01443-AKK).

170. *Black Warrior River-Keeper*, 387 F. Supp. 3d at 1285–87.

171. *Id.*

sampling in publicly available databases also act as a kind of community evidence. In the 2013 case, *Natural Resources Defense Council, Inc. v. County of Los Angeles Flood Control District*, the Santa Monica Baykeeper and other organizations sued the County of Los Angeles Flood Control District, alleging it was in violation of its CWA NPDES permit.¹⁷² From 2002 to 2008, the District published its own annual monitoring report showing it was exceeding its NPDES permit with data collected from its various monitoring stations located downstream from separate city storm sewer systems.¹⁷³ The plaintiffs catalogued the District's self-reported data and included it in their allegations.¹⁷⁴ The district court was unable to decipher from the record whether any upstream outflows from other dischargers were contributing stormwater, concluding that plaintiffs would need to present some evidence (monitoring data or an admission) that some amount of a standards-exceeding pollutant was being discharged at a District-owned outlet.¹⁷⁵ On appeal, however, the Ninth Circuit found that while the District was not responsible for polluting the river, the District's publicly-reported sampling was enough to demonstrate liability for NPDES permit exceedances.¹⁷⁶

In rare circumstances, community pollution monitoring may be so significant that it has equal weight as the conventional scientific evidence. In *Georgia v. City of East Ridge*, the plaintiffs alleged that a sewer, which was owned and maintained by a defendant municipality, repeatedly discharged raw sewage, a "pollutant" under the CWA, without an NPDES permit.¹⁷⁷ The city defendant owned and operated several sewer manholes along the sewer line, one of which sat right outside the homes of the plaintiff local residents.¹⁷⁸ Plaintiff residents and plaintiff state agency inspectors both provided photographs and videos that showed that on specific dates, during heavy rains,

172. Complaint at 2, *Nat. Res. Def. Council, Inc. v. Cnty. of L.A. Flood Control Dist.*, 725 F.3d 1194 (9th Cir. 2013) (No. 2:08-cv-01467).

173. *Nat. Res. Def. Council, Inc.*, 725 F.3d at 1200.

174. *Id.* at 1200–01 ("Using the monitoring data self-reported by the District, Plaintiffs catalogued the water quality exceedances measured in various receiving waters in the County.").

175. *Id.* at 1201–02.

176. *Id.* at 1208–10.

177. 949 F. Supp. 1571 (N.D. Ga. 1996). Plaintiff intervenors also added to their complaint state law claims of nuisance, trespass, negligence, negligence per se, and breach of contract.

178. *Id.* at 1573–74.

the residents and inspectors had observed wastewater containing raw sewage, feces, toilet paper, tampons, and other materials flowing out of the manhole.¹⁷⁹ They also introduced videotapes that documented sewage overflowing out of the manhole.¹⁸⁰ An expert test revealed high levels of fecal coliform.¹⁸¹ The city defendant municipality argued that the citizen testimony was inadmissible because the residents were lay witnesses and did not possess sufficient expertise to identify the materials.¹⁸² The court ultimately found that “no rational trier of fact could conclude that overflows from an active sewer contain no sewage” with the photos and videotape providing the main support that “no genuine dispute exists concerning the presence of sewage in the overflows.”¹⁸³

B. Lay Witness Testimony

Lay witnesses are important storytellers in litigation.¹⁸⁴ Stories tell us how the world runs, how people are likely to behave in certain situations, and what things might result from certain events. Stories are also a form of connecting humans to each other and developing empathy and mutual understanding.¹⁸⁵ In *Georgia v. City of East Ridge*, described above, lay witness testimony regarding sewage overflow containing feces and tampons creates imagery that would be almost impossible *not* to impact the listener.¹⁸⁶ In another example, *EQT Production Company v. Borough of Jefferson Hills*, the zoning board was heavily persuaded by nonresident individuals recounting how the same company installed a similar facility in their town and caused mass heavy diesel truck

179. *Id.* at 1574.

180. *Id.*

181. *Id.* at 1575.

182. *Id.* at 1577.

183. *Id.*

184. See Lisa A. Reppeto, *Good Storytelling Can Improve Litigation Strategy*, ABA (Oct. 20, 2017),

<https://www.americanbar.org/groups/litigation/committees/products-liability/practice/2017/good-storytelling-can-improve-litigation-strategy> [<https://perma.cc/WB7N-63W6>].

185. Jane B. Baron, *Resistance to Stories*, 67 S. CAL. L. REV. 255, 261–68 (1994).

186. See *City of East Ridge*, 949 F. Supp. at 1574.

traffic, as well as smoke, air, and noise pollution necessitating residents to relocate for months and avoid outside areas.¹⁸⁷

In pollution permitting litigation, lay witness testimony has recently featured prominently in natural gas cases. The natural gas boom in the last decade has spurred intense opposition amongst environmental organizations and local communities.¹⁸⁸ As described by the D.C. Circuit in *Minisink Residents for Environmental Preservation and Safety v. FERC*, “given the choice, almost no one would want natural gas infrastructure built on their block. ‘Build it elsewhere,’ most would say.”¹⁸⁹ The sentiment is understandable. Researchers have shown that people of color, limited-English-speaking households, renters, lower-income residents, and adults with lower levels of education are disproportionately exposed to natural gas leaks and that their leaks take longer to repair than the general population and particularly as compared to White residents and to homeowners.¹⁹⁰ Researchers have found that even small exposures to the kinds of pollutants that come from leaks in natural gas facilities can lead to premature birth, asthma, and cancer.¹⁹¹ Clearly, federal and state energy agencies are faced with tough judgment calls as to where natural gas facilities can and should be authorized.¹⁹²

The Natural Gas Act (NGA) vests the FERC with broad authority to regulate the transportation and sale of natural gas in interstate commerce.¹⁹³ Congress enacted the NGA with the principal aim of “encourag[ing] the orderly development of plentiful supplies of . . . natural gas at reasonable prices” and protecting consumers against exploitation by natural gas

187. *EQT Prod. Co. v. Borough of Jefferson Hills*, 208 A.3d 1010, 1012–17 (Pa. 2019).

188. Certification of New Interstate Natural Gas Facilities, Notice of Inquiry, 163 FERC ¶ 61,042 (Apr. 19, 2018) (describing a revolution in natural gas production technology leading to dramatic increases in production and new areas of natural gas production).

189. *Minisink Residents for Env’t Pres. & Safety v. FERC*, 762 F.3d 97, 100 (D.C. Cir. 2014).

190. See generally Marcos Luna & Dominic Nicholas, *An Environmental Justice Analysis of Distribution-Level Natural Gas Leaks in Massachusetts*, 162 ENERGY POL’Y 112778 (2022).

191. DREW MICHANOWICZ ET AL., PHYSICIANS, SCIENTISTS, & ENG’RS FOR HEALTHY ENERGY, METHANE AND HEALTH-DAMAGING AIR POLLUTANTS FROM THE OIL AND GAS SECTOR: BRIDGING 10 YEARS OF SCIENTIFIC UNDERSTANDING (2021).

192. *Minisink Residents for Env’t Pres. & Safety*, 762 F.3d at 100.

193. 15 U.S.C. §§ 717b–717c.

companies.¹⁹⁴ Specifically, under section 7(c) of the NGA, before an applicant can construct or extend an interstate facility for the transportation of natural gas, they must obtain a CPCN from the commission.¹⁹⁵ Thus, the CPCN acts as one of many permits needed to construct and operate natural gas infrastructure, like pipelines and compressor stations. In addition, natural gas companies often have to obtain additional permits from state agencies to construct or operate natural gas facilities.¹⁹⁶

Despite the significant environmental concerns associated with CPCN applications, the primary evidence in CPCN contested cases is not environmental, but economic. In examining a CPCN permit application, the FERC first considers whether there is a market need for the proposed natural gas infrastructure project.¹⁹⁷ If there is a need for the infrastructure, the FERC then determines whether there will be adverse impacts on “existing customers of the pipeline proposing the project, existing pipelines in the market and their captive customers, or landowners and communities affected by the route of the new pipeline.”¹⁹⁸ If there are adverse impacts on these stakeholders, the FERC “balanc[es] the evidence of public benefits to be achieved against the residual adverse effects.”¹⁹⁹

The key piece of evidence that CPCN permit applicants use to demonstrate market need is a “precedent agreement,” or shipping contract, between the applicant and natural gas shippers.²⁰⁰ A precedent agreement demonstrates that the capacity of gas supplies by the proposed pipeline is already

194. *NAACP v. Fed. Power Comm’n*, 425 U.S. 662, 669–70 (1976) (noting also that, along with those main objectives, there are also several “subsidiary purposes” behind the NGA’s passage, including “conservation, environmental, and antitrust” issues); *see also* *Fed. Power Comm’n v. Hope Natural Gas Co.*, 320 U.S. 591, 610 (1944).

195. 15 U.S.C. § 717f(c)(1)(A).

196. *See, e.g., About Natural Gas*, COLO. DEPT OF REGUL. AGENCIES PUB. UTILS. COMM’N, <https://puc.colorado.gov/aboutnaturalgas> [<https://perma.cc/4KA8-4G26>].

197. *Certification of New Interstate Natural Gas Pipeline Facilities*, Statement of Policy, 88 FERC ¶ 61,227 (Sept. 15, 1999), *clarified*, 90 FERC ¶ 61,128 (Feb. 9, 2000), *further clarified*, 92 FERC ¶ 61,094 (July 28, 2000).

198. *Id.* at ¶ 61,745.

199. *Id.*

200. *Penn East Pipeline Co.*, FERC Docket Nos. CP15-558-000, CP15-558-001, Request for Rehearing and Motion to Stay on Behalf of New Jersey Conservation Foundation and Stony Brook-Millstone Watershed Org. 6–7 (Feb. 12, 2018).

subscribed.²⁰¹ The analysis of public benefits has also relied on precedent agreements with the FERC describing the existence of such agreements as benefits.²⁰² Such a structure of reliance on precedent agreements and economic evidence relating to demand growth and market conditions puts any incoming community evidence on environmental and property impacts at an immediate disadvantage.

Moreover, several state public utility laws exempt natural gas infrastructure from local zoning requirements, resulting in additional loss of a legal mechanism by which community evidence can influence ALJ adjudicatory proceedings. For example, Pennsylvania state law exempts natural gas facilities that are “reasonably necessary for the convenience and welfare of the public,” from all zoning requirements.²⁰³ In *Petition of PECO Energy Company*, a utility filed a petition with the Pennsylvania state utility commission seeking a finding that the siting of infrastructure support for a proposed natural gas station was a “facility” within the meaning of the Pennsylvania state zoning exemption law.²⁰⁴ During the public hearing in front of the ALJ, multiple local residents testified in opposition, and included, in part, exhibits of photographs depicting community signs and protests opposing the natural gas station.²⁰⁵ The utility moved to strike the exhibits arguing that the residents’ testimony and exhibits were out of the relevant scope of inquiry in the proceeding.²⁰⁶ In particular, the utility argued that the ALJ must only determine whether the site of the proposed facility is appropriate to further the public interest, and the scope of inquiry in the proceeding *does not include* local community concerns regarding air pollution emissions, noise levels, or other safety/health concerns, nor does it include

201. Env’t Def. Fund, FERC Docket No. PL18-1-000, Comments on Certification of New Interstate Natural Gas Facilities (May 26, 2021).

202. *Id.*

203. *See, e.g.*, PECO Energy Co., Interim Order Granting in Part and Denying in Part PECO’s Objections to Public Input Hearing Exhibits and Motions to Strike Testimony Offered by Marillia Mancini-Strong at 3, P-2021-3024328 (Pa. P.U.C. July 29, 2021) [hereinafter PECO Interim Order, Mancini-Strong].

204. *Id.* at 2.

205. *See* PECO Energy Co., Interim Order Granting in Part and Denying in Part PECO’s Objections to Public Input Hearing Exhibits and Motions to Strike Testimony Offered by Gregory Fat at 6, P-2021-3024328 (Pa. P.U.C. June 30, 2021) [hereinafter PECO Interim Order, Fat].

206. *Id.*

whether the selected site is absolutely necessary or the best possible site.²⁰⁷

Out-of-scope-of-inquiry arguments can result in procedural motions to strike community evidence leading to outright inadmissibility of the evidence. In the above discussed case, *Petition of PECO Energy Company*, the utility further argued that the local residents' exhibits and related testimony were inadmissible hearsay because they were offered to prove that unidentified members of the public were opposed to the project without having those persons testify and be subject to cross-examination.²⁰⁸ The utility argued that although the local residents suggested that the number of signs that had been displayed in the community was representative of the level of opposition to the project, that testimony was pure speculation because a small group of individuals could be responsible for displaying all or most of the signs.²⁰⁹ The utility requested that the photograph exhibits be stricken from the record.²¹⁰

Ultimately in *Petition of PECO Energy Company*, the ALJ made several findings on the admissibility of the community testimony and photos that were in part in favor of the utility and in part in favor of the opposition.²¹¹ The ALJ held that the local resident had properly authenticated the photograph exhibits and that the exhibits would be admitted for the limited purpose of visually depicting an example of the lawn signs the local resident had observed in his community and that there was a public protest against the proposed facility.²¹² But the ALJ did grant the motion to strike, considering local resident testimony that "I'm told approximately 300 signs have been put on display around our community" was hearsay.²¹³ The ALJ stated that the proceeding was limited to whether the siting of the building was reasonably necessary for the convenience and welfare of the

207. *Id.*

208. PECO Interim Order, Mancini-Strong, *supra* note 203, at 1–2. PECO argued that, as a result, the finder of fact cannot assess (1) whether such persons are in fact opposed to the project and (2) the grounds for any such opposition. PECO maintained this is classic hearsay that eviscerates the purpose of the public input hearing—to receive into evidence sworn statements regarding the public's view of the project. *Id.* at 6.

209. PECO Interim Order, Fat, *supra* note 205, at 6–8.

210. *Id.* at 9.

211. *Id.* at 5–18; PECO Interim Order, Mancini-Strong, *supra* note 203, at 5–10.

212. PECO Interim Order, Fat, *supra* note 205, at 8.

213. *Id.* at 9.

public, excluding whether the site was absolutely necessary or whether the service provided by the building was reasonably necessary.²¹⁴ The mixed decision in the case exemplifies the complexity surrounding issues of admissibility of lay witness testimony.

Similarly, in *Northern Illinois Gas Co. Application for Permanent CPCN*, a natural gas company argued to the ALJ for the Illinois Commerce Commission that a community advocate's testimony should be disregarded.²¹⁵ The stated goal of the natural gas company was to bring "long-desired" natural gas service to an economically disadvantaged community about one hour from Chicago.²¹⁶ Several community groups, including the Pembroke Environmental Justice Coalition, intervened and included in their briefs testimony from Dr. Wright-Carter, a family physician, community health advocate, and founder of a teaching garden and sustainable farm in a historically Black farming area of the community. Dr. Wright-Carter testified that the community did not have the same access to emergency services as other communities to protect against the risks of natural gas leaks and explosions.²¹⁷ The natural gas company argued that the testimony was speculative and irrelevant to the construction of the requested natural gas facilities.²¹⁸ The commission ALJ ultimately granted the company's CPCN with no specific discussion of the company's arguments regarding Dr. Wright-Carter's testimony.²¹⁹

While ALJs are willing to allow lay witness testimony for limited purposes, state public utility commissions still tend to give little weight to community testimony when deciding whether to approve natural gas CPCNs. As in the case of *Rio Bravo Pipeline Company, LLC Application for Permanent CPCN*, various nearby residents in the predominantly low-income Hispanic community attended the public hearing, protesting the impacts of the project on their health, safety, and quality of life.²²⁰ The commission addressed these concerns by

214. PECO Interim Order, Mancini-Strong, *supra* note 203, at 4.

215. Nicor Gas Co., Initial Brief of Nicor Gas Co. at 9–10, No. 21-0698 (Ill. Com. Comm'n Nov. 16, 2021).

216. *Id.* at 3.

217. *Id.* at 9.

218. *Id.* at 9–10.

219. Nicor Gas Co., Final Order, No. 21-0698 (Ill. Com. Comm'n Jan. 5, 2022).

220. Rio Grande LNG, LLC, Order Granting Authorizations Under Sections 3 and 7 of the Natural Gas Act at 8 n.28, 169 FERC ¶ 61,131 (Nov. 22, 2019).

relying on overall significance. For example, it stated, “[T]he potential for geologic hazards (e.g., earthquakes, soil liquefaction, or landslides) to significantly affect construction or operation of the Rio Bravo Pipeline is low” and “although construction of the Rio Bravo Pipeline would impact approximately 880 acres of soils designated as prime farmland, only 97 acres of prime farmland would be permanently impacted by aboveground facilities and access roads.”²²¹ By looking at the overall risks, the commission, in effect, dismissed the concerns of the local residents.

It remains to be seen how many current CPCN challenges in front of the FERC and state utility commissions will utilize lay witness testimony, photographs, and videos. To be sure, courts will afford the FERC an extreme degree of deference when considering the FERC’s evaluation of scientific data within its technical expertise.²²² However, at least one recent and notable D.C. Circuit case found that the FERC relied too heavily on precedent agreements for a proposed CPCN in Missouri, at the expense of environmental and community evidence.²²³ Indeed, in March 2022, the FERC issued an updated policy document that acknowledged its undue reliance on precedent agreements.²²⁴ Given the unlikely slowdown of the natural gas boom and the push for natural gas to act as a “bridge fuel” for renewables, the FERC will need to figure out how to incorporate lay witness testimony in its CPCN decisions under the updated policy.²²⁵

C. Demographic Information

The advent of sophisticated mapping tools is creating an emerging evidentiary tool for communities to access and use in pollution permitting litigation. As computer mapping technology has advanced, the EPA has recognized the need to develop a

221. *Id.* at 32.

222. *Wash. Gas Light Co. v. FERC*, 532 F.3d 928, 930 (D.C. Cir. 2008) (quoting *Nat’l Comm. for the New River, Inc. v. FERC*, 373 F.3d 1323, 1327 (D.C. Cir. 2004)).

223. *Env’t Def. Fund v. FERC*, 2 F.4th 953, 973 (D.C. Cir. 2021).

224. Updated Policy Statement on Certification of New Interstate Natural Gas Facilities, 87 Fed. Reg. 11,548, 11,556 (Mar. 1, 2022).

225. Part of the FERC’s January 20, 2022 Equity Action Plan is to “Ensure Natural Gas Project Certification and Siting Policies and Processes are Consistent with Environmental Justice.” *FERC Issues Equity Action Plan*, FED. ENERGY REGUL. COMM’N (Jan. 20, 2022), <https://www.ferc.gov/news-events/news/ferc-issues-equity-action-plan> [<https://perma.cc/9VYF-9AUH>].

single, nationally consistent tool that helps users understand environmental and demographic characteristics of locations throughout the United States.²²⁶ In addition, several states have developed their own mapping tools that provide even more granular and specific demographic data to agencies and the public.²²⁷ Such mapping tools come at a time when there has been a simultaneous growth in new environmental laws and regulations that require agencies to consider disproportionate impacts on certain types of communities in permitting decisions.²²⁸ For example, in 2022, New Jersey passed a new statute that requires environmental justice–specific analyses for facilities seeking permits where the facility is located in an “overburdened community.”²²⁹ An overburdened community is “defined as any Census block group with low-income, minority, or non-English speaking populations exceeding specified thresholds.”²³⁰ The question, of course, is how such communities might demonstrate that they indeed meet the required demographic characteristics.

In a 2020 case, *Friends of Buckingham v. State Air Pollution Control Board*, the Fourth Circuit discussed mapping in detail in its decision that a polluting facility did not comply with a state environmental justice law.²³¹ The case involved a challenge by several environmental groups and local residents to the state air pollution control board’s issuance of a permit to a natural gas compressor station.²³² In particular, the groups argued that the state board erred in failing to assess the compressor station’s

226. *How Was EJScreen Developed?*, EPA, <https://www.epa.gov/ejscreen/how-was-ejscreen-developed> [<https://perma.cc/A33Z-WBDD>] (Feb. 18, 2022).

227. VIVEK RAVICHANDRAN ET AL., GAPS IN ENVIRONMENTAL JUSTICE SCREENING AND MAPPING TOOLS AND POTENTIAL NEW INDICATORS, CMTY. ENGAGEMENT, ENV’T JUST., & HEALTH LAB (2021), <https://www.nwf.org/-/media/Documents/PDFs/Environmental-Justice/Gaps-in-EJSM-Tools> [<https://perma.cc/3EBK-TKDK>].

228. Dylan Bruce, *Analysis: State Laws Are Codifying Environmental Justice*, BLOOMBERG L. (Mar. 9, 2021, 2:18 AM), <https://news.bloomberglaw.com/bloomberg-law-analysis/analysis-state-laws-are-codifying-environmental-justice> [<https://perma.cc/SS8Q-Z9A4>].

229. Alicia Arrington & Aspen Ono, *Three Key Takeaways of New Jersey DEP’s Proposed EJ Rules*, JD SUPRA (June 20, 2022), <https://www.jdsupra.com/legalnews/three-key-takeaways-of-new-jersey-dep-s-3742703> [<https://perma.cc/7FP3-NX78>].

230. *Id.*

231. *Friends of Buckingham v. State Air Pollution Control Bd.*, 947 F.3d 68 (4th Cir. 2020).

232. *Id.*

potential for disproportionate health impacts on the predominantly Black community nearby.²³³ Pursuant to a new state law, the board was required to consider local communities, requiring the development of energy resources and facilities in a manner that would “not impose a disproportionate adverse impact on economically disadvantaged or minority communities.”²³⁴ There were multiple mapping tools used as evidence in the administrative record, including analysis by federal agencies using federal census data, a study completed by community groups based on door-to-door surveys, and information from the state agency using EPA’s Environmental Justice Screen (EJScreen).²³⁵ All of the studies and maps presented conflicting evidence about the number of minority residents in the area.²³⁶ Thus, the Fourth Circuit concluded that the board failed in its statutory duty to determine the character and degree of injury to the health of the local Black community and vacated and remanded the natural gas permitting decision back to the board to make findings with regards to the conflicting evidence.²³⁷

Environmental and community groups are citing to EJScreen as well in pollution permitting litigation, particularly in air pollution cases. In *Rise St. James v. Louisiana Department of Environmental Quality*, a state court judge referenced the mapping information introduced by environmental justice groups in deciding a case involving a plastics chemical manufacturing complex’s air pollution permit.²³⁸ The state agency had issued the plastics complex an air pollution permit even though the complex would have contained fourteen plants across more than two thousand acres, right next to a predominantly Black community.²³⁹ In a petition for judicial review, the environmental justice groups argued that the state agency wrongly issued the air pollution permit and violated its

233. Petitioners’ Final Opening Brief at 22, *Friends of Buckingham*, 947 F.3d 68 (No. 19-01152).

234. *Friends of Buckingham*, 947 F.3d at 75.

235. *Id.* at 88–89.

236. *Id.*

237. *Id.* at 93.

238. Written Reasons for Judgment, *Rise St. James v. La. Dep’t of Env’t Quality*, No. 694029 (La. 19th Jud. Dist. Ct. Parish of East Baton Rouge Sept. 12, 2022).

239. Petitioners’ Brief in Support of Their Petition for Judicial Review at 6, *Rise St. James*, No. 694029.

public trust duty.²⁴⁰ The environmental groups cited in its petition U.S. census and EJScreen maps to demonstrate the vast size of the plastics complex, its location vis-à-vis residential neighborhoods and schools, and specific demographic information of the local community.²⁴¹ The state court judge made several references to such maps in her written decision vacating all air pollution permits.²⁴²

Similarly, in *St. Francis Prayer Center v. Michigan Department of Environment, Great Lakes, & Energy*, several environmental justice groups cited to EJScreen in a judicial challenge to an air pollution permit issued by the state environmental agency for construction of a hot, mixed asphalt facility in Flint, Michigan.²⁴³ The permit challenge cited to multiple comments filed in the permit administrative record that detailed EJScreen mapping indexes showing the presence of low-income public housing buildings, mobile home parks, children's parks, a public beach, a county recreation area, a community garden, churches, and an assisted living center, all within extremely close proximity to the proposed facility.²⁴⁴ The court began oral arguments on November 8, 2022, and it remains to be seen whether the ultimate opinion will take into account the demographic information presented.²⁴⁵

Moreover, introduction of demographic data by community and environmental groups has also resulted in federal administrations rejecting state issued air pollution permits, thereby potentially avoiding litigation. Title V of the CAA allows the public to petition the EPA administrator to object to specific permits.²⁴⁶ Petitions by environmental and community groups in recent years have specifically cited to publicly available

240. *Id.* at 22, 36.

241. *Id.* at 7 nn.25–30.

242. Written Reasons for Judgment, *supra* note 238.

243. Andrew Bashi & Debbie Chizewer, Comment Letter on Ajax Materials Corp. Permit to Install Application No. APP-2021-0019 (Sept. 22, 2021), https://earthjustice.org/sites/default/files/files/2021.09.21_flint_group_comments_ajax_pti_permit.pdf [<https://perma.cc/55BH-APQ5>].

244. Brief for Appellants at 17, *St. Francis Prayer Ctr. v. Michigan Dep't of Env't, Great Lakes, & Energy*, No. 22-116891-AA (Mich. Genesee Cnty Cir. Ct. Feb. 11, 2022).

245. Press Release, Earthjustice, Court Arguments Begin Over Toxic Asphalt Plant Near Flint (Nov 8, 2022), <https://earthjustice.org/news/press/2022/court-arguments-begin-over-toxic-asphalt-plant-near-flint> [<https://perma.cc/A6LX-ETGC>].

246. *Title V Petitions*, EPA, <https://www.epa.gov/title-v-operating-permits/title-v-petitions> [<https://perma.cc/AV3Y-HMH3>].

demographic information in requests to the EPA to object to specific permits.²⁴⁷ For example, in the *Matter of LDEQ Title V Air Operating Permit No. 2363-V8*, community and environmental groups requested in 2021 that the EPA object to the CAA permits issued by the state agency for a refinery located in Baton Rouge, Louisiana.²⁴⁸ In the petition, the groups cited to EPA findings from a 2010 U.S. Census and American Community Survey showing that residents within a one-mile radius of the refinery were 97 percent people of color and that over two-thirds lived below the poverty line.²⁴⁹ This evidence was used to support the argument by plaintiffs to the EPA that the Louisiana Department of Environmental Quality permit was too lenient on the monitoring provisions of the facility's air permit. In May 2022, the EPA granted the plaintiffs' petition and required the state agency to go back and make several changes to the facility's permit.²⁵⁰

IV. TOWARD CHANGE

In the overlap between evidence law and social justice, there is a paradox. Those living and working in local communities have extraordinary knowledge that has value in the overall pursuit of truth, particularly when it comes to achieving the fundamental goals of evidence law. Concurrently, the very same people lack certain types of knowledge, including knowledge about conventional science and the U.S. legal system. This Part provides suggestions on how to begin to marry these contradictions. The proposals below are intended to help raise the quality, usability, and consideration of community evidence in pollution permit cases.

247. See, e.g., *Recent Regulatory Actions Related to Title V*, EPA, <https://www.epa.gov/title-v-operating-permits/current-regulations-and-regulatory-actions> [<https://perma.cc/B5A7-UCA9>].

248. Petition to Object to the Title V Operating Permit for the Utilities Unit at ExxonMobil Fuels & Lubricant Company's Baton Rouge Refinery, LDEQ Title V Air Operating Permit No. 2363-V8 (Feb. 12, 2021), <https://www.epa.gov/sites/default/files/2021-02/documents/exxonbatonrougeutilitiesunitpetition2021.pdf> [<https://perma.cc/D8YC-5VU7>].

249. *Id.*

250. Clean Air Act Operating Permit Program: Petition to Object to State Operating Permit in East Baton Rouge, LA, 87 Fed. Reg. 30,937 (May 20, 2022).

A. *Community Knowledge Experts*

One mechanism to increase community voice in the pollution permit process is to develop and train community knowledge experts. The idea behind community knowledge experts is to pay local residents to share the knowledge they have gained through their lived experience. The community knowledge expert could be connected with a lawyer so that the community knowledge expert can learn how documentation of their own lived experience might someday be presented in a case contesting an environmental permit for a new or existing polluting facility. This kind of expert-lawyer relationship would help community members document their lived experience in a way that foresees an ability to effectively present the documentation to relevant legal decision-makers in the future. The goal of such an effort would be multilayered—to increase direct engagement of impacted people in the environmental permit process, provide community access to environmental lawyers, and ultimately, create environmental permits that are more reflective of the needs of people on the ground.

Paying people for their community expertise is not new. It has been particularly successful in cities looking to engage local residents who have historically not engaged in the planning process in urban planning decisions.²⁵¹ For example, Richmond, Virginia saw a dramatic change in the involvement of younger, low-income, and minority residents in city planning efforts after the city offered to compensate individuals for time spent on an advisory council.²⁵² It has also been successful with public health care providers looking to engage communities in mask wearing and hygiene. The University of Colorado hospital system used a paid “boot camp translation” network to educate individuals from a given community on a public health topic so those individuals could help the “experts” develop culturally appropriate public health messages.²⁵³ The Environmental

251. Henry Pan, *Cities Are Looking to Get Better Community Engagement by Paying for It*, NEXT CITY (May 6, 2021), <https://nextcity.org/urbanist-news/cities-are-looking-to-get-better-community-engagement-by-paying-for-it> [https://perma.cc/AKD7-3T5B].

252. Brittany Hutson, *Paying Community Members for Their Time*, SHELTERFORCE (Feb. 26, 2021), <https://shelterforce.org/2021/02/26/paying-community-members-for-their-time> [https://perma.cc/KY28-6Z6H].

253. Laura Veith, *Harnessing Community Voices to Bolster COVID-19 Vaccinations*, UNIV. OF COLO. ADULT & CHILD CTR. FOR OUTCOMES RES. &

Justice Collaborative in Southern California paid local residents' for observations of nearby polluting facilities to ground information contained in government databases regarding the proximity of the facilities to sensitive receptors like day care centers, churches, and senior citizen homes.²⁵⁴ Researchers have also found that hiring community members into community liaison roles has been shown to improve community outcomes.²⁵⁵

On a more fundamental level, paying community members for their engagement identifies community knowledge as expertise on par with other kinds of expertise. After all, other kinds of experts—economists, scientists, archaeologists, real estate appraisers—get paid as experts in environmental enforcement cases. Lawyers are also expected to be paid in environmental enforcement cases and if they take on pro bono cases, often only do so in a limited capacity.²⁵⁶ Why shouldn't community knowledge experts do the same? To be sure, accessing, documenting, and presenting community knowledge also involves a considerable amount of time and resources for impacted people.²⁵⁷ They must build consensus and conduct outreach within the community, attend meetings, conduct surveys, raise questions, and develop proposals. The decision-makers in the world of environmental law and policy cannot expect to gain community knowledge that involves such a time commitment for free.

The idea of paying community knowledge experts could be particularly helpful in the area of citizen science. Environmental scholars and practitioners rightly sing the praises of the opportunities in citizen science for communities to actively engage in pollution sampling and testing.²⁵⁸ Like in *San Antonio*

DELIVERY SCI. (Sept. 6, 2021), <https://news.cuanschutz.edu/accords/harnessing-community-voices-to-bolster-covid-19-vaccinations> [<https://perma.cc/896L-EJE2>].

254. L.A. COLLABORATIVE FOR ENV'T HEALTH & JUST., HIDDEN HAZARDS: A CALL TO ACTION FOR HEALTHY, LIVABLE COMMUNITIES (2010).

255. Petiwala et al., *supra* note 12, at 9.

256. ABA, SUPPORTING JUSTICE: A REPORT ON THE PRO BONO WORK OF AMERICA'S LAWYERS (2018) (describing how the American Bar Association finds that one of the top barriers for lawyers in agreeing to provide pro bono legal expertise is lack of time, and therefore, the vast majority of attorneys that take on pro bono matters do so on a limited representation basis only).

257. Hutson, *supra* note 252.

258. Wyeth et al., *supra* note 150; Annie E. Brett, *Putting the Public on Trial: Can Citizen Science Be Used in Litigation and Regulation?*, 28 VILL. ENV'T L.J. 163 (2017).

Bay Estuarine Waterkeeper v. Formosa Plastics Corp., Texas, citizen-led pollution sampling and testing can indeed provide evidence of environmental violations.²⁵⁹ However, as is also clear from that case, pollution sampling and testing is extremely difficult. In particular, for environmental justice communities whose regular daily lives are already a struggle, regular pollution sampling and monitoring without compensation may simply be out of the question.²⁶⁰ Indeed, the federal government, in recent years, has committed to providing substantial grant money for communities to purchase low-cost pollution sensors.²⁶¹ However, there must also be efforts to pay for community members to learn how to use and maintain the monitors, collect and analyze data from the monitors, and compare the monitors to higher grade monitors often used in court by defendants.²⁶² In addition, funding mechanisms for sensors, monitors, and other pollution sampling devices must be careful to use equitable decision-making when determining which individuals and communities receive funding.²⁶³

Moreover, individuals engaged in citizen science work need to know that there is significant potential for actual change resulting from the efforts.²⁶⁴ Some citizen science tools, while good for understanding broad pollution levels, may not be useful for pinpointing specific causes of the pollution that would be useful in a specific case. For example, the nonprofit organization FracTracker Alliance set up small air pollution monitors in seven Pennsylvania communities with current or proposed oil and gas infrastructure “with the goal of gathering baseline data

259. Suman & Schade, *supra* note 146.

260. David W. Walker et al., *The Benefits and Negative Impacts of Citizen Science Applications to Water as Experienced by Participants and Communities*, 8 WILEY INTERDISC. REV. 1 (2020).

261. *Enhanced Air Quality Monitoring Funding Under the American Rescue Plan*, EPA, <https://www.epa.gov/arp/enhanced-air-quality-monitoring-funding-under-arp> [<https://perma.cc/FE4H-C7N7>].

262. See, e.g., Meredith Fowlie, *My New Pollution Monitor: Gimmick or Game Changer?*, ENERGY INST. BLOG (Jan. 2, 2019), <https://energyathaas.wordpress.com/2019/01/02/my-new-pollution-monitor-gimmick-or-game-changer> [<https://perma.cc/FWG4-CJ75>].

263. See UCI Researchers Find Fewer Low-Cost Air Pollution Sensors in Disadvantaged Communities, UCI NEWS (Mar. 2, 2022), <https://news.uci.edu/2022/03/02/uci-researchers-find-fewer-low-cost-air-pollution-sensors-in-disadvantaged-communities> [<https://perma.cc/2GUL-LEZS>].

264. See Hijazi, *supra* note 146.

and identifying possible public health concerns.”²⁶⁵ The alliance set up monitors in various locations including outdoor locations near proposed infrastructure sites and at individual homes that would likely be impacted by well construction and truck traffic.²⁶⁶ The alliance found “worse than average values for total accumulation of PM_{2.5}.”²⁶⁷ Yet the alliance also stated that such results could be due to weather patterns or other sources of PM_{2.5} pollution, including from traffic, a nearby steel plant, and a nearby coal plant.²⁶⁸ Thus, before engaging in a citizen science effort, communities must be connected with lawyers and policymakers who can help identify what the results from the citizen science effort will potentially accomplish.²⁶⁹

Lawyers can also help explain to community experts the intricacies of the rules around evidence law regarding lay witness testimony and expert witness testimony. Courts are likely to grant motions to strike lay testimony from community members that venture too close to making legal determinations in environmental cases. For example, in *Southwest Organizing Project v. Albuquerque-Bernalillo County Air Quality Control Board*, the court sustained the defendant state agency’s objection to a witness testifying at a hearing for a state air permit for a bulk gasoline plant that would release hazardous air pollutants.²⁷⁰ The plant had operated for decades without the requisite environmental permit, and it was not until a concerned citizen complained about the facility’s unauthorized status that the agency required the plant owner to file an application for a permit. At the administrative hearing on the state’s issuance of a new permit to the facility, a witness testified “about health concerns that community members had expressed to him” regarding the plant in Albuquerque’s San Jose neighborhood. The state agency objected to the testimony

265. See Erica Jackson, *Allegheny County Air Quality Monitoring Project*, FRACTRACKER ALL. (Dec. 18, 2019), <https://www.fractracker.org/2019/12/allegheny-county-air-quality-monitoring> [<https://perma.cc/3XC4-RVX5>].

266. *Id.*

267. *Id.*

268. *Id.*

269. Sachit Mahajan et al., *Translating Citizen-Generated Air Quality Data into Evidence for Shaping Policy*, HUMANITIES & SOC. SCI. COMM’NS, Apr. 7, 2022, at 2 (“The question remains as to how the citizen-generated data can be used as evidence for shaping policy, or whether it should only be considered as a science tool.”).

270. *Sw. Org. Project v. Albuquerque-Bernalillo Cnty. Air Quality Control Bd.*, 2021-NMCA-005, 482 P.3d 1273.

arguing that the witness was improperly testifying on causation. The court on judicial review found that it was proper for the hearing officer to conclude that causation as to health concerns is a matter of technical expertise and exclude the testimony.²⁷¹ A greater understanding of what lay witnesses can and cannot testify about in administrative and judicial cases may go a long way to help lay witness testimony survive admissibility challenges.

It is certainly not always easy to tell when lay witness testimony is attempting to make legal determinations. For example, in cases where community members are particularly concerned about permits, zoning variances, or licenses to polluting facilities ultimately impacting community property values, lawyers can also help educate on the applicability of the rules of evidence. In general, property owners can testify about the value of their property, including any future depreciation in value, in certain circumstances.²⁷² However, courts may also exclude community testimony where the testimony is speculative, including where community members testify about expected future property value decline from polluting facilities in the neighborhood.²⁷³ Instead, a lawyer may be able to advise local community members that having a real estate appraiser provide such an assessment of expected future property value is very useful to have as evidence in the administrative record.

In addition, lawyers can help educate community knowledge experts on potential issues with photographic documentation. In *In Re Northeast Materials Group*, a state supreme court found photos of dust to be unreliable.²⁷⁴ The basic facts of the case involved a challenge to a crushing operation's compliance with its land use/zoning permit's conditions regarding noise and dust.²⁷⁵ The state trial court concluded that the operation's dust emissions complied with the land use/zoning

271. *Id.* at 1284, 2021-NMCA-005 ¶ 28.

272. *See, e.g.*, *Ray v. Mayor of Baltimore*, 59 A.3d 545, 559 (Md. 2013).

273. *See* Plaintiffs' Memorandum of Law in Opposition to Saint-Gobain's Motion to Exclude Plaintiffs' Lay Opinion on Diminution in Value, *Sullivan v. Saint-Gobain Performance Plastics Corp.*, No. 5:16-cv-125 (D. Vt. July 26, 2019) (describing arguments made by defendant corporation on its motion to exclude lay witness testimony); David Owens, *Can the Opinions of Neighbors Be Considered in a Zoning Hearing?*, COATES' CANONS NC LOC. GOV. L., <https://canons.sog.unc.edu/2009/10/can-the-opinions-of-neighbors-be-considered-in-a-zoning-hearing> [<https://perma.cc/S4FD-W32U>] (June 22, 2022).

274. *In Re Ne. Materials Grp.*, 2019 VT 55, ¶ 36, 217 A.3d 541.

275. *Id.* ¶ 5, 217 A.3d at 545–46.

permit's air pollution conditions and rejected the local community photos and videos introduced by the plaintiffs as evidence to the contrary. The court specifically found the local resident's photos and videos to be unrepresentative and "of limited utility" due to the highly variable nature of the environment and difficulty in attributing dust and percentages of dust to one source or another. The court found that some photos were taken when the project was not operating and that it was not possible to distinguish the source of visible airborne dust. In addition, the court also noted that "the photos and videos [were] snapshots in time, or brief moments on video, and that many of them [were] modified by magnification, and therefore difficult to put into perspective, making them unreliable."²⁷⁶ "For these reasons, the court could not conclude that these visual representations are a realistic depiction of the Project operation as it has existed or as it may exist in the future."²⁷⁷ Thus, the state supreme court found that the photos and videos did not "speak for themselves" and deferred to the lower court's determination that the photos and videos "were not credible sources for quantifying the dust's impact."²⁷⁸

In sum, an effort to establish community knowledge experts who are committed to working with lawyers to document the community's lived experiences with pollution on an ongoing basis provides a mechanism for engagement as well as producing useable evidence. Such an effort would be similar to copwatching neighborhood organizations in the context of criminal policing in an effort to implement policing policies and practices.²⁷⁹ Some community knowledge experts may receive funding for specific projects like citizen science through university grant partnerships or government grants that are focused on community engagement. In addition, it is incumbent upon environmental lawyers working on behalf of impacted people to consider paying community knowledge experts as consulting or testifying experts in the same way they would consider paying scientific or economic experts in the lead up to litigation or during litigation itself.

276. *Id.* ¶ 36, 217 A.3d at 558 (internal quotation marks omitted).

277. *Id.* (internal quotation marks omitted).

278. *Id.* ¶ 38, 217 A.3d at 558.

279. Simonson, *supra* note 11, at 391.

B. Acknowledge and Validate

Judges can and should also work to uplift community lived experiences in pollution permit cases simply by discussing community evidence in written opinions. The existence of an avenue or forum to tell one's story is, in many ways, at the heart of the local community's voice and experience with pollution. Yet without acknowledgement of a community member's voice in a written opinion, there is no way for the community member to know if their voice is heard. That is, courts do not only need to discuss admissibility and weight of community evidence when asked to do so by a motion to strike or motion to exclude. Such acknowledgment of community evidence in written decisions can bolster confidence for local community members to recognize the value of their lived experience in the face of otherwise persisting assumptions that conventional scientific expertise is always paramount.

Judges have discretion to explicitly cite to or discuss community evidence in written opinions as a way for readers of the opinion to know that such evidence is meaningful to the decision. In a 2021 federal district court case in Illinois, for example, a defendant municipality moved to strike a plaintiff's complaint for providing too much information about the plaintiff's stories and backgrounds.²⁸⁰ Plaintiffs alleged multiple violations under the CWA for sewage discharges without an appropriate permit, as well as broader negligence, trespass, and property claims.²⁸¹ The complaint provided detailed personal stories and photos of raw sewage backed up to residents' homes (with toilet paper debris), damage to residents' floors and appliances, and stagnant mosquito-breeding flood waters in the community.²⁸² Defendants argued in a Rule 12(b)(6) and Rule 12(f) motion to dismiss that the complaint did not meet the requirements of Rule 8 which requires a "short and plain statement of the claim showing that the pleader is entitled to

280. Defendant City of Cahokia Heights' Combined Motion to Dismiss Plaintiffs' Complaint Pursuant to Rule 12(b)(6) and to Strike Plaintiffs' Complaint Pursuant to Rule 12(f) at ¶ 6, *Centreville Citizens for Change v. Commonfields of Cahokia Pub. Water Dist.*, No. 21-CV-842-DWD, 2022 WL 1489393 (S.D. Ill. Oct. 20, 2021) [hereinafter *Cahokia Heights' Motion to Dismiss*].

281. Amended Complaint Against All Defendants, *Centreville Citizens for Change*, No. 21-CV-842-DWD.

282. *Id.*

relief.”²⁸³ In particular, the defendant municipality’s motion to dismiss stated:

[T]he allegations and averments set forth in Plaintiffs’ Complaint are comprised primarily of irrelevant, pointless and redundant information such as . . . Plaintiffs’ racial make-up and socioeconomic status, . . . Plaintiffs’ professions/employment status, . . . [and] how Plaintiffs’ deal with the alleged storm water and sanitary sewer issues.²⁸⁴

The plaintiffs, on the other hand, argued that the specific detailing of harms and failures of the defendant municipality put the defendant on notice of the substance of plaintiffs’ claims and is not grounds for dismissal of the complaint.²⁸⁵ The court found that despite the length of the complaint, the plaintiffs’ allegations were intelligible and precise enough to meet Rule 8 and at this early stage, could not be said to have no bearing on the subject matter of the case.²⁸⁶ In addition, in the *Petition of PECO Energy Company* case described in Part III of this Article, in several areas where the ALJ denied the company’s motion to strike residents’ testimony or exhibits, the commission ALJ specifically noted that it was important that “the members of the community surrounding the proposed site have an opportunity to be heard.”²⁸⁷

Moreover, state legislatures are increasingly conscious of making sure that ALJs address community testimony as evidence in pollution permitting matters. In *Colonias Development Council v. Rhino Environmental Services Inc.*, the New Mexico Supreme Court held that, pursuant to state legislation, the state environmental agency must (1) allow public testimony about a proposed landfill’s adverse impact on a community’s quality of life when reviewing a permit application and (2) consider or address such public testimony in coming to a

283. Cahokia Heights’ Motion to Dismiss, *supra* note 280, ¶ 15; FED. R. CIV. P. 8(a)(2).

284. Cahokia Heights’ Motion to Dismiss, *supra* note 280, ¶ 6.

285. Response to Defendant’s Motion to Dismiss, *Centreville Citizens for Change*, No. 21-CV-842-DWD.

286. *Centreville Citizens for Change v. City of Cahokia Hts*, Case No: 21-cv-00842-DWD, at 14–16 (S.D. Ill. Nov. 14, 2022).

287. *See, e.g.*, PECO Interim Order, Mancini-Strong, *supra* note 203.

determination regarding whether to grant or deny a permit.²⁸⁸ The court rejected the argument that the hearing officer “was not allowed to consider” evidence and testimony relating to social impact and quality of life issues.²⁸⁹ Similarly, the court rejected the argument that the agency was prohibited from considering nontechnical testimony.²⁹⁰ As the court explained, the relevant state legislation did not require scientific evidence in opposition to a landfill permit, but instead envisioned that ordinary concerns about a community’s quality of life could influence the decision to issue a landfill permit.²⁹¹ Other states beyond New Mexico, like New Jersey, are passing environmental justice statutes that empower the state environmental agency with the authority to deny a permit for a new facility upon review of relevant information, including testimony and written comments received at the public hearing.²⁹²

C. Consider Rebuttable Presumptions

Environmental policymakers should consider where increased use of evidentiary rebuttable presumptions might achieve broad goals of increasing community evidence in pollution permitting. Rebuttable presumptions are certainly not new to environmental law. The Comprehensive Environmental Response, Compensation, and Liability Act and Oil Pollution Act provides that a natural resource damage assessment conducted by a natural resource trustee, in accordance with certain regulations, will have the force and effect of a rebuttable presumption in any administrative or judicial challenge.²⁹³ The states of West Virginia and Pennsylvania both have rebuttable presumptions in their state oil and gas laws that establish a

288. *In re* Application of Rhino Env’t Servs., 2005-NMSC-024, 117 P.3d 939; Kristina Fisher, *The Colonia and the Landfill: Colonias Dev. Council v. Rhino Env’t Servs., Inc.* (2008) (Student Thesis Honors, University of New Mexico School of Law) (on file with University of New Mexico Digital Repository).

289. *In re Rhino*, 117 P.3d at 945, 2005-NMSC-024 ¶ 24.

290. *Id.* at 945–49, 2005-NMSC-024 ¶¶ 20–42.

291. *Id.* at 945, 2005-NMSC-024 ¶ 24.

292. N.J. STAT. § 13:1D-157; *see also* Jennifer A. Smokelin & Randa M. Lewis, *New Jersey’s Environmental Justice Bill and Its Effect on Title V Facilities*, REED SMITH: EHS L. INSIGHTS (Apr. 29, 2021), <https://www.ehslawinsights.com/2021/04/new-jerseys-environmental-justice-bill-and-its-effect-on-title-v-facilities> [<https://perma.cc/HN23-SDXZ>].

293. 42 U.S.C. § 9607(f)(2)(C); 33 U.S.C. § 2706(e)(2); *see also* Allan Kanner, *Environmental Gatekeepers: Natural Resource Trustee Assessments and Frivolous Daubert Challenges*, 49 ENV’T L. REP. 10420, 10422 (2019).

rebuttable presumption that the oil and gas activity is the proximate cause of any contamination or deprivation of a water source or supply.²⁹⁴ The RCRA and its implementing regulations provide that used oil containing more than 1,000 ppm total halogens is presumed to be hazardous waste because it has been mixed with a halogenated hazardous waste, and as a result, failure to rebut the presumption means that the used oil must be managed as a hazardous waste.²⁹⁵ The question is whether rebuttable presumptions can be a useful mechanism not only in environmental law broadly, but also specifically for community evidence in specific pollution permit cases.²⁹⁶

A rebuttable presumption framework may be useful in pollution permit cases where the basis for evidence is market driven. For example, in antitrust law, legislators have introduced bills into Congress to modify the laws governing mergers and acquisitions to block exclusionary conduct by dominant firms through, in part, shifting the burden of proof to the business community to demonstrate that acquisitions do not harm competition.²⁹⁷ Some proposed legislation has also considered creating presumptions that certain activities are anticompetitive out of concern for consumers.²⁹⁸ A similar use of rebuttable presumptions could be applied in the context of natural gas certificates where certificate applicants must have evidence demonstrating that market “need” for new natural gas capacity outweighs residual adverse effects. A rebuttable presumption might recast the kind of evidence that the FERC must evaluate when determining market need and determining who the evidence is from.

In addition, rebuttable presumptions could be used to promote community evidence of adverse impact even where

294. Pennsylvania Oil and Gas Act, 58 PA. CONS. STAT. § 3218 (2012); W. VA. CODE § 22-6-35.

295. EPA, PUBL’N NO. 905-R03-005, GUIDANCE AND SUMMARY OF INFORMATION REGARDING THE USED OIL REBUTTABLE PRESUMPTION (2005).

296. This Section focuses on rebuttable presumptions as a potential tool, but an alternative approach may be development of rules of weight that govern not only traditional admissibility of evidence as per evidence law, but also govern how factfinder should weigh evidence that is admitted. *See generally* Barzun, *supra* note 138 (describing rules of weight).

297. Bill Baer, *How Senator Klobuchar’s Proposals Will Move the Antitrust Debate Forward*, BROOKINGS INST. (Feb. 8, 2021), <https://www.brookings.edu/blog/techtank/2021/02/08/how-senator-klobuchars-proposals-will-move-the-antitrust-debate-forward> [<https://perma.cc/W685-7SKM>].

298. *Id.*

facilities are in compliance with permit conditions. In *Friends of Buckingham v. State Air Pollution Control Board*, the defendant state environmental agency argued that the site was suitable for a new compressor station, in part because modeling results showed that the facility would be in compliance with national ambient air quality standards.²⁹⁹ The Fourth Circuit judge, however, effectively created a rebuttable presumption in finding that “even when [national ambient air quality standards] are not violated . . . the record reflects exposure to [particulate matter pollution] that will increase the risk of asthma, heart attacks, and death.”³⁰⁰ In the administrative law context, the EPA has also responded to civil rights complaints with a similar rebuttable presumption—like assessment, finding that adverse health impacts cannot be considered as long as a facility is in compliance with applicable environmental regulations and permits.³⁰¹ This begs the question as to how rebuttable presumptions might influence the ability of communities to demonstrate harm from facilities in the face of facility compliance with national level pollution standards or broad permit condition—or, how community evidence may demonstrate a continuing violation at a polluting facility for purposes of penalty assessment.

Lastly, a rebuttable presumption framework may also be useful in pollution permit cases where evidence of disproportionate impact is central to the claim in the litigation. For example, a Florida state law creates a presumption of admissibility for digital evidence if the information is from a “widely accepted web mapping service, global satellite imaging site, or internet mapping tool, if such . . . indicates the date on which the information was created.”³⁰² The census data must still conform to the rules of the Florida Evidence Code, and the presumption can be overcome if the court finds “by the greater weight of the evidence that the information does not fairly and accurately portray what it is being offered to prove.”³⁰³ A New York state law creates a similar presumption of admissibility for

299. *Friends of Buckingham v. State Air Pollution Bd.*, 947 F.3d 68, 79–80 (4th Cir. 2020).

300. *Id.* at 92.

301. Marianne Engelman-Lado et al., *Environmental Injustices in Uniontown, Alabama, Decades After the Civil Rights Act of 1964: Its Time for Action*, 44 HUM. RTS. 7, 10 (2021).

302. FLA. STAT. § 90.2035 (2022).

303. FLA. STAT. § 90.2035(2)(b) (2022).

digital evidence obtained from web mapping or global imaging services.³⁰⁴ In the few states where such statutes exist, communities can make use of services such as Google Maps or other mapping tools to define things like location that can be instrumental in pollution permit cases.

There are three key normative reasons why policymakers develop rebuttable presumptions. The first is to account for imbalances resulting from one party's superior access to key evidence for the case.³⁰⁵ In pollution permitting, there is ample disparity in access to information as holders of the evidence necessary to demonstrate concerns with environmental permits are typically government agencies and private polluting facilities, not communities.³⁰⁶ The second is to increase procedural ease and judicial efficiency.³⁰⁷ In pollution permitting, it may be easier to accept certain kinds of community monitors or sampling techniques, particularly if the methods have been well established over time. The third is to achieve social policy goals.³⁰⁸ Despite repeated efforts, agencies are clearly struggling to hear and incorporate the lived experience into environmental decision-making. In sum, rebuttable presumptions may be a mechanism to help place a thumb on the scale of justice for community evidence in pollution permitting cases.

304. Nicholas P. Hurzeler, *New York Enacts Statutes Impacting Admissibility of Certain Evidence at Trial*, LEWIS BRISBOIS: LEG. ALERTS (Feb. 15, 2019), <https://lewisbrisbois.com/newsroom/legal-alerts/new-york-enacts-statutes-impacting-admissibility-of-certain-evidence-at-tri> [<https://perma.cc/T2JA-H9LZ>].

305. Joel S. Hjelmaas, *Stepping Back from the Thicket: A Proposal for the Treatment of Rebuttable Presumptions and Inferences*, 42 DRAKE L. REV. 427, 434–35 (1993) (“In some situations, a rebuttable presumption accounts for special access to evidence by one of the parties. This purpose can be illustrated by the presumption that damage to property in the possession of a bailee was due to the negligence or fault of the bailee. This presumption takes into account the bailee’s superior access to the evidence.”).

306. Seema Kakade & Matt Harber, *Detecting Corporate Environmental Violations*, 47 ECOLOGY L.Q. 771, 804–05 (2021).

307. Frederick R. Anderson, *Natural Resource Damages, Superfund, and the Courts*, 16 B.C. ENV'T AFF. L. REV. 405, 436 (1989) (describing reasons for rebuttable presumptions to “correct the imbalance resulting from one party’s superior access to the evidence, to facilitate the prompt resolution of claims, and to favor certain claims for social and economic reasons”).

308. Sean P. Sullivan, *What Structural Presumption?*, 42 J. CORP. L. 403, 413 (2016) (“Apart from the probative value of the basic fact evidence, considerations of fairness, access to proof, procedural ease, and social policy guide the construction of rebuttable presumptions.”); Hjelmaas, *supra* note 305, at 435 (“Many presumptions exist to further a socially desirable policy.”).

CONCLUSION

The United States is certainly not alone in its challenges to include the lived experience in environmental decision-making. One environmental researcher points to an example of a farmer leaving a training workshop in Ghana, stating upon his exit, “We have already done this before. We have already spent time on such a workshop and haven’t seen any changes. Yet now you ask me to spend my time again? Instead of wasting my time, I am going to work on my land.”³⁰⁹ One environmental law scholar has opined that Nigerian law places the burden of proof in environmental litigation on the plaintiff, which is a “herculean” task given the persistent poverty amongst the Nigerian people, the cost of gathering evidence for Nigerian local communities, and the tight control over evidence by defendants.³¹⁰ Despite being armed with loads of citizen-collected water pollution samples, villagers in Malaysia are unable to introduce the samples as evidence because the local Malaysian court system only accepts water quality analyses from authorized sources, which do not include community citizen scientists.³¹¹ Indeed, the challenges for community voices in environmental decision-making are vast.

Yet, there is also ample space for uplifting the lived experience in environmental decision-making around the world. In 2019, the municipality government of a town south of Paris, sought to stimulate the use of bicycles and turned to the local citizens to develop its plan.³¹² They created a digitized cycling plan that allowed citizens to share their ideas on cycling and mobility by putting a “pin” for their ideas directly on a digital map of the region.³¹³ That way, the citizens could add remarks about a certain mobility issue they wanted to address. Hundreds of citizens took part, “suggest[ing] projects like new pumping

309. Walker et al., *supra* note 260, at 16.

310. Nsikan-Abasi Odong, *Burden of Proof: Real Burden in Environmental Litigation for the Niger-Delta of Nigeria*, 35 J. ENV'T L. & LITIG. 193, 195 (2020).

311. Ken Wilson, *How Citizen Science Is Transforming River Management in Malaysian Borneo*, MONGABAY (Nov. 29, 2016), <https://news.mongabay.com/2016/11/how-citizen-science-is-transforming-river-management-in-borneo> [https://perma.cc/WP7X-VYXE].

312. Ilona Lodewijckx, *Case Study: All Eyes on the Climate in Grand Paris Sud*, CITIZENLAB (Aug. 1, 2020), <https://www.citizenlab.co/blog/civic-engagement/grand-paris-sud-triple-mission> [https://perma.cc/PXA8-AQQ5].

313. *Id.*

stations, safer bike parking, and new cycle routes.”³¹⁴ For the Malaysian citizen-science issue described above, locals have suggested that communities be allowed to submit citizen-collected pollution samples to government-recognized laboratories and that the government consider appointing individuals that meet recognized technical standards for sampling as “honorary water quality wardens.” While the challenges of community participation in the gathering, documenting, and presentation of evidence are overwhelming both in the United States and abroad, the opportunities are also endless.

314. *Id.*